DEPARTMENT OF MATHEMATICS

2018 External Review Self-Study Document
Department of Mathematics Selfstudy Document 2018

Table of Contents

- Charge to External Review Team
- Executive Summary
  - Executive Summary
- Introduction to the Department
  - Introduction and Mission Statement
  - Governance and Administrative Structure
  - Committees Supporting the Departmental Administration
  - Budget Overview
  - Summary of Changes Since 2009 Review
- Overview of the Faculty
  - Research Faculty
  - Research Groups
  - Interdisciplinary Research
  - Academic Professional Track Faculty
  - Postdoctoral Program
- Graduate Program
  - Overview
  - Degrees Offered
  - Graduate Student Profile
  - Recent Initiatives
  - Progress and Efforts
- Undergraduate Program
  - Mission and Overview of Undergraduate Program
  - Program Curricula
  - Academic Enhancements
  - Assessment of Student Learning Outcomes
  - High Impact Experiences
• Changes since 2009 Review
• Future Goals

• Service Teaching, Operations
  • Our Service Role
  • Instructional Support
  • Relations with Client Departments
  • Initiatives in Development

• Assessment, Evaluation, Promotion and Review Procedures
  • Review Process for Faculty
  • Promotion Process
  • Review Process for Staff
  • Review Process for Graduate Students
  • Curriculum Review Committees

• Outreach
  • Outreach Programs

• Centers and Institutes
  • Centers and Institutes

• Summary of Goals
  • Tenure Track Faculty Hiring
  • APT Goals
  • Graduate Program
  • Undergraduate Program
  • Service/Operations

• Appendices
  • Faculty Profiles
  • List of Recently Hired Faculty
  • Mathematics Faculty Awards
  • Faculty Salary Peer Institutions
  • Faculty Age Demographics
  • Postdoc Data and Subsequent Employment
  • Student Diversity Profile - Math
  • Mathematics Ed Support Structures 2016
  • Degree Profile
  • Honors History
  • Grad Data
  • Computing Support
  • TAMU Institutional Profile
Texas A&M University
Academic Program Review (APR)

Charge to the Peer Review Team
Department of Mathematics

The Academic Program Review (APR) process at Texas A&M University provides the occasion for academic units to plan strategically, assess the quality and efficacy of their programs, and determine the best courses of action for ongoing improvement. APR is at the heart of our institutional commitment to excellence, and we sincerely thank you for assisting us. This letter provides you with the charge to the committee and a brief overview of the department.

Peer Review Team Charge
Please examine the department and its programs and make recommendations that will help in planning improvements. Your resources are a self-study report prepared by the department, copies of materials from the program’s last review, information you gain through personal interactions while visiting Texas A&M University, copies of strategic plans and goal-setting documents at the department, college, and/or university level, and any additional information requested by you or by the department. Within the broad charge of recommending ways the department can continue to improve are some specific questions that we would like you to address:

- Based on the data / information provided in the self-study report or gathered by the review team, what are the department’s overall strengths and weaknesses?
- Describe the alignment of degree program’s strategic goals and priorities with college and institutional goals and priorities.
- How would you compare this department with its peers?
- What improvements (including student learning and faculty development) has the department made since the previous program review?
- With only current resources or a modest infusion of new ones, what specific recommendations could improve the department’s performance, marginally or significantly?

We look forward to meeting with you during your time on campus. If you have any questions or require additional information prior to your visit, please contact Ms. Bettyann Zito, APR Program Coordinator, at apr@tamu.edu.

Thank you.
Overview of the Program

The Department of Mathematics at Texas A&M University currently has 73 tenure track faculty, 32 academic professional track faculty, 17 post-docs, 10 research visitors, around 200 graduate students (121 Ph.D., about 50 plus online Master's, 31 in-house Master's), around 500 undergraduate majors, and 16 staff members. 74% of our TT faculty have federal grant funding (about 4.1M in 2015, total funding was about 4.6M). Faculty honors include one member of the National Academy of Sciences, 9 speakers at the International Congress of Mathematicians (including two for 2018), and 15 Fellows of the American Mathematical Society.

The department teaches over 88,000 student credit hours per year. The bulk of these hours are in service courses, with the biggest client disciplines being Engineering and Business. Much of the teaching is done by a qualified cadre of academic professional track faculty, many of whom have a Ph.D. in mathematics or a related area.

The department typically hosts around 10 conferences/workshops a year, and five (named) annual lecture series, including a Mathematics Undergraduate Lecture. There are around 15 regularly scheduled seminars and numerous working seminars. In addition, we run many outreach activities for all levels, from Math Circles up to REUs (Research Experiences for Undergraduates).

Two College of Science institutes, the Institute for Scientific Computation and the Institute for Applied Mathematics and Computational Science, have close links with the department. In addition, there are two centers housed in the department, the Center for Approximation Theory and the Center for Technology-Mediated Instruction in Mathematics.

<table>
<thead>
<tr>
<th>Degree Offered</th>
<th>Degrees Awarded Annually</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>11-12</td>
</tr>
<tr>
<td>B.A.</td>
<td>25</td>
</tr>
<tr>
<td>B.S.</td>
<td>43</td>
</tr>
<tr>
<td>M.S.</td>
<td>19</td>
</tr>
<tr>
<td>M.A.</td>
<td></td>
</tr>
<tr>
<td>Ph.D.</td>
<td>17</td>
</tr>
<tr>
<td>Totals</td>
<td>104</td>
</tr>
</tbody>
</table>
Executive Summary

This is our self study document for the department's 2018 external review. The goal of this review is to provide an assessment of where we stand with regard to our academic programs and our research contributions, and to provide recommendations on how we can further improve. This document is intended to provide the Review Committee, as well as the department's faculty, staff, and students, the background material needed for the assessment of our progress.

Many changes have taken place since our last review in 2009. They are detailed under the various programs and headings; there is also a summary, with a comparison to the major recommendations from the 2009 review. One theme is that resources have been stagnating at best, while (teaching) responsibilities have increased substantially. A second, ultimately much more important, theme is that the department has managed to meet the various challenges successfully.

Total faculty size has remained relatively constant since 2009, between about 105 and 110, but there has been a noticeable shift from tenure track to academic professional track (the former down from 83 to 73, the latter up from 24 to 34). This shift is a response to our increased teaching responsibilities that not only were not accompanied by a commensurate increase in resources, but also were preceded by a 10% budget cut in 2011. These challenges notwithstanding, the report will show that through a careful hiring mix of two stellar senior hires (chair level), three excellent Associate Professors, and through the hard work of our existing faculty, the department has further improved its research standing and footprint. For example, 75% of our tenure track faculty have federal research funding, and Academic Analytics places us #4 in the country for total number of federal grants in the five years 2012 through 2016. An issue that we have not paid sufficient attention to until this year, and that will require continued attention for years to come, is our low percentage of female tenure track faculty (expected to be about 10% by this fall), and diversity in general. Also, while our salaries for Assistant Professors compare favorably with our peers, those for Associate and Full Professors are substantially lower.

The academic professional track (APT) faculty has not only seen an increase in numbers, but also a restructuring that affords a more satisfying career path to most, through the introduction of the Instructional Assistant, Associate, and Full Professor titles. In addition, the administrative position of Assistant Head for APT Faculty Affairs has been created and is held by an APT faculty member. An issue that remains difficult is to provide time for scholarly and professional development activities for this group. APT faculty teach most of our service offerings for non-technical majors. Despite difficult conditions (with some class sizes in excess of 250 students), they do an excellent job.

Our Post-Doctoral Program has recently come under indirect budget pressure. The need to hire more APT faculty in order to handle the increased teaching responsibilities has squeezed funding available for post-docs. We will work hard to keep funding from slipping further, and, if at all possible, restore to pre-2013 levels (that is, hire at least six a year, vs the current rate of four to five). This program is important to us and to the profession, and constitutes an integral part of our research mission.

The Graduate Program has increased in size by about 10% since 2009, including a 16% increase in our Ph.D. program (to about 120 Ph.D. students). This size is still not commensurate with the size and research footprint of our faculty when compared to peer departments (for example, the University of Illinois at Urbana-Champaign with over 200 total and about 160 Ph.D.). Roughly 20% of these students are on grants or fellowships, while the rest is supported via teaching funds. Current funding trends in the mathematical sciences do not indicate that much growth can be squeezed from additional
outside funding (the department is already among the top federal money “earners”, see above). As a result of funding cuts to the graduate program in 2006-09 (related to the end of VIGRE), our on campus Master’s program is relatively small (about 25 students), but we are slowly growing it again. One exciting recent initiative is a new degree program, MS in Quantitative Finance, to start this fall. This two year program is offered in partnership with the Department of Finance in the Mays Business School, but is housed in the Department of Mathematics. Our on line program (about 50 students) continues to serve a clientele already in the work force (many of whom are teachers).

Our undergraduate program is structured to foster strong analytical and quantitative reasoning, aiming to connect abstract concepts with both the concrete origins of the subject and their direct application to important technical and societal challenges. Signature programs include the Fast Track whereby academically talented and ambitious students can earn a BS and an MS in five years, our very successful Actuarial Program, our departmental Honors Program (which was the first program on campus for departmental Honors), and our Undergraduate Research Program. Our emphasis on this latter program is evidenced by the recent creation of the position of Director of Undergraduate Research. Perhaps the biggest challenge currently facing the program is student retention. We address it through a combination of traditional measures such as special seminars and clubs, but also through a mentoring program (RetainU, in connection with the College of Science). This program grew out of the observation that very often, at-risk students do not need more math; rather, they need help on how to be a successful student. The program matches students with faculty members; initial results are very encouraging.

Most of our teaching obligations concern service teaching, that is, teaching for students who are not math majors. We teach close to 30,000 students (actually, seats) per year, of which about 27,000 are non-math majors. A significant feature of the service enrollment picture is a jump form about 24,000 to 27,000 from the 2012-13 academic year to 2014-15. The department has a long history developing an elaborate support structure for these students, often through major grants. This structure starts with assessment/placement, includes an on-demand support system, and offers supplemental instruction through various means. Several other initiatives are in development.

There are two centers located within the department, the Center for Approximation Theory and the Center for Technology Mediated Instruction in Mathematics. Both centers are currently undergoing substantial transitions. They are assets that the department must leverage more productively than in the recent past. Departmental faculty are also involved in leading positions in two Institutes in the College of Science, the Institute for Scientific Computation and the Institute for Applied Mathematics and Computational Sciences. The department likewise plans to play a significant role in the university’s new Institute for Data Science, which is currently being assembled.

Outreach programs in the department are coordinated by an Outreach Committee. We have numerous programs designed for students (and sometimes parents) at all levels form Middle School through High School to undergraduates. In addition, we have programs for STEM teachers, including a Math Circle for Brazos Valley Middle and High School teachers and teacher professional development programs.

This is a self study document, so a brief self assessment is appropriate. The department feels that our contributions towards the university’s goal of becoming a top 10 public institution by 2020 (put forth in the Vision 20/20 strategic plan) are very substantial. In fact, recent rankings typically put us right around 10th public, and easily within the top 20 overall.
Introduction to the Department of Mathematics

Here is the department in a nutshell. There are 73 tenure track faculty, 33 Academic Professional Track faculty, about 30 post-docs (Visiting Assistant Professors) and research visitors, and 15 full time staff. The student count is at 120 Ph.D. students, 25 on campus Master's students, 50 online Master's students, and around 500 undergraduate majors. We teach in excess of ninety thousand credit hours per year.

Our mission is to conduct and disseminate research, to provide outstanding instruction at the undergraduate and graduate levels in all areas of mathematics, and to engage with the broader scientific community and with the public at large. A strong and vibrant mathematics department is essential to the university's Vision 20/20 goal of becoming a top ten public institution by the year 2020.

The faculty and staff, as well as the degree programs, will be discussed in detail in the respective sections of this document. Our aspirations and goals will be presented in the section titled Goals. In the current section, we discuss our administrative structure (including staff) and give a summary of changes since the last academic program review (2009). We also compare these changes with the principal recommendations from the 2009 review.

Governance and Administrative Structure

The Department Head holds more authority than is common at many institutions (where there may be a Chair instead of a Head). Nevertheless, there is significant shared governance, and the Head will ignore the will of the faculty at his/her own peril. There are many standing committees, as outlined below, which recommend policies on issues such as the curriculum, hiring, and promotions. Although the Head can overrule recommendations made by most committees, the generally accepted philosophy is that this veto power is used sparingly and that a detailed explanation should accompany a veto whenever it occurs.

In addition to committee input, the Department Head convenes faculty meetings once or twice per semester. The purpose of these meetings is on the one hand to disseminate information, on the other hand, to discuss various issues (hiring, curriculum, etc) as needed. Faculty retreats are held on an ad hoc basis whenever there are issues that can benefit from such a format.

Under the current administration the Head delegates substantial authority to the Associate Heads for Graduate Studies and for Operations and Undergraduate Studies, respectively, to run their programs. Similarly, the Assistant Head for Academic Professional Track Faculty Affairs is given considerable leeway in managing the APT faculty. The same goes for the Assistant Head for Finance. Of course, the Head retains ultimate responsibility, and major decisions are always cleared with the Head and, when appropriate, the Executive Committee.

Primary Administrative Roles

Head. Emil Straube
Primary responsibilities include:

- Chairs the Department's Executive Committee which makes recommendations on long-range planning, hiring, tenure-track faculty evaluations/raises, committee assignments and tenure track hiring. The Executive Committee is two-thirds elected by the tenure-track faculty and one-third appointed by the Head.
- Appoints and oversees the activities of two Associate Heads (Operations and Undergraduate Studies, Graduate Studies), two Assistant Heads (APT Faculty Affairs, Finance), as well as the activities of the Director of Honors and the Director of Undergraduate Research.
- Hires and supervises the Academic Business Administrator who oversees all departmental staff (currently, this is the Assistant Head for Finance).
- Negotiates with dean on matters such as budgets, hiring, promotion and tenure.
- Oversees the departmental budget.

**Associate Head for Operations and Undergraduate Studies. Paulo Lima-Filho** - Appointed by and reports to the Head.

Primary responsibilities include:

- In charge of departmental class offerings and scheduling; in close consultation with the Associate Head for Graduate Studies for graduate courses; assisted by Assistant Head for APT Faculty Affairs for first and second year (service) courses.
- Together with the Assistant Head for APT Faculty Affairs, oversees the department's service teaching mission, including interface with client disciplines, such as engineering and business.
- In collaboration with the Assistant Head for APT Faculty Affairs, hires, supervises and oversees the evaluation of APT faculty.
- Chairs the Department's Undergraduate Committee, which oversees the undergraduate curriculum for the mathematics degree programs for majors and minors.
- Coordinates and oversees undergraduate recruitment and advising efforts.
- Serves as Director of the Center for Technology Mediated Instruction in Mathematics.
- Focal point for curriculum reform efforts of the department.

**Associate Head for Graduate Studies. Peter Howard** - Appointed by and reports to the Head.

Primary responsibilities include:

- Chairs the Department's Graduate Committee, which oversees the graduate curriculum, recruitment and evaluation of graduate students.
- Determines graduate course offerings and their instructors in coordination with the Associate Head for Operations and Undergraduate Studies.
- Coordinates graduate advising efforts.
- Oversees the department's online Master's program.
- Administers MS in Quantitative Finance program.
- Leads development of graduate curriculum to reflect changes in the profession and in the function of the program.

**Assistant Head for Academic Professional Track Faculty Affairs. Jennifer Whitfield** - Appointed by Head and reports to Head and to the Associate Head for Operations and Undergraduate Studies.

Primary responsibilities include:

- In collaboration with the Associate Head for Operations and Undergraduate Studies, hires, supervises, and oversees the evaluation of APT faculty.
- Assists Associate Head for Operations and Undergraduate Studies with course scheduling and instructor assignments.
- Assists Associate Head for Operations and Undergraduate Studies in oversight of departmental service teaching.
Evaluates APT faculty, in conjunction with Associate Head for Operations and Undergraduate Studies.

- Serves as Associate Director of the Center for Technology Mediated Instruction in Mathematics.

**Assistant Head for Finance and Business Manager. Rhonda Faust** - Appointed by Head and reports to Head.

Primary responsibilities include:

- Document, manage, and keep track of departmental finances for Department Head.
- Liaison with college business office.
- Serve as Head's "Chief of Staff"; supervises and evaluates all departmental staff.

**Honors Director, Matt Papanikolas** - Appointed by and reports to the Head and the Associate Head for Operations and Undergraduate Studies.

Primary responsibilities include:

- Chairs the Department's Honors Committee, which collaborates with the undergraduate committee on honors course offerings and their curricula.
- Coordinates and oversees recruitment and advising efforts for honors students pursuing a major or minor in mathematics.
- Seeks out opportunities and programs encouraging students to pursue mathematics.

**Director of Undergraduate Research. Michael Anshelevich** - Appointed by and reports to the Head and the Associate Head for Operations and Undergraduate Studies.

Primary responsibilities include:

- Coordinates undergraduate research activities in the department.
- Organizes annual Sue Geller Undergraduate Research Lecture.

**Staff**

There are currently 13 staff members plus an additional 3 systems analysts to handle our huge faculty (~125 faculty), sizable graduate program (over 140 students plus 50 distance masters students), our undergraduate program (~500 students), and one of the largest teaching loads on campus (~30,000 mathematics class enrollments per year). It is noteworthy that although total faculty size has remained about the same since the last review, the graduate and undergraduate programs have grown, and the number of students taught has increased substantially, our staff size has shrunk from 15 to 12. Here is a link to the *staff organizational chart* and below is a list of the major staff functions:

- Overall Staff Supervisor and Academic Business Operations: *Rhonda Faust* - supervises all staff and is in charge of the department's financial operations.
- Department Head Assistant: *Jane Ondrasek* - assists department head with departmental operations.
- Financial: *Sharon Esparza, Christy Sparkman, Kelly Minnis* and *Cheryl Williams* - Assist Rhonda with payroll and bill payments; processes travel and leaves as well as travel reimbursements.
- Teaching Operations: *Alisa Baron (227 Suite Office Manager)* - assists Associate Head in managing the teaching operations and class scheduling.
  *Cheryl Williams (232 Suite Office Manager)*, also helps with promotion and hiring record keeping; *Sherry Floyd* (Receptionist for Department Head Suite - 232).
- Student Affairs: *Monique Stewart* - Assistant to the Graduate Program Office; *Donna Hoffman* - Assistant to the Undergraduate Program Office; and *Judy Muzny* - Assistant to the Distance Masters Program.
- Editorial Assistant: *Kelly Minnis* support for faculty with editorial duties.
- Program Coordinating: *Cara Starmer* - manages and coordination of workshops, conferences and summer programs sponsored and/or hosted by the Department of Mathematics; and *(currently vacant)* - program support for projects or specialized activities headed by the holder of the Endowed Koss Professorship or faculty associated with the Institute for Scientific Computation.
Committees Supporting the Departmental Administration

Executive Committee. The committee is chaired by the Head. The Associate Head for Operations and Undergraduate Studies is an ex officio member. The remaining six members are two-thirds elected by the tenure-track faculty and one-third appointed by the Head (on stacked two year terms). The committee makes recommendations on long-range planning, hiring, tenure-track faculty evaluations/raises, and committee assignments. In addition, the head consults the EC on any departmental matter he/she deems appropriate (for example, major decisions/changes in one of the programs).

Graduate Program Committee. The Associate Head for Graduate Studies chairs the committee. It consists of six additional members who are appointed by the EC for two year terms. Normally, the Head/EC will consult the Associate Head for Graduate Studies on new appointments. The committee advises/assists the Associate Head in all matters pertaining to the graduate program.

Undergraduate Program Committee. The Associate Head for Operations and Undergraduate Studies chairs the committee. It consists of six additional members who are appointed by the EC for two year terms. Normally, the Head/EC will consult the Associate Head for Graduate Studies on new appointments. The committee advises/assists the Associate Head in all matters pertaining to the undergraduate program in mathematics.

Promotion Sub-Committees. One for promotion to Professor and Instructional Professor, one for promotion to Associate Professor and Instructional Associate Professor, and one for Promotion to Senior Lecturer. The first two are elected by the faculty in the appropriate ranks; the third is elected by the APT faculty; one member from the tenure track faculty is appointed by the Associate Head. These committees answer to the faculty of the appropriate ranks instead of the Head. Vote tallies on faculty promotion cases as well as subcommittee reports on promotion cases are submitted to the Dean's office independently of the Head's recommendation and reports. The Distinguished Professors, in consultation with the Executive Committee, make recommendations to the head on candidates for the title of Distinguished Professor (this is now actually considered an award rather than a promotion).

Teaching Committee. Reviews teaching evaluations, curriculum materials, and grade distributions and visits a class of assistant and associate professors for the purpose of annual reviews and promotion reports. This committee reports to the Head and also provides its reports directly to the promotion sub-committees.

Awards Committee. Nominates faculty for awards and helps to assemble packets (in conjunction with the Head). Both external and internal awards are under their purview. This committee reports to the Head.

Postdoc Search Committee. Reviews applications for postdoctoral positions and makes recommendations to the Executive Committee and the Head.

Outreach Committee. Coordinates the department's outreach activities which include the High-School Mathematics Contest, the Summer Educational Enrichment (SEE Math) for Middle School Students, the Summer Mathematics Research Training (SMA) Camp for High School students, the Mathematics and Statistics Fair, the Brazos Valley Math Teachers' Circle, and the TAMU Math Circle.

Summary of Changes Since 2009 Review
In 2009, an external review committee (chaired by Professor Efraim Armendariz of the University of Texas) visited the department to conduct an external review. The final report of the review committee is available here, the departmental response to the report is here. Below is a summary of notable changes since 2009; some of these changes resulted directly from the 2009 report and its recommendations. Others are due to general trends in academia and in our profession; still others arose from developments here at Texas A&M University.

Tenure Track Faculty.

- In 2009, the department had 83 tenured or tenure track faculty. Today, the number is 73. The bulk of the loss of nine
review faculty, department of mathematics, texas a&m university

occurred 2010 and 2011, when there was no tenure track hiring, but 7 faculty left during that period. this period was marked by a 10% budget cut together with a voluntary separation agreement (essentially a buyout) that the university offered as a retirement incentive. the situation improved from 2012 through 2015, when 9 tt faculty departed, but 11 were hired. 2015 marked the transition from dean newton to dean aronson. due to policy changes, the department incurred a net loss of four tt positions (7 departures vs. 3 hires) over the two years 2016, 2017. six of the seven departures resulted from yet another voluntary separation program in 2016.

• of the 23 departures since 2009, 16 were retirements, and 7 accepted offers from elsewhere.

• the 14 new hires break down as follows: 9 assistant professors, 3 associate professors, and 2 professors. the strategy has been to pursue hiring candidates with the best possible credentials rather than to target certain subareas of mathematics. the two most notable hires are professors guoliang yu and edriss titi. dr. yu was hired in 2012 as holder of the powell chair in mathematics. dr. titi was hired in 2013 as holder of the newly created owen professorship (not to be confused with the owen chair) in mathematics.

• in 2012, the college of science transferred control of the mobil chair in computational science (originally held by former dean richard ewing) to the department of mathematics. the department appointed yalchin efendiev and jean-luc guermond as joint holders.

• a complete list of hires and departures since 2009 is available in the appendix; details of faculty research areas are available in the section titled overview of the faculty.

academic professional track faculty.

• number of academical professional track (apt) faculty increased from 24 in 2009 to 34 in 2017. this increase is linked to the decline in the size of the tenure track faculty (see above), and to our vastly increased (service) teaching responsibilities (see below).

• the department created a new career path (in addition to lecturer, senior lecturer) for apt faculty via the use of instructional titles: instructional assistant professor, instructional associate professor, and instructional professor.

• a new position, assistant head for apt faculty affairs, was created in 2012; the position is to be held by a member of the apt faculty. together with the new career path offered via the instructional titles, this position has contributed significantly to an improved climate among the apt faculty.

• the lecturer core committee was formed in 2010 to assist with the governance of the lecturers and senior lecturers. in light of the introduction of the instructional titles and the new governance structure (assistant head for apt faculty affairs), the committee became the apt committee in fall 2014. this committee is chaired ex officio by the assistant head for apt affairs.

• new evaluation process for apt faculty. evaluation of apt faculty is now done primarily by the apt committee, rather than directly by the assistant and associate head for operations.

graduate program.

a number of important changes/additions have occurred in the graduate program since the last review in fall 2009. the most noteworthy are:

• increased ph.d. enrollment from 102 in fall 2009 to 118 in fall 2017 (15.7% increase). increased campus ms enrollment from 21 in fall 2009 to 33 in fall 2017 (57.1% increase). distance ms enrollment dropped from 59 in fall 2009 to 49 in fall 2017.

• increased annual ph.d.s from 14 in 2009 to 20 (average over last three years).

• established ams, awm, and siam student chapters.
- Instituted annual recruiting trips to the Joint Mathematics Meetings and the Field of Dreams Conference.
- Incorporated the distance MS program into the graduate office.
- Administration (including teaching assignments) of the Graduate Program is now handled by the Associate Head for Graduate Studies and the Graduate Studies Committee.
- Created a systematic TA training program, which is now run by our Director of TA training (a new position).
- Reduced the number of required classes from ten (four qual-prep classes plus six breadth classes) to 6 (four qual-prep classes plus two breadth classes).
- Introduced a new Industrial and Applied Math Seminar to help students prepare for jobs outside of academia.
- Eliminated the foreign language (more accurately, translation) requirement.
- Jointly with the Department of Finance, created a new Master of Science in Quantitative Finance, scheduled to start in Fall 2018. The program will be housed in the Department of Mathematics.

The graduate program is discussed in detail in the section titled Graduate Program.

Undergraduate Program.

Since the last review in 2009, a number of noteworthy changes have occurred in many aspects of the Undergraduate Program.

- Created five new courses (Math200, Horizons in Math; Math225, Advanced Spreadsheet techniques; Math396, Communications in Mathematics; Math420, Applications of Actuarial Science II; Math437, Principles of Numerical Analysis).
- Created position of Director of Undergraduate Research (in addition to the existing Director of Honors); increased enrollment in Math491 classes (Undergraduate Research).
- Capstone requirement for Honors.
- Now offer 10 "unstacked" honors courses (that is, whole class is honors, as opposed to having both honors and non-honors students in the same class); 9 remain "stacked."
- Improved advising process (increased number of advisors, developed in-house scheduling software, Regents' Scholars mentoring, faculty mentors; see Undergraduate Program website for details).
- Restructured Math Minor requirements.
- New Applied Mathematics Undergraduate Seminar (AMUSE).
- Two Study Abroad programs (France, China).
- International program with Beihang University.

The Undergraduate Program is discussed in detail here.

Service Teaching.

Enrollment at Texas A&M University has grown from about 48,000 to over 60,000 since 2009. Some of that growth has been fueled by the "25 by 25" initiative of the College of Engineering: grow to 25,000 students by the year 2025, from about 12,000 in 2012. The department now teaches around 90 thousand credit hrs per year. The impact has been profound, especially when combined with de facto budget cuts in excess of 15% since fiscal 2011-12. Measures to handle the increased load include bigger class sizes in business mathematics courses (up to 300), and most importantly, an expansion of the instructional professional track faculty (at the expense of tenure track and post-doc hiring; the teaching power per dollar of a member of the APT faculty is more than twice that of a Visiting Assistant Professor, and more than four times that of a
relatively junior tenure track faculty member). Detailed information about our service teaching mission is in the section titled *Overview of Service Teaching*.

**Departmental Governance.**

In 2012, the department created a new administrative position, Assistant Head for Academic Professional Track (APT) Faculty Affairs. The position is held by a member of the APT faculty. This change has resulted in a vastly improved climate for APT faculty. The Assistant Head is also in charge of gateway (first year) courses (much of which are taught by APT faculty), and so takes care of a good chunk of the Operations workload. As a result, it was then feasible to combine the positions of Associate Head for Operations and Undergraduate Studies, so that the administrative overhead did not increase. More information on departmental governance and organization is here.

**Space.**

In its 2009 committee report, the review committee commented on the split of the Department of Mathematics between Milner Hall and the Blocker building as a major impediment to the department’s progress. We are pleased to report that in 2014, at long last, the Milner contingent moved to Blocker into space freed up by the Department of English (plus a few other “pockets”, also in Blocker). We already see benefits (community building, efficiency, etc.) that result from this “unification” of the department.

**Comparison with principal recommendations from 2009 report**

There were nine principal recommendations in the 2009 report. Here we briefly indicate how they have been addressed through the changes indicated above. There were additional recommendations; we will indicate how they have been addressed throughout the relevant sections of this document.

1. *End the physical facilities split of the Department between Blocker and Milner for sound scientific and educational reasons.* Done.

2. *Increase the size of the Graduate Program with commensurate support for graduate students.* Size increased modestly. Given the current lack of support from the college administration for expanding our graduate program via additional TA lines, this problem is not expected to be resolved anytime soon.

3. *Revise downward the breadth requirements in the Graduate Program.* Done.

4. *Administration of the Graduate Program should be handled by the Graduate Studies Committee and Graduate Adviser.* Done. Course offerings in any given semester and teaching assignments are now handled by the Associate Head for Graduate Studies and the Graduate Studies Committee (final consultation with Associate Head for Operations and Undergraduate Studies).

5. *Improve and enhance the teaching of postdoctoral scholars, including yearly peer observations.* As part of the annual evaluations, the department head meets with each post-doc to discuss their progress in research and teaching, grant applications, and job applications, etc. The teaching portion of the evaluation is based on student ratings, some class materials, and grade distributions. Class visitations are done by individual mentors on a voluntary basis. In addition, they are done for all students who request a teaching letter (typically from the Head or Associate Head), mostly in their second and/or third year.

6. *Postdoctoral scholars should have an opportunity to teach graduate courses during the term of appointment.* This is handled on a case by case basis, sometimes within the relevant research groups. Around 16 graduate courses have been taught by Visiting Assistant Professors since Fall 2009.

7. *Improve instruction associated with the “stacked” honors courses.* We have “de-stacked” many of the honors courses; teaching power is the ultimate constraint. We currently offer 10 honors courses that are not stacked, while 9 are still part of a stacked course.

8. *Improve consultation with nontenure track faculty regarding teaching assignments.* Done. In 2012, the department created a new administrative position, Assistant Head for Academic Professional Track (APT) Faculty Affairs. This change has resulted in a much improved climate for APT faculty, and in better consultation regarding teaching assignments.

9. *Reconsider the full-time workload, salary schedule and advancement policies for non tenure track faculty.* The department has adopted the use of the titles Instructional Assistant Professor, Instructional Associate Professor,
Instructional Professor to address some of these issues (see under changes for APT faculty for details).
Budget Overview

Budget Summary
Since the last review in 2009 up until FY 2016 the majority of the departmental budget was comprised of what was called the gold-plate budget. It represented the permanent or stable part of our budget. The majority of this part of the budget was provided in the form of faculty and staff salaries. Moreover, it was not likely to decrease unless there was a severe cut in university funding. The department did experience two such cuts: a 2% budget cut in FY2011 and a 10% budget cut in FY2012. These cuts were absorbed by reducing our operations budget (mostly by removing faculty phones lines) along with our salary budget (by not filling vacant positions; in particular, the department lost seven TT faculty during the two years 2010, 2011).

Up until FY2016, we also received non-gold-plate funds as part of the budget. These funds included supplements and course fees, which were collected as part of tuition. They were dedicated to support graduate students, tutorial help-sessions, student-graders, course development, student-computing equipment/maintenance, and other related items. The total collected from course fees from 2010-16 is slightly over $13 million. In addition, our department typically received supplemental funding of approximately $800k to $1.2m per year to handle special requests related to the heavy teaching load (e.g. unexpected increases in engineering enrollments, extra support for summer teaching, etc.). Although an integral part of our budget, funding from course fees and supplements were less secure than gold-plate funding.

Starting in 2016 our gold-plate and non-gold-plate budget changed to a base budget model. This model removed the majority of supplements and course fees; on the other hand, it includes twelve moth salaries for all graduate students. Our new base budget is about 15 million.

A record of the various budget categories during 2010-2018 is available in the Budget History document.

<table>
<thead>
<tr>
<th>Funding Category</th>
<th>2017-18 Base Budget Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Salaries</td>
<td>11.69 million</td>
</tr>
<tr>
<td>Staff Salaries</td>
<td>1.03 million*</td>
</tr>
<tr>
<td>Graduate TA salaries</td>
<td>1.76 million*</td>
</tr>
<tr>
<td>Operational Budget</td>
<td>0.12 million*</td>
</tr>
<tr>
<td>Total Base Budget</td>
<td>14.6 million</td>
</tr>
</tbody>
</table>

*Notes:
- The summer teaching line was removed from our budget in FY2017. Summer teaching is now funded based on an amount decided by the Dean together with unspent salary savings generated by course reductions funded by grants during the academic year; typical summer expenditures are about 0.60 million per year.
- Operational budget consists of supplies, administrative phones, xeroxing; it also includes approximately $1,000 per year for each tenure-track faculty member and $1,500 per year for each postdoc for professional travel; and student laboratory computing equipment was funded by course fees. (Since we no longer receive the full course fee allocation we are reviewing the possibility of eliminating computing laboratory equipment).
Faculty Salaries by Rank
Comparative data from Fall 2016 for Tenure/Tenure-Track rank faculty with 9-month salary ranges versus Peer Institutions and TAMU University-wide and College of Science. These comparisons show that while our salaries for Assistant Professors compare favorably, those for Associate and Full Professors are substantially lower.

Tenure/Tenure-Track Fall 2016 summary:
- **Professor** - 50 faculty in this rank; average salary is 141K (note: Average Professor salary in Fall 2016 was 152K at Peer Institutions)
- **Associate Professor** - 17 faculty; average salary is 88K (note: Average Assoc. Prof. salary in Fall 2016 was 105K for Peer Institutions)
- **Assistant Professor** - 6 faculty; average salary is 92K (note: Average Asst. Prof. salary in Fall 2016 was 86K for Peer Institutions)

Fall 2017 summary of the 9-month salary ranges for all other ranks:
- **Visiting Assistant Professor (postdoc)** - 15 faculty; salaries range from 55K to 57K; median salary is 55K
- **Instructional Associate Professor** - 3 faculty; salaries range from 64K to 78K; median salary is 67K
- **Instructional Assistant Professor** - 20 faculty; salaries range from 49K to 73K; median salary is 54K
- **Senior Lecturer** - 1 faculty; with a salary of 49K
- **Lecturer** - 11 faculty; salaries range from 40K to 52K; median salary is 50K

Administrative Costs
In addition to the annual staff budget the following faculty members receive summer salary and/or course releases in return for their administrative duties:
- **Head** - 3 months summer salary plus 3 course releases
- **Associate Head** - 3 months summer salary plus 2 course release
- **Associate Head for Graduate** - 3 months summer salary plus 1 course release
- **Assistant Head for Academic Professional Track of Faculty and Freshman Programs** - 3 months summer salary plus 1 course release
- **Honors Director** - 1 course release
- **Director of Undergraduate Research** - 1 course release
- **Advisors** - An average of $30,000 in summer salary spread among several advisors

The administrative summer salaries plus the course releases (funded at $19,000 per course, which is the postdoc replacement rate) totals to approximately $342,000.
**Budget History**

**Gold Plate/Base Budget History**

Since the last review in 2009 the department has experienced a 2% budget cut in FY11 and a 10% budget cut in FY12. The change in the budget model adopted by the new college administration in 2015-16 explains the increase/decrease in the various budget categories in FY16.

Most years the University provides a 3% merit increase. We have a couple of years over the past 7 years where a less or no merit increase was provided. Faculty promotions are awarded a 10% raise on top of the usual merit raise.

Here is a graphical representation of the faculty salary budget from 20010-2018.

---

http://www.math.tamu.edu/0ae1a4c37f2c54e541cbf8809db6548/budgethistory.html [3/29/18, 3:27:09 PM]
The rises in 2016 in the base budget for faculty, GAT (grad students), and staff reflect that these items were now fully included in the base budget. These rises are offset by the loss of various supplements (some of which had been used to help fund faculty salaries) that had previously been part of our regular budget from the college. The corresponding declines can clearly be seen in the graphs below.

Non-gold plate sources of funds include supplements for increase enrollments, summer supplements, graduate supplements and Ops supplements along with course fees. Course fees were originally charged on top of tuition. Several years ago the tuition and fee structure changed at Texas A&M and course fees were absorbed into tuition.

The budget figures for these categories are presented in the next graphs. The steep rise in course fees from 2010 through 2014 occurred as we included the cost of e-books for a few of our courses. Due to the aforementioned changes in the tuition/fee structure, we have had to cancel this service. The resulting savings ended up in the college and helped fund the new budget model. Academic year supplements increased from 2012-13 through 2014-15 due to a big increase in engineering enrollment (as part of their 25 by 25 initiative); of course, these funds should have been added to the permanent budget, but they were only given on a one-time basis. The spike in summer support for summer 2016 is due to a last minute emergency infusion from the college and the university ($350K plus $250K) to compensate for the loss of the academic year supplement(s) that occurred during the last year of the previous college administration. (This is a lengthy story, but essentially, the previous dean had lost an annual $2M allocation that he had always pumped into the college to the tune of about $640K for the department.) Because the summer program had already been set up, emergency funds were granted. However, this too was a one-time measure; as a result, the department had to curtail its summer offerings substantially.

http://www.math.tamu.edu/0ae1a4cc3f2c54e541cbf8809db6548/budgethistory.html
December 10, 2009

MEMORANDUM

TO: Al Boggess, Department Head of Mathematics

FROM: Robert Webb

SUBJECT: Department of Mathematics Program Review Final Report

Enclosed is the Mathematics Academic Program Review final report, received December 10, 2009. As outlined in the Academic Program Review Guidelines, please forward your written response to these findings to me at the Office of Graduate Studies within 30 days of receipt of this memo, or no later than Friday, January 29, 2010 in light of the upcoming holidays.

The Office of Graduate Studies will work with your department to schedule a meeting with you, the Interim Executive Vice President for Academics & Provost, the Vice Provost, the Interim Associate Provost for Undergraduate Studies, the Interim Dean of Graduate Studies, and the Dean of your college within two weeks of receipt of your response to discuss follow-up issues and action items. Feel free to invite other individuals from your department who are integral in this process. I will “host” this post-review meeting, but you, with input from your Dean(s) and any guests you invite, will lead the bulk of the discussion. The discussion should heavily focus on what the department plans to do moving forward. The Guidelines on our website at http://ogs.tamu.edu/faculty/program-review-self-study/APRGdlns-Oct08WEBVersion.pdf contain a sample post review meeting agenda for your convenience. Please take time to review the sample agenda, and call me so we may discuss how you would like to present your thoughts at this meeting.

Enclosures

Cc: Karan L. Watson  
   J. Martyn Gunn  
   Pamela R. Matthews  
   H. Joseph Newton  
   Jenna S. Kurten
December 9, 2009

Dr. Robert C. Webb, Interim Dean  
Office of Graduate Studies  
Division of Research and Graduate Studies  
302 Jack K. Williams Administration Building  
1113 TAMU  
College Station, TX 77843-1113

Dear Dr. Webb:

I am pleased to forward the final report of the external review of the Mathematics Department conducted recently.

On behalf of the committee members I express our appreciation for the hospitality and sharing of information provided to the committee at all levels. We trust that the your administration as well as department members will find the recommendations presented in the report to be of value in future planning.

It was our pleasure to assist you and we are available to answer any questions, which may arise from the report. We look forward to future discussions.

Sincerely,

Efrain P. Armendariz  
Chair of the External Review Committee

Enclosures
External Review of the Department of Mathematics at Texas A&M University

Review Committee Members:
Efraim P. Armendariz, Professor, University of Texas at Austin
Chair of the Committee
Peter Bates, Professor, Michigan State University
Mark Green, Professor, University of California Los Angeles

Department Overview and Executive Summary

The External Review Committee conducted its on campus review of the Mathematics Department, commencing with a meeting on the evening of November 15, 2009 and continuing its evaluation through early afternoon of November 18, 2009. During this time period the team toured the facilities, met groups of faculty members, graduate students, undergraduate students and staff members; key representatives from the Provost’s office, the Dean of Graduate Studies, the Dean of the College of Science, the Head of the Department of Mathematics; and representatives from the Departments of Physics, Chemistry and Statistics as well as the College of Engineering. These meetings, in conjunction with the thorough self study document prepared by the Department and provided to the review team members prior to the visit have enabled the team to obtain a comprehensive overview of the Department’s instructional and research activities.

Through the considerable assistance of the Faculty Reinvestment Program, the Department has been able to enhance the quality of an already existing strong faculty. The Head of the Department, Dr. Al Boggess is to be commended for the leadership he has provided during this time of growth, especially in ensuring that faculty appointments were made in range of areas that are representative of current and future trends in mathematics. In meetings with all constituents utmost consideration was given by the Review team to identifying present strengths as well as needed resources that will permit the Department to achieve a place it among the very best group of public institutions.

Building on the recent Department successes and well-placed aspirations, and understanding the considerable challenges faced by a growing public institution such as Texas A&M University, the team forwards recommendations and suggested strategies for implementing these recommendations which, when implemented, will enhance the Department’s stature and raise it to a pre-eminent position among departments at public institutions.
Summary of Principal Recommendations

Space
1. End the existing physical split facilities of the Department between Blocker and Milner for sound scientific and educational reasons

Graduate Studies
2. Increase the size of the graduate program with commensurate support for graduate students
3. Revise downward the breadth requirements
4. Administration of the Graduate program should be handled by the Graduate Studies Committee and Graduate Adviser

Postdoctoral Program
4. Improve and enhance the teaching mentoring of postdoctoral scholars, including yearly peer observations
5. Postdoctoral scholars should have an opportunity to teach graduate courses during the term of appointment

Undergraduate Studies
6. Improve instruction associated with the “stacked” Honors courses
7. Improve consultation with nontenure track faculty regarding teaching assignments
8. Reconsider the full-time workload, salary schedule and advancement policies for non tenure track faculty
The Faculty

Tenure-Tenure Track Faculty

The University's Reinvestment Program added 19 tenured and tenure track positions to the Mathematics Department. Through vigorous recruiting efforts, the number of faculty members in these ranks now numbers 80 compared to a faculty size in the low 60s that existed in the 1990s. Appointments, primarily at the Assistant Professor level but including significant senior faculty as well, have been made in a number of areas; these appointments have complemented existing research strengths in functional analysis and numerical analysis, as well as revitalized the core areas of algebraic geometry, combinatorial analysis, number theory and added strength in scientific computation and applied mathematics. The high quality of these appointments is evidenced by the considerable success that this group of new appointees has encountered in securing external research funding from highly competitive funding agencies such as NSF, DOE and NSA. Department faculty members are engaged in significant interdisciplinary research institutes, the Institute for Applied Mathematics and Computational Science (funded by KAUST) and the Institute for Scientific Computation. The developing NSF-funded Undergraduate Biological and Mathematical Sciences Program is a promising venture that is almost certain to involve more faculty members in interdisciplinary research and instruction.

Recommendation: Give high priority to filling the Powell Chair.

The Department should seek to fill this position with a person of considerable international stature. To do so will undoubtedly require higher administration augmentation of existing Department resources. Other departments of mathematics, notably at the University of Texas at Austin, have significantly raised their profile by judicious hiring into endowed chairs. A successful recruitment at this level can be a tremendous catalyst for increased productivity among junior faculty, a group that constitutes the future of the Department.

Recommendation: Continue the high level of recruitment that complements existing strengths with special efforts to increase the diversity of its faculty.

The Department has made taken a strong step in this direction with appointments that have increased the number of female tenured tenure track faculty members to 8. Conscious effort must be made to continue this progress.

The Department appears to have in place an equitable and timely evaluation process for purposes of promotion and merit increases. The Review team did not encounter any criticisms of the present system.
Postdoctoral Scholars
The Department has a vibrant and successful postdoctoral program, with an enviably large cohort of postdocs. Each postdoc is attached to a research mentor, and overall these mentoring relationships appear to be highly effective. With the exception of one person, postdocs who met with the Review team were well satisfied with the research atmosphere and mentoring present in the Department. The one exception indicated that there was a mismatch between his research interests and those of faculty members. In the areas of teaching assignments and mentoring for teaching, changes are needed.

Recommendation: Improve and enhance the teaching mentoring provided to postdocs.

The number of courses postdocs are asked to teach is comparable to that of the regular faculty. However, postdocs are plunged almost as soon as they arrive into some large and challenging courses for which their previous experience often has not adequately prepared them. The mentoring efforts presently in place do not appear to be adequate to the task.

Recommendation: A faculty member should observe each postdoc's teaching on an annual basis.

The Department has a well-conceived system of student evaluations, but there does not seem to be a formal mechanism by which postdocs' teaching is observed and evaluated by faculty. Doing this will be helpful in providing ongoing teaching mentoring of postdocs and will ensure that there is a faculty member in a position to write an informed teaching letter when postdocs apply for their next job.

Recommendation: Postdocs who wish to do so should teach at least one graduate course during their 3-year term of appointment.

In having a postdoc program, the department is undertaking responsibility for the professional development of these scholars. There are many ways that teaching a graduate course advances the intellectual growth of postdoctoral scholars and it is essential to their building a strong and varied teaching resume. While it is appropriate that the research active regular faculty teach the preponderance of graduate courses, postdocs should be given the opportunity to engage in this important facet of their training.

Non Tenure Track Faculty
TAMU’s Mathematics Department is unusual among U.S. mathematics departments in the magnitude of its service-teaching load, primarily because of the university wide 6 SCH mathematics requirement for undergraduates. The lion’s share of this service teaching is assumed by a cadre of 25 Lecturers and Senior Lecturers, who teach approximately 10,000 students per year, which is 40%-45% by volume of the Department’s teaching. Lecturers and Senior Lecturers teach 4 sections of around 100...
students each every semester. Almost all of these sections are taught without TA’s, so that the instructor is the only source of help for the 400 students they teach, outside of a small number of help sessions. The Department has responded admirably by providing online support and help sessions, but such support cannot replace the considerable benefits of one-to-one faculty student interactions that are critically needed at the first and second year level of instruction.

The number of student-selected teaching awards that this group has received is evidence of the quality of the teaching delivered by this group. Remarkably, over 6-7 years, this group, under the leadership of Associate Head Don Allen, has brought in approximately $3 million in grants. This provides obvious benefits to the university, and provides summer salary for some of the Lecturers and Senior Lecturers.

Yet salaries are extremely low and disparate, with salaries for Lecturers trailing significantly salaries at community colleges and even high schools. Overall, this situation poses serious risks for the Department, its students, and the university.

**Recommendation:** A major infusion of Teaching Assistants is needed to provide sufficient face-time for students needing help.

There is some evidence that TAMU is losing students to community colleges for this body of courses, in part because of the lack of TA’s.

**Recommendation:** Over time, workload and salary need to be brought into better alignment.

At present, there is no professional advancement possible for Senior Lecturers. One possibility would be to create a title for a position above this for teachers making exceptional contributions and who have a long record of distinguished teaching and to which senior lecturers can aspire. The overall problem of the mismatch between workload and salary will take time to unwind.

**Recommendation:** Establish a clearer mechanism to address educational issues for the Department’s service courses.

It was not clear to a number of the people interviewed what departmental committee had responsibility for the routine educational issues that inevitably arise in this group of courses. A mechanism for input from the Lecturers and Senior Lecturers, the troops on the ground, would be extremely useful in making these decisions.

**Governance**

The Department has grown to such a size that decision making can become obfuscated, especially when dealing with teaching assignments and course offerings, as noted in the previous section. The current geographical split in the Department aggravates this problem. Considerable consultation with faculty groups can help to minimize the effect.
Recommendation: Finalization of course the Head in consultation with the three Associate Heads should make offerings and teaching schedules

Once allocations of courses have been decided by the Head or designate, graduate course offerings and a recommended schedule of graduate offerings should be decided by the Graduate Associate Head in consultation with the Graduate Studies Committee, after receiving input from faculty research groups. Upper-division undergraduate course offerings and a recommended schedule should be decided by the Undergraduate Associate Head in consultation with the Undergraduate Studies Committee, after receiving information about faculty preferences and learning the graduate course assignments. Following this, service course offerings and a recommended schedule should be decided by the Associate Head in consultation with the appropriate committee and with input from the Lecturers and Senior Lecturers.

Decisions about what graduate courses will be offered and by who plays an essential role in running an excellent graduate program, and the needs of the graduate program are best assessed by the Graduate Associate Head and the Graduate Studies Committee. A similar situation prevails for the upper-division undergraduate courses, and for the department's offering of service courses.

The Graduate Program

The graduate program is quite successful. Students are appropriately mentored, are prepared for teaching assignments, do not experience significant delays in finding a thesis supervisor, and do well on the job market. The Graduate Program Advisor meets one-on-one with students and plays an active role in overseeing the success of the program. The students that were interviewed expressed satisfaction with the program. Students did find that the physical divide between the department’s two spaces, coupled with the lack of a suitable department lounge, exacted a heavy toll in terms of development of an overall sense of community among the graduate students and between the graduate students and postdocs and faculty.

Recommendation: Increase the size of the PhD program, with a commensurate increase in funding for Teaching Assistants

The increase in tenure-track faculty through the university-wide reinvestment program has produced a quantum leap in the department’s research productivity, with a concomitant increase in visibility of the department. However, from the perspective of training graduate students, the intellectual capacity of the Mathematics Department faculty is vastly underutilized, especially when viewed in comparison with the benchmark universities highlighted in the Vision 2020 program. The rate of PhD production has improved but needs to be increased further for Texas A&M to be nationally prominent in mathematics. Advancing this process will require a commensurate increase in the department’s TA lines. As discussed in the section on teaching, there are also compelling programmatic reasons for increasing the department’s TA power. At this point, the disparity between the research footprint of the department
and its visibility as a graduate program is the principal obstacle to a significant advance in the department’s stature. This recommendation is at the heart of raising the stature of the Department. Excellent programs are recognized for the quality of their research faculty and the quality of their doctoral students. One half of this equation is now present in the form of a highly productive group of faculty members who have received national and international recognition for their efforts. That group must now be matched by a corresponding collection of first-rate students. The Review team easily envisions an increase in the size of the graduate program in the range of 50%-75% as being appropriate. This increase need not, and probably cannot, be immediate, but incremental annual increases of 10-15 TA positions can be carried out over a 6-7 year period.

**Recommendation:** Revise significantly downward the department’s breadth requirements for graduate students.

At present, graduate students are required to take two full-year sequences of qualifying exam courses, plus one course from each of 6 additional areas of mathematics, for a total of 10 semester courses. We are not convinced by the justification advanced by advocates of this requirement that “every mathematician needs to know these things.” This is a highly unusual breadth requirement that tends to impose unnecessary delays on student progress and makes it difficult to attain research readiness in a number of research areas. The department should revise this requirement downward very significantly—without wishing to specify a precise revision, an appropriate scale of reduction would be to drop down to at least one course from each of the four areas identified as Groups I-IV, with two of these courses extended to full two-semester sequences, making six semester courses in total. The overarching principle should be that the student’s thesis adviser should take responsibility for ensuring that the student takes a broad enough spectrum of courses to prepare the student for a mathematical career in the student’s area of choice.

**Recommendation:** The Graduate Adviser in consultation with the Graduate Studies Committee best handles decisions regarding course offerings and selection of instructors for courses that support the graduate program.

**The Undergraduate Program**

The department has three different majors: one traditional track focusing on pure mathematics, one designed for future teachers, and one for those interested in a variety of applications. There is an active recruitment effort and a large group of mathematics majors and minors. The department engages in a variety of outreach efforts and offers opportunities for undergraduate research. There is an extensive honors program, which is highly effective although some adjustments are warranted to ensure uniformity of expectations. The system of undergraduate advising works well. The department has been active in securing grant funding for a variety of undergraduate and outreach programs. The undergraduate majors that met with the Review team were well satisfied with the upper-division courses, and found the faculty open and accessible. They were pleased with the undergraduate lounge in Blocker. Many of the students expressed the
intention of going on to graduate study in mathematics. The program of departmental honors in Mathematics is a pioneering effort at TAMU.

Recommendation: The “stacked” honors classes are in need of improvement.

In order to be able to offer a wide variety of honors courses, the department offers “stacked” honors courses, where honors and non honors students take classes together, with additional requirements in the form of more difficult homework, special exams, and/or student projects constituting the honors part of the course. In some cases, there is an extra 15 minutes at the end of class directed exclusively at honors students. Students found these stacked honors classes were sometimes disappointing; for instance, one student reported that one stacked honors class had no enhancements whatsoever. The Review team is inclined to think that the stacked honors concept has merit, but that the execution needs to be improved to avoid dilution of the honors brand. Perhaps what is needed is a description of possible options that might be considered in a stacked honors course, with a requirement that at least one option is implemented to qualify for honors designation.

Staff

The Review team found the Department staff to be highly professional and well organized. This group speaks well for the Department. Additional information requested by the Review team was provided in a timely manner. The Review team also acknowledges the considerable staff assistance that enabled the team to maintain a very compact schedule. Despite a tremendous workload that encompasses maintenance of instructional technology and computer support for research activities, the computer staff was always available to assist the Review team. It is clear that the continued high demand for technology services as well the considerable increase in funded research activity present a very real need identified by staff that must be addressed.

Recommendation: Resources should be provided to permit the Department to add an additional Information Technology specialist and an Administrative Accountant.

Facilities

It has been recognized by members of the university administration that the geographic split, placing some faculty members and graduate students in Milner Hall and others in Blocker, is detrimental to the progress and efficiency of the department. It may not be recognized just how serious this is. We as a committee believe this unnatural split to be such an obstacle that it will prevent the Department of Mathematics from becoming one of the preeminent departments in the nation, even though a tremendous investment has taken place in hiring outstanding faculty members.
The problems—scientific, educational, and in community building—inherent in this division of the department came up with virtually every group that we met with. Faculty, postdocs, graduate students, undergraduates, and staff are all impacted.

There has been an attempt to mitigate the effects of the split by separating faculty according to pure and applied areas, but even if that were possible, it would damage both the educational experience of all students and diminish the research potential of the faculty. In fact, such a division is impossible. Mathematics has become and continues to become increasingly interconnected. Some of those working in areas once thought to be as irretrievably pure, such as algebraic geometry, number theory, harmonic analysis, or topology, are using sophisticated computational approaches while the work of others is finding applications in robotics, high-energy physics, cryptography, and medical imaging.

If one were to overlay on a map of campus and a network in which each node represented a faculty member and the edges represented close scientific ties, then placing some of those nodes in Blocker and some in Milner Hall, the current arrangement would show perhaps two dozen edges between those locations. We also believe that no other distribution of the faculty between these building would be any better. The impediment to collaborative research and the unrealized synergistic power of the department is even greater than the graph would suggest. Bringing the breakthroughs in one area to bear in another, previously thought to be entirely unrelated, area, almost always advances mathematics. Faculty members mingling and conducting their seminars in common shared facilities create opportunities for such cross-fertilization.

What is true for faculty members is also true for graduate students and postdoctoral fellows and scholars, perhaps even more so as they are forming their own research directions and attempting to interact with as many leading faculty members as possible. Graduate students may have one or more advisor or committee member in the other building resulting in sub-optimal supervision. We also believe that the geographic split also negatively impacts undergraduate learning. Students will visit the help center and computer labs in Blocker but will often need to attend office hours for their faculty instructor or TA in Milner.

Having the teaching program administered from Blocker while the Department Head’s office is located in Milner can also hamper efficient functioning of department administration and staff.

A great casualty of this split is an overall sense of the department as a community. At present there is no adequate space for faculty members, postdocs and graduate students to mingle informally. There is a smallish room in Milner, described by one postdoc as ‘nasty’, but that is it. The faculty and postdocs constitute a surprisingly congenial bunch and would take the opportunity to gather together for discussions if a suitable space were provided. This is a lost opportunity.
Recommendation: The Review Committee strongly urges that a commitment be made at this time by the University's higher administration to ensure that sufficient space in Blocker be reserved, as it becomes available, for use by the Mathematics Department, with the ultimate goal of having the Department faculty, graduate students and staff housed in a single facility.
Overview of Faculty

Research Faculty

Tenure Track Faculty

In 2009, the department had 83 tenured or tenure track faculty. Today, this number is 73. The bulk of the loss of nine occurred between 2010 and 2011, when there was no tenure track hiring, but 7 faculty left during that period. This period was marked by a 10% budget cut together with a voluntary separation agreement (essentially a buyout) that the university offered as a retirement incentive. The situation improved from 2012 through 2015, when 9 TT faculty departed, but 11 were hired. 2015 marked the transition from Dean Newton to Dean Aronson. Due to policy changes resulting from this transition (specifically, funds freed up by departures now revert back to the college), the department incurred a net loss of four TT positions (7 departures vs. 3 hires) over the last two years (2016, 2017). The losses since 2011 unfortunately disproportionately affected our female faculty; we have started a concerted effort to rebuild to at least the national average of around 14%. A list of all tenured and tenure-track faculty who were hired since 2009 is given in the Appendix Section entitled Faculty Hired Since 2010-2011. The age distribution of our faculty is available here. In addition, a one-page vita for each faculty member is given in the Appendix Section entitled: Faculty Profiles

The department now has six Distinguished Professors and five endowed positions: the Owen Chair, the Owen Professorship, the Koss Professorship, the Powell Chair, and a new as of yet unnamed chair (to be filled). Ron DeVore has just been elected to the latest class of the National Academy of Sciences. A second NAS member, Roger Howe, has a courtesy appointment with us (he has an appointment in the College of Education). Nine of our current faculty and two emeriti have given invited talks at the International Congress of Mathematicians (this includes two in 2018). A summary of major awards and prizes won by our faculty is available in the Appendix Section entitled Mathematics Faculty Awards.

The department plays a major role in two interdisciplinary research institutes: Institute for Applied Mathematics and Computational Science (originally funded by a $20 million five-year grant from King Abdullah University of Science and Technology, KAUST), and the Institute for Scientific Computation. Many of our faculty have joint appointments with other departments.

Departmental faculty have published 713 papers and 32 books over the last five years (2012-16, all information from Academic Analytics), placing us at #4 (99th percentile) for total number of articles, and #38 (85th percentile) for number of publications per faculty member.

The department has generated $11M federal research funding from 2012-16, placing us at #4 for total number of federal grants (140), and at #31 (88th percentile) for grants per faculty member. (Note that the total funding amount is much lower than the sum, over the five years indicated, of the active grant total for each year.) Three quarters of the tenured and tenure-track faculty have federally funded grant support, which puts us at #17 (93rd percentile) in the country. Most of the federal support comes from the National Science Foundation (~80%), with lesser amounts from the Department of Energy and the Department of Defense (Army, AFRO, Navy). In addition to federal funding, there typically is several hundred thousand
dollars in state and international funding (the latter mostly from the Qatar Research Foundation via TAMUQ). The amounts for 2014 and 2015 were $1.5M and $0.5M, respectively (these are the last two years where that information is available from the college).

The teaching load for research active faculty in the department is three courses per academic year; this is the vast majority of our tenure track faculty (66/73). Increased loads range from four courses to six courses. The decision whether somebody is sufficiently research and/or scholarly active is made by the departmental Executive Committee as part of the annual evaluation.

Postdoctoral Faculty

Since 2009, we have hired 62 three-year postdocs. The first two years (2009-2011), the numbers were traditionally high (12 each); the reason is that several each year were funded by the Institute for Applied Mathematics and Computational Science through the $20M grant from KAUST. From 2011-2015 annual hires typically hovered around 7. For the last two years, that number dropped to 5 (this is also the case for the current year) due to the budget issues discussed under budget. Of these post-docs, 15 (24%) were US citizens or permanent residents, and 47 (76%) were non-US citizens/permanent residents. The demographics are as follows: 10 females, 52 males, 5 Hispanic, 16 Asian, 1 Black, 38 White. Approximately 35% of our postdocs found tenure-track appointments after their appointments here at A&M. Most of the remainder landed second postdoc appointments.

In 2009, the department had around 30 post-docs and research visitors. That number remains the same today. Post-docs are selected on the basis of their credentials and on how they would fit within one or more of the department's research groups to ensure adequate mentoring. The teaching load is 2-1 (3 courses per year) which is the same for most of the research faculty. Post-docs are provided a minimum of $1,500 per year in travel funds for conferences and workshops. Further details about our postdoctoral program, including the selection process and post-doc mentoring programs, is given in the section entitled Details of the Postdoctoral Program. A one-page vita for each postdoc is given in the postdoctoral part of the Appendix Section entitled: Faculty Profiles.

The program has recently come under indirect budget pressure. The need to hire more APT faculty in order to handle the increased teaching responsibilities has squeezed funding available for post-docs. The main goal for the program is to keep funding from slipping further, and, if at all possible, restore pre 2013 levels (that is, hire at least six a year, vs the current rate of four to five).

Research Groups in the Department of Mathematics and Interdisciplinary Research

It is convenient to group the department's research efforts into eleven broad areas, as indicated below. However, these areas have considerable overlap and many faculty consider themselves associated with more than one area.

Collectively, the department's research efforts attract about 4 million in annual federal research funding, most of which comes from the National Science Foundation (~80%), with lesser amounts from the Department of Energy and the Department of Defense (Army, AFRO, Navy). Three quarters of the tenured and tenure-track faculty have federally funded grant support. In addition to federal funding, there typically is several hundred thousand dollars in state and international funding (the latter mostly from the Qatar Research Foundation via TAMUQ).

The department plays a major role in two interdisciplinary research institutes: the Institute for Applied Mathematics and Computational Science, and the Institute for Scientific Computation. There are major interdisciplinary connections between researchers from our department with those outside our department as described in the section on Interdisciplinary Research.

Here follows a description of the major research groups in the department.

- Algebra and Combinatorics
- Approximation Theory
- Complex and Harmonic Analysis
Research Groups

Research Groups in the Department of Mathematics

It is convenient to group the department's research efforts into eleven broad areas, as indicated below. However, these areas have considerable overlap and many faculty consider themselves associated with more than one area.

Collectively, the department's research efforts attract about 4 million in annual federal research funding, most of which comes from the National Science Foundation (~80%), with lesser amounts from the Department of Energy and the Department of Defense (Army, AFRO, Navy). Three quarters of the tenured and tenure-track faculty have federally funded grant support. In addition to federal funding, there typically is several hundred thousand dollars in state and international funding (the latter mostly from the Qatar Research Foundation via TAMU-Q).

The department plays a major role in two interdisciplinary research institutes: the Institute for Applied Mathematics and Computational Science, and the Institute for Scientific Computation. There are major interdisciplinary connections between researchers from our department with those outside our department as described in the section on Interdisciplinary Research.

Here follows a description of the major research groups in the department.

- Algebra and Combinatorics
- Approximation Theory
- Complex and Harmonic Analysis
- Functional Analysis
- Geometry and Topology
- Groups and Dynamics
- Number Theory
- Numerical Analysis and Scientific Computation
- Partial Differential Equations and Mathematical Physics
- Probability Theory

Algebra and Combinatorics

This research area has diverse interests that include algebraic combinatorics, combinatorial group theory, Hopf algebras and tensor categories, quantum computation, algebraic geometry, algebraic statistics, complexity theory, representation theory, and homological algebra. There are significant overlaps with the research groups in number theory, geometry, and groups and dynamics. Major faculty awards in this area include two former NSF-CAREER award winners (Maurice Rojas and Frank Sottile) and two former Sloan Fellows (Catherine Yan and Laura Matusevich). Distinguished Professor Rostislav Grigorchuk, an invited speaker at the International Congress of Mathematicians, won the Steele Prize for Seminal Contribution to Research and the Bogolyubov Prize of Ukrainian Academy of Science in 2015. Professors Rostislav Grigorchuk, Joseph Landsberg, Frank Sottile, Sarah Witherspoon and Catherine Yan have been selected as Fellows of the American...
Mathematical Society.

This research area sponsors the Algebra and Combinatorics Seminar devoted to studying algebra, combinatorics, their interconnections, and their relations to other parts of mathematics and applications.

An on-going conference sponsored by this research area is CombinaTexas which is devoted to current research developments in combinatorics and graph theory and rotates around several Texas institutions, including Texas A&M. This area also helps sponsor the Maxson Lectures which is a lecture series in honor of Professor Emeritus Carl Maxson and endowed by one of his students, Professor Ponnammal Natarajan.

Regular Faculty Members in the Algebra and Combinatorics Group

- Michael Anshelevich, Functional Analysis, Probability, Combinatorics
- Gregory Berkolaiko, Partial Differential Equations, Mathematical Physics, Combinatorics
- Sue Geller, Algebraic K-Theory
- Robert Gustafson, Group Representations
- Rostislav Grigorchuk, Combinatorial Group Theory
- Paulo Lima-Filho, Algebraic Geometry and Algebraic Topology; Paulo is also Associate Head for Operations and Undergraduate Programs
- Volodymyr Nekrashevych, Combinatorial Group Theory and Functional Analysis
- Laura Matusevich, Hypergeometric Functions, Combinatorics, Discrete Geometry
- Gregory Pearlstein, Hodge Theory and Algebraic Geometry
- Maurice Rojas, Computational Algebraic Geometry
- Eric Rowell, Quantum Computation, Braid Group Representations
- Anne Shiu, Mathematical Biology, Algebraic Statistics
- Frank Sottile, Algebraic Combinatorics, Computational and Discrete Algebraic Geometry
- Peter Stiller, Applied Algebraic Geometry, Robotics, Computer Vision and Image Recognition
- Sarah Witherspoon, Homological Algebra and Representation Theory
- Catherine Yan, Algebraic Combinatorics, Ordered Algebraic Structures and Probabilistic Methods

Current Postdoctoral Members in the Algebra and Combinatorics Group

- Yue Cai, Algebraic Combinatorics
- Souvik Goswami, Algebraic Geometry
- Julia Plavnik, Homological Algebra and Category Theory
- Xiaoxian Tang, Symbolic Computation
- Emanuele Ventura, Algebraic Geometry
- Zheng Zhang, Algebraic Geometry

Approximation Theory

The research interests of this group include approximations by orthogonal polynomials, radial basis functions, and wavelets; further topics of interest include greedy algorithms, scattered data surface fitting, rates of approximation, constrained approximation, polynomial inequalities, orthogonal polynomials, wavelets, splines, non-linear approximation. There are significant overlapping interests with the groups in partial differential equations and numerical analysis. It is notable that a distinguished member of the group, Ronald DeVore, was elected to the National Academy of Sciences in 2017.

Regular faculty members in Approximation Theory

- Ronald DeVore, Walter E. Koss Professor of Mathematics; Approximation theory, numerical analysis
Tamas Erdelyi, Professor; Polynomials, polynomial inequalities, orthogonal polynomials, Chebychev and Descartes systems, and classical analysis
- Simon Foucart, Associate Professor; Computational approximation theory in high dimensions, compressive sensing
- Boris Hanin, Assistant Professor; Probability, spectral asymptotics, and deep learning
- Francis Narcowich, Professor; Radial basis functions, meshless kernel methods for scattered-data approximation and interpolation on spheres and other manifolds, quadrature, scattered-data surface fitting, and meshless Galerkin methods for solving PDEs and non-local problems
- Guergana Petrova, Professor; Nonlinear approximation, hyperbolic PDEs, conservation laws, numerical quadrature on balls in Euclidean space.
- Bojan Popov, Professor; Conservation laws, linear transport equations, approximation theory, numerical analysis of PDEs
- N. Sivakumar, Associate Professor; Splines, radial basis functions, approximation and interpolation on spheres, classical analysis, cardinal interpolation
- Joseph Ward, Professor; Radial basis functions, meshless kernel methods for scattered-data approximation and interpolation on spheres and other manifolds, quadrature, scattered-data surface fitting, and meshless Galerkin methods for solving PDEs and non-local problems

Current Postdoctoral Members in Approximation Theory
- Peter Jantsch, Visiting Scholar; Efficient numerical methods for high dimensional random PDEs, with applications to uncertainty quantification, deep learning

Center for Approximation Theory

The group runs the Center for Approximation Theory. For information on this center, see the section titled Centers.

Complex and Harmonic Analysis
The research interests of this group include the Bergman kernel function, Toeplitz operators, singular integrals, spectral theory for Schroedinger operators, and the boundary regularity theory of the inhomogeneous Cauchy-Riemann equations in pseudoconvex domains. There are overlapping interests with the Geometry group and with the Mathematical Physics group. Notable faculty recognition includes two invited addresses to the International Congress of Mathematicians (Dr. Straube in 2006 and Dr. Poltoratski in 2018), the 2013 CBMS lectures by Dr. Poltoratski (on the Uncertainty Principle in Harmonic Analysis), the Bergman Prize (shared by Dr. Boas and Dr. Straube in 1995), and the Chauvenet Prize (Dr. Boas in 2009). This group sponsors the Several Complex Variables seminar.

Regular faculty members in Complex and Harmonic Analysis
- Harold Boas, several complex variables
- Alex Poltoratski, complex analysis and harmonic analysis
- Emil Straube, several complex variables

Current Postdoctoral Members in Complex and Harmonic Analysis
- Robert Rahm, harmonic analysis and operator theory

Functional Analysis
The functional analysis group has diverse interests which include: Banach spaces, operator spaces, operator theory, C*-algebras, von Neumann algebras, nonlinear functional analysis. Furthermore, members of this group are interested in applications to probability theory, free probability theory, wavelets, quantum information, dynamical systems, and convex geometry. Significant faculty credits and awards include three distinguished professors (Drs. Ronald G. Douglas, William Johnson, and Gilles Pisier). Dr. Ron Douglas was awarded a Guggenheim Fellowship in 1980. Drs. Bill Johnson and Gilles Pisier have both been awarded the Banach Medal, in 2007 and 2001 respectively. Dr. Gilles Pisier is a member of the Paris Academy of Science, the Indian National Science Academy, and the Polish Academy of Science. He has also won several
prestigious mathematics prizes, including the Salem Prize, and the Ostrowski Prize. Dr. Guoliang Yu holds the Powell Chair. He is an ICM (International Congress of Mathematicians) invited speaker, as are also Drs. Douglas, Johnson, Pisier, and Poltoratski. Drs. Douglas and Paouris have held Sloan Fellowships, and 7 members of the group are Fellows of the AMS (American Mathematical Society). Members of the group have graduated 13 Ph.D. students in the last 5 years, and are currently advising a further 13 students. This research area sponsors several informal learning seminars in addition to three weekly seminars, one in Banach spaces, one in linear analysis and one in noncommutative geometry. The functional analysis and probability group organizes the long-standing NSF-funded Workshop in Analysis and Probability every summer, and this includes several concentration weeks on specialized topics. This group is scheduled to host, for the fourth time, the long-running annual Great Plains Operator Theory Symposium in 2019, and Dr. Brannan is a founding organizer of a new regional conference, the Brazos Analysis Seminar, sponsored by NSF. On the international front, members of the group have been active in conference organization, including recent meetings in Oberwolfach, Germany; Shanghai, China; Banff, Toronto and Vancouver, Canada; Paris and Luminy, France; Jerusalem, Israel; Sao Paulo, Brazil; and Bed Iowa, Poland.

Regular Faculty Members in Functional Analysis

- Michael Anshelevich, Operator algebras, free probability
- Michael Brannan, Operator algebras, quantum groups, quantum information
- Ronald G. Douglas, Operator algebras, operator theory
- Ken Dykema, Operator algebras, operator theory and free probability theory
- William Johnson, A.G. & M.E. Owen Chair of Mathematics, Banach space theory, non linear functional analysis, probability theory, operator theory, theoretical computer science
- David Kerr, Ergodic theory and operator algebras
- David Larson, Operator theory and applied harmonic analysis
- Grigoris Paouris, Functional analysis, high dimensional probability, convex geometry
- Gilles Pisier, A.G. & M.E. Owen Chair of Mathematics, Analysis, probability and operator theory
- Alexei Poltoratski, Complex and harmonic analysis with applications to spectral theory and operator theory
- Eviaitar Procaccia, Probability
- Thomas Schlumprecht, Banach spaces
- Roger Smith, von Neumann algebras and C*-algebras
- Robin Tucker-Drob, Dynamical systems
- Zhizhang Xie, K-theory of operators algebras, index theory, noncommutative geometry and their applications to geometry and topology
- Guoliang Yu, Powell Chair in Mathematics, Noncommutative geometry, K-theory, index theory, topology and analysis of manifolds, geometric group theory.

Current Postdoctoral Members in Functional Analysis

- Florent Baudier, Banach spaces
- Benben Liao, Functional Analysis
- Pavlos Motakis, Banach spaces
- Robert Rahm, Fourier Analysis
- Shilin Yu, Noncommutative Geometry, Analysis on Manifolds, Representation Theory
- Yuan Zhang, Interacting Particle Systems and their applications

Additionally, various permanent members of the group have mentored 12 postdocs whose standard 3 year appointments ended in the 5 year period 2013-2017.

Geometry and Topology

The interests of this group include algebraic geometry, algebraic topology, differential geometry, geometric analysis, and discrete geometry. More specific interests include geometry of distributions, exterior differential systems, projective differential geometry, homogeneous varieties, Fano varieties, calculus of variations in the large, minimal surfaces, sub-
Riemannian geometry, calibrations, equivariant, motivic and Deligne cohomology, toric varieties, real algebraic geometry, numerical algebraic geometry, and applications to biology, theoretical computer science, signal processing and control theory. Major faculty awards in this area include three NSF-CAREER award winners (Drs. Dean Baskin, Maurice Rojas, and Frank Sottile), four Fellows of the AMS (Roger Howe, Peter Kuchment, J.M. Landsberg and Frank Sottile), and one Sloan fellowship (Dr. Laura Matusevich). This group organizes a twice weekly research seminar: the Geometry Seminar. There is also a Working Geometry Seminar which is devoted to working through a series of topics of interest to the participants. There are two on-going NSF-funded conference series sponsored by this group: the Texas Geometry and Topology Conference and the Texas Algebraic Geometry Seminar. Members of this group, Anne Shiu and Maurice Rojas anchor the yearly TAMU REU, and Frank Sottile led the effort to found a SIAM activity group in algebraic geometry, and more recently to found the SIAM Journal on Applications of Algebra and geometry. Roger Howe is a member of the National Academy of Sciences.

Regular Faculty Members in Geometry and Topology

- Dean Baskin, Geometric Analysis
- Stephen Fulling, Mathematical Physics
- Roger Howe, Representation Theory (joint with Teaching)
- Peter Kuchment, Integral Geometry & Geometric Analysis
- Joseph Landsberg, Algebraic Geometry & Differential Geometry
- Paulo Lima-Filho, Algebraic Geometry & Algebraic Topology
- Laura Matusevich, Algebraic Geometry & Discrete Geometry
- Jon Pitts, Geometric Analysis
- Maurice Rojas, Algebraic Geometry & Discrete Geometry
- Anne Shiu, Applications of algebraic geometry to biology
- Frank Sottile, Algebraic Geometry & Geometric Combinatorics
- Peter Stiller, Algebraic Geometry & Applications
- Tian Yang, manifolds and cell complexes
- Igor Zelenko, Differential invariants

Current Postdoctoral Members in Geometry and Topology

- Souvik Goswami, Algebraic geometry
- Xiaoxian Tang, symbolic computation
- Emanuele Ventura, Algebraic Geometry
- Zheng Zhang, Algebraic Geometry

Groups and Dynamics

Topics of interest of this research group include group theory, in particular geometric methods in group theory, asymptotic group theory, amenability, measurable group theory, growth of finitely generated groups and algebras, topological groups and invariant means on them, random walks on groups and graphs, representations, associated C*-algebras, K-theory, and von Neumann algebras, bounded cohomology and L-cohomology, actions on trees and complexes, self-similar groups, groups generated by finite automata, groups of homeomorphisms of manifolds, the mapping class groups and other groups arising in topology.

The topics related to dynamical systems include theory of billiards, geodesic flows on flat surfaces, symbolic dynamics, dynamical systems, actions of groups on the Cantor set, topological full groups, holomorphic dynamics, analysis on graphs and fractals, entropy, ergodic theorems, low-dimensional dynamics, statistical models on groups and graphs, images of Markov and Gibbs measures under automaton maps, spectra and analysis on graphs and fractals.

Notable faculty in this research group include Distinguished Professors Rostislav Grigorchuk and Guoliang Yu. R. Grigorchuk is on the editorial boards of several mathematical journals including "Groups, Geometry, and Dynamics", where
he is the editor in chief. He has given an invited address at the International Congress of Mathematicians in Kyoto in 1990, received Moscow Mathematical Society Prize in 1980, Leroy P. Steele Prize for Seminal Contribution to Research in 2015, and Bogolyubov Prize of Ukrainian Academy of Science in 2015. Gilles Pisier is A.G.and M.E. Owen Chair and Distinguished Professor, was an invited speaker at the 1983 ICM and a plenary speaker at the 1998 ICM, received Ostrowski Prize in 1997, Salem Prize in 1979, and Grands Prix de l'Academie des Sciences de Paris in 1992. Guoliang Yu is Powell Chair in Mathematics, member of several editorial boards, managing editor of "Journal of Topology and Analysis". He has given an invited address at the International Congress of Mathematicians in Madrid in 2006. All three are Fellows of the American Mathematical Society.

This research group sponsors a weekly Groups and Dynamics Seminar. Recently, the group hosted an NSF-funded conference entitled Geometric and Probabilistic Methods in Group Theory and Dynamical Systems.

Regular Faculty Members in Groups and Dynamics

- Ken Dykema, free probability, C*-algebras, operator theory
- Rostislav Grigorchuk, group Theory, dynamical systems, random walks, spectral analysis
- David Kerr, C*-algebras, dynamics and ergodic theory, entropy
- Volodymyr Nekrashevych, group theory, dynamics
- Sang Rae Lee, group theory
- Kamran Reihani, operator algebras
- Gilles Pisier, probability, operator theory, C*-algebras
- Robin Tucker-Drob, group theory, measured equivalence relations, descriptive set theory
- Yaroslav Vorobets, dynamics, mathematical billiards
- Guoliang Yu, operator algebras, group theory, K-theory

Number Theory

Members of the Number Theory group at Texas A&M work in a variety of research areas that include analytic number theory, arithmetic geometry, and diophantine approximations and transcendental number theory. In the area of analytic number theory, research is active in non-vanishing of automorphic L-functions on various groups at critical points, including Dirichlet L functions, L-functions of elliptic curves, and L-functions on higher dimensional groups. Also of interest are the following: analytic properties of moments of L-functions, zeros of L-functions, the equidistribution of CM points on modular varieties, and dynamical systems associated to zeta functions. Topics in arithmetic geometry include heights on algebraic varieties; arithmetic aspects of Fourier coefficients of modular forms; properties of Galois representations; connections between hypergeometric functions and algebraic varieties; difference Galois theory for Drinfeld modules; and the group structure of elliptic curves and abelian varieties. In diophantine approximation and transcendence, research areas include transcendence of special values of modular forms; diophantine approximation on modular varieties; transcendence of values of hypergeometric functions; transcendence of special functions in positive characteristic associated to Drinfeld modules and t-motives, including Gamma functions, zeta functions, periods, and logarithms; and diophantine aspects of continued fractions in number fields.

The Number Theory group runs a weekly Number Theory Seminar, featuring speakers both from outside the department and within. In 2008, the group hosted the 22nd Annual Workshop on Automorphic Forms and Related Topics, with participants from throughout the United States and abroad. In 2005, the group organized ArithmeTexas, which was a regional weekend conference on Number Theory.

Regular faculty member in the Number Theory Group

- Riad Masri, Analytic number theory, automorphic forms, arithmetic geometry
- Matthew Papanikolas, Arithmetic geometry - elliptic curves and Drinfeld modules
- Paula Tretkoff, Number Theory, classical and non-commutative geometry
- Matthew Young, Analytic number theory
Current Postdoctoral and Adjunct Members

- Sheng-Chi Liu, Number theory, Automorphic Forms and Representation Theory
- Marvin Tretkoff

Numerical Analysis and Scientific Computation

The numerical analysis and scientific computation group is primarily concerned with the approximation of partial differential equations and problems in high dimension. The members of the group have been at the forefront of these two fields for many years. They have developed fast and accurate algorithms for large variety of applications ranging from nanoscale to astrophysical scales and in many case proved the (near) optimality of the proposed algorithms. The expertise of the group includes the development and analysis of iterative solution methods, the stability and error analysis for various approximation techniques, adaptive and nonlinear approximation methods, and large scale scientific computing. Most of the research done by the members of the group is motivated by a wide range of applications in civilian, military, or industrial fields.

The members of the group are supported by various governmental agencies like ARO, AFOSR, DARPA, DOE, NSF, ONR as well as by private sector companies such as ExxonMobil and Chevron. The research activity of the group is interdisciplinary and involves many collaborations with faculty from nuclear engineering, petroleum engineering, mechanical engineering and computer science and with scientists from various national laboratories (LLNL, ERDC, ORNL). Many members of the group are associated with two major interdisciplinary institutes: the Institute for Scientific Computation (ISC) and the Institute for Applied Mathematics and Computational Science (IAMCS). The group runs a weekly seminar and has invited over the years many distinguished visitors. It also supports many short term visitors through grants and with the help of the two institutes mentioned above. Finally the group is regular sponsor and organizer of the Texas Finite Element Rodeo which gathers numerical analysts from Texas and the nearby states.

The members of the Numerical Analysis and Scientific Computation group have high international visibility. In particular, the following members have been awarded national and international distinctions: Ronald DeVore is a member of both the National Academy of Science and the American Academy of Arts and Sciences and he has given a plenary talk at the International Congress of Mathematicians; Yalchin Efendiev has given an invited talk at the International Congress of Mathematicians; Raytcho Lazarov has been awarded the medal "St. Kl. Ohridski" with blue ribbon from the Sofia University.

Regular Faculty Members in Numerical Analysis and Scientific Computation

- Alan Demlow, Adaptive numerical methods, surface finite elements, and finite element exterior calculus.
- Prabir Daripa, Computational fluid dynamics, hydrodynamic stability, porous media flows, inverse problems, scientific computing, and applied mathematics and engineering.
- Ronald DeVore, Koss Professor of Mathematics, Approximation theory, numerical analysis, and computational approximation theory in high dimension.
- Yalchin Efendiev, Mobil co-Chair, Numerical analysis, multiscale finite element method, and flow in porous media.
- Jean-Luc Guermond, Mobil co-Chair, Partial differential equations, numerical methods for partial differential equations, finite element approximation, and computational fluid dynamics.
- Raytcho Lazarov, Numerical analysis, finite difference, finite volume, and finite element approximations of PDEs, and scientific computing.
- Joseph Pasciak, Finite element approximation, preconditioned iterative methods including domain decomposition and multigrid, and large scale scientific computation.
- Guergana Petrova, Numerical methods for PDEs, approximation theory, and wavelets.
- Bojan Popov, Conservation laws, linear transport equations, approximation theory, and numerical analysis of partial differential equations.
- Simon Foucart, Computational approximation theory in high dimension.

Current Postdoctoral Members in Numerical Analysis and Scientific Computation
• Diane Guignard, Swiss national foundation postdoctoral fellow, Finite element approximation and uncertainty quantification.
• Peter Jantsch, NSF postdoctoral fellow, High dimensional random partial differential equations.
• Richard Lynch, Compressive sensing and frame theory.
• Ignacio Tomas, Numerical approximation of conservation laws.

Partial Differential Equations and Mathematical Physics
The research interests of this group include various analysis of PDE areas, microlocal analysis, geometric analysis, spectral and scattering theory. Inverse problems, tomography, fluid mechanics - Navier-Stokes equations, flows in porous media, heterogeneous porous media and phase-flows, stability of nonlinear waves, conservation laws and linear transport, control theory, quantum computation, quantum graphs, and applications to material science.

Notable faculty from this group include Distinguished Professor Ciprian Foias, a recipient of the Norbert Wiener Prize, Fellow of AAAS, member of Romanian Acad. Of Sci.; Distinguished Professor Peter Kuchment, Fellow of AAAS, AMS, and IoP, Senior member of IEEE; Owen Professor Edriss Titi, Winner of the Humboldt Research Award, Fellow of SIAM and IoP.

The group sponsors several weekly seminars: the Harmonic Analysis, Mathematical Physics and PDE Seminar, PDE reading seminar, Nonlinear PDEs seminar, and (bi-weekly) Inverse Problems seminar. In addition, the group has organized numerous national and international conferences. It has also been a regular participant and host of the annual Texas Partial Differential Equations Conference.

Regular Faculty Members in Partial Differential Equations and Math Physics
• Dean Baskin, Microlocal analysis, geometric analysis, scattering theory, spectral theory
• Gregory Berkolaiko, Quantum graphs, spectral theory, stochastic DE, networks
• Goong Chen, Control Theory, Chaotic Dynamics, Quantum Computation
• Andrew Comech, Stability of solitary wave solutions, harmonic analysis
• Prabir Daripa, Fluid mechanics and applications to petroleum engineering
• Yalcin Efendiev, Heterogeneous porous media and phase-flows, uncertainty quantification, applications to petroleum engineering
• Ciprian Foias, (Emeritus) Navier Stokes, fluid mechanics, operator theory
• Stephen Fulling, Mathematical Physics
• Boris Hanin, Geometric analysis, mathematical physics
• Peter Howard, Stability of nonlinear waves
• Peter Kuchment, Spectral theory of PDEs, quantum graphs, Tomography, Inverse Problems, photonic crystals, and nano-materials.
• Guergana Petrova, Nonlinear approximation, hyperbolic PDEs, conservation laws
• Aleksei Poltoratski, Spectral theory
• Bojan Popov, Conservation laws and linear transport
• Eviatar Procaccia, Probability, mathematical physics
• William Rundell, Inverse Problems
• Steven Taliaferro, Partial Differential Equations, Mechanics
• Edriss Titi, Nonlinear PDEs, fluid dynamics
• Tom Vogel, (Emeritus), Geometrical PDE, capillary surfaces
• Jay Walton, (Emeritus), Mechanics, material science Partial Differential Equations, mathematical biology
• Jianxin Zhou, Control Theory, Optimization, Game Theory, numerical methods

Current Postdoctoral Members in Partial Differential Equations
• Isaac Harris, Inverse Problems
• Xin Liu, nonlinear PDEs, fluid dynamics
Cecilia Mondaini, nonlinear PDEs, fluid dynamics
Rob Rahm, Spectral theory
Yuan Zhang, Probability theory, math physics

**Probability Theory**
The research interests of this group include random walks, random spatial processes, stochastic differential equations, free probability, random matrices, deep learning, convex geometry and mathematical finance. Notable faculty from this group include Dr. William Johnson, who was awarded the 2007 Banach Medal and Dr. Gilles Pisier, who is a member of both the Paris Academy of Science and the Polish Academy of Science. He has also won several prestigious mathematics prizes, including the Salem Prize, and the Ostrowski Prize. This group has a weekly Probability Seminar, and a bi-annual joint probability day with UT Austin. There is also significant overlap of research interests with the group in functional analysis. In particular, this group helps to sponsor the long-standing NSF-funded Workshop in Analysis and Probability every summer.

Regular faculty members in Probability
- Michael Anshelevich, Operator algebras, free probability
- Michael Brannan, Non-commutative probability
- Gregory Berkolaiko, Partial differential equations, mathematical physics, quantum graphs, random matrices
- Ken Dykema, Free probability and operator theory
- Boris Hanin, Probability, spectral asymptotics, and deep learning
- William Johnson, Probability and functional analysis
- Grigoris Paouris, Convex geometry, high dimensional probability
- Gilles Pisier, Probability theory, harmonic analysis, operator theory, C*-algebras
- Thomas Schlumprecht, Functional Analysis, Probability Theory, Convex Geometry and Mathematics in Finance
- Eviatar B. Procaccia, Probability and mathematical physics
Interdisciplinary Research

Faculty members in the Department of Mathematics are involved in numerous interdisciplinary research efforts. This section gives an overview of our more significant efforts, organized by faculty member (in alphabetical order).

Gregory Berkolaiko
- Electrical Engineering.
Berkolaiko, who specializes in spectral theory of differential operators on networks, has an active collaboration with Prof Nick Duffield from Electrical Engineering, co-supervising a PhD student who works on routing network tomography. This project is partially supported by DARPA. Berkolaiko also maintains close links with physicists working on quantum chaos and random matrix theory.

Andrea Bonito
- Mechanical Engineering.
Dr Andrea Bonito collaborates with researchers from mechanical engineering to design, model, analyze and simulate adaptive foldable structures. Bio-medical applications of these devices include drug delivery vesicles, sensors, and bio-muscles. They are also embedded in the design of autonomous foldable structures such as deployable aircraft, photovoltaic devices, and micro-grippers. This research is sponsored by the Air Force Scientific Research Laboratory.

Michael Brannan
- Quantum symmetries, entanglement, and quantum information.
Part of Michael Brannan's research involves the development of new applications of quantum symmetries (e.g., quantum groups and their representations) to problems in quantum information theory. Together with his collaborators, Brannan has used the representation theory of free quantum groups to provide new, non-random examples of highly entangled quantum channels. It is expected that these new examples will shed light on additivity questions for quantum channel capacities and related entropies. Brannan is also investigating connections between the theory of non-local games, their winning strategies, and the quantum permutation groups that describe these winning strategies.

Gordon Chen
- G. Chen has diverse interests in the analysis, modeling and supercomputing of nonlinear PDEs for contemporary events and problems in applied mathematics. He is a member of the Institute for Quantum Science and Engineering (IQSE) at TAMU and often writes joint papers with IQSE faculty. He is also the PI for two large Qatar National Research Funds shared with faculty members of the Nonlinear Science Initiative at TAMU-Qatar.

Andrew Comech
- Mathematical Physics.
Dr. Andrew Comech works on properties of solitary waves in models from Quantum Theory and in particular the Dirac-Maxwell system, and has written papers with several theoretical physicists from the Center for Nonlinear Studies of Los Alamos National Laboratory, with David Stuart, a mathematical physicist from Cambridge, UK, and with Mikhail Zubkov, a theoretical physicist from Ariel University, Israel. He received funding from the Euler Institute for the workshop on the Dirac
equation (August 2018) designed to bring together experts working in spectral theory of differential operators, nonlinear PDEs and Quantum Physics/Quantum Chemistry.

Ron DeVore
In collaboration with Albert Cohen and Wolfgang Dahmen, DeVore developed a theory for compressed sensing, which quantifies the encoding rates for compressible signals. They also introduced several fundamental concepts such as the Null Space Property and performance with high probability in this field. In the area of parametric PDEs, used in engineering design, he developed, primarily with Albert Cohen, the core results to explain the quantitative advantages of reduced modeling. In particular, with Guergana Petrova, Przemek Wojtaszczyk, and the above mentioned collaborators it was proved that greedy algorithms give optimal dimension reduction. DeVore has also given core results in Data Processing, which is ubiquitous in science. In collaboration with Petrova, Wojtaszczyk and Simon Foucart, he has constructed the optimal algorithms for computing quantities of interest from observational data. These algorithms have been applied in atmospheric science and other scientific domains. In Statistical Learning, he has given quantifying bounds, in probability, for both regression and classification problems when using nonlinear bias estimators. DeVore's work is supported by grants for various federal agencies.

Simon Foucart
- Electrical Engineering - Computer Science.
Foucart has a collaboration with Richard Baraniuk in Electrical and Computer Engineering at Rice University and with Mary Wootters in Electrical Engineering and Computer Science at Stanford University. They study theoretical underpinnings for the practice of quantizing compressed data at the time of their acquisition. In the extreme case of binary quantization (the so-called one-bit compressive sensing scenario), the benefit of an adaptive quantization scheme was revealed: it allows for the reconstruction error to decay exponentially with the number of data, as opposed to polynomially for nonadaptive schemes.
- Metagenomics.
With David Koslicki in Mathematical Biology at Oregon State and Ivan Ivanov at Texas A&M's School of Veterinary Medicine, Foucart is applying ideas from compressive sensing to the analysis of microbial populations. A joint NSF/NIH proposal is pending.
- Climate science.
With Gretchen Mullendore (Atmospheric Sciences, University of North Dakota) and other members of the department's group in approximation theory, Foucart has done work on how to optimally assimilate data for the computation various quantities of interest, such as the seasonal average temperature of a particular region.
- Geomorphology.
Foucart and other members of the approximation theory group have started a collaboration with Michael Bishop in the Department of Geography on (automated) classification of landscape types from altitude data.

Steve Fulling
- Quantum vacuum energy.
Fulling's NSF-funded quantum vacuum research involved both mathematicians and physicists. The PIs at TAMU and LSU are in Mathematics Departments; the one at Oklahoma in the Physics Departments. The NSF grant lasted 2006-2014, but the collaboration continues. Roughly one publication a year comes out of this relationship.
- Effects of acceleration or gravity on detection and emission of radiation.
Fulling is working with physicists Justin Wilson of Caltech and Francesco Sorge of Univ. of Pisa on Casimir energy near black holes. He is also in frequent consultation with Marlan Scully and coworkers in TAMU Physics and Don Page at Univ. of Alberta Physics over radiation from atoms falling into black holes and the more elementary analog of detection of radiation from stationary atoms by accelerating detectors.

Jean-Luc Guermond
- Approximation theory of finite elements.
Jean-Luc Guermond works in collaboration with Prof A. Ern (ENPC, Paris, France) on fundamental aspects in functional analysis and in the approximation theory of finite elements. The have published two books and are currently working on a two volume monograph scheduled to be published by Springer at the end of 2018.
- Hyperbolic systems.
In collaboration with Prof B. Popov (Math. Dept. TAMU), Guermond works on fundamental aspects of the approximation of nonlinear hyperbolic systems. This work is supported by grants from the NSF, the Air Force, and Lawrence Livermore National Laboratory. Guermond, Popov, and their students develop robust numerical methods with guaranteed mathematical properties to simulate fluid flows in extreme conditions like explosions, implosions, supersonic and hypersonic flows. This work is done in collaboration with colleagues in the department of Nuclear Engineering at TAMU and colleagues at Lawrence Livermore National Laboratory. Students are regularly sent for summer internships at LLNL and LLNL recruits former students. Guermond and Popov also collaborate with colleagues at the U.S. Army Engineer Research and Development Center (Vicksburg, MI) on problems related to water resources, flooding, ocean and coastal management. They have adapted their research program on hyperbolic systems to accommodate some particular needs of the ERDC. This work is supported by the Army. Students are regularly sent for summer internships at ERDC and ERDC recruits former students.

- **Magnetohydrodynamics.**

  Guermond has developed a long term research program in magnetohydrodynamics. This work is continuously supported by the NSF and has applications in geoscience, astrophysics, mechanical engineering and electrical engineering. For instance, Guermond has developed numerical techniques to simulate the geodynamo (mechanism responsible for the magnetic field of the earth), estimate the stability of large scale liquid metal batteries, enhance heat transfer in high voltage electric transformers, etc. This work is done in collaboration with a group of colleagues in Orsay, France. This group is composed of mechanical engineers, applied mathematicians, electrical engineers, and astrophysicists. Graduate students are regularly exchanged between the two groups. A massively parallel software named SFEMaNS has been developed over the years. This software is freely available at the following address: http://www.math.tamu.edu/~guermond/SFEMaNS/html/

J.M. Landsberg

- **Theoretical computer science.**

  With C. Ikenmeyer, MPI Saarbrucken (Computer Science), K. Efremenko, Ben Gurion University (Computer Science), as well as numerous co-authors in mathematics.

  Matrix multiplication is the essential operation of linear algebra, which is central to applications of mathematics. 1969 work by Strassen and subsequent work by others has led to the astounding conjecture that asymptotically, it is nearly as easy to multiply matrices as it is to add them. Landsberg and collaborators have made substantial progress on this conjecture. This is an ongoing collaboration. A central question in theoretical computer science is whether "brute force" calculations can be avoided in problems such as the traveling salesman problem. This is the essence of the P v. NP conjecture. Landsberg and his collaborators have made substantial progress, and are working on Valiant's algebraic analog, the determinant v. permanent problem.

- **Quantum information theory.**

  With Michael Walter, University of Amsterdam (Physics) and QuSoft, and Fulvio Gesmundo, Univ. of Copenhagen (Physics). Gesmundo is a recent Ph. D. student of Landsberg. The team explores the geometry of matrix product states with periodic boundary conditions. In particular, they have provided two infinite sequences of examples where the quantum max flow is strictly less than the quantum min cut, giving counter-examples to conjectures of Freedman et. al.

- **Compressed sensing.**

  With Francois Malgouyres, University of Toulouse. In compressed sensing and other applications, one is sometimes handed a matrix X, known to be the matrix product of K sparse matrices, and one wants to stably recover the sparse matrices up to the obvious ambiguities. This problem can be rephrased in terms of the geometry of tensors. Landsberg and Malgouyres developed and are developing necessary and sufficient conditions for both recovery under ideal conditions and recovery in the presence of noise.

Peter Kuchment

- **Novel medical imaging methods.**

  Kuchment's work in this area has been supported by NSF grants (essentially without interruption, at least since 2009). He has collaborated with biomedical engineers and many mathematicians around the world. He has (co-)organized several conferences in various countries (Austria, Canada, USA, Korea). In recent years, he has given lecture series in India, Mexico, and USA (including twice at MSRI and a CBMS-NSF lectures). He has published a monograph (SIAM 2014) and many research papers and surveys.

- **Detection of illicit nuclear materials.**
Kuchment collaborates with nuclear engineers and physicists at Texas A&M on methods for detecting illicit nuclear materials at border crossings, using novel gamma and neutron detectors. This work is supported by a College of Science grant 2017-2018, an NSF grant 2012-2016, and before that by a Department of Homeland Security grant. A new NSF proposal is submitted.

- **Materials science.**
  This effort is concerned with novel materials, including in particular graphene and its analogs, other nano- and meso-structures, photonic crystals, etc. It involves cooperation with a variety of physicists and mathematicians around the world. The work is currently supported by an NSF grant 2015 - 2018, previously by a variety of NSF and DOD grants. Two related monographs (AMS 2013, Birkhauser 1993) and many research papers and surveys have been published. Another monograph is in preparation. Kuchment (co-) organized many conferences in the USA, UK (Cambridge), Sweden, Japan, France, and Poland. He gave lecture series in the UK (Cambridge) and France.

**Guergana Petrova**

- Petrova has worked on *surface reconstruction from point cloud data* (with S. Schaefer from TAMU, Computer Science Department).
  
  Associated with it is a work on dynamic processing of urban terrain data with various collaborators. She has also worked on model reduction used in engineering design (with R. DeVore and P. Wojtaszczyk, A. Bonito). Further interdisciplinary work is in Data Assimilation and Data Processing (with R. DeVore, P. Wojtaszczyk, S. Foucart, A. Cohen).

**Bojan Popov**

- Popov collaborates with faculty from Nuclear Engineering and with scientists at national labs. Former students work at Lawrence Livermore National Lab, Morgan Stanley, and the Army Research and Development Center. Together with Guermond, Popov has received substantial interdisciplinary funding from various agencies such as Department of Defense-AFOSR and ARO and Department of Energy. He and collaborators last year were the recipients of a Genesis Award for the Texas A&M Engineering Experiment Station, given to research teams for attracting at least $1M in external funding.

**Maurice Rojas**

Rojas holds a courtesy appointment in the Computer Science & Engineering Department.

His interdisciplinary work involves algorithmic complexity, cryptography, statistical modelling, and optimization. Also, through an REU he has been leading for 14 years, he has supervised projects related to cryptology and spacecraft guidance.

**Eric Rowell**

- **Topological quantum computation.**
  
  Rowell’s research subject, topological quantum computation, lies at the triple juncture of mathematics, quantum physics and theoretical computer science. Most of his research uses representation theory, category theory and low-dimensional topology to model physical systems and apply these models to answer questions about the computational utility of quantum processes. He has collaborated with 7 physicists and theoretical computer scientists, principally as a consultant for Microsoft Research. He frequently gives invited lectures at international interdisciplinary conferences with audiences in research areas ranging from optics to condensed matter and quantum information. His former PhD student and current collaborator Bruillard works at Pacific Northwest National Labs, an interdisciplinary government research facility. With three others (from UC Santa Barbara, Louisiana State, and MIT), he is PI on a new $1.3M NSF FRG grant.

**Peter Stiller**

- **Computer vision.**
  
  The primary focus of Stiller’s interdisciplinary activities has been on applications of algebraic geometry to computer vision, in collaboration with researchers at the Air Force Research Lab at Wright Patterson Air Force Base and with industry contractors working with the lab. The goal was to improve object recognition using data from both optical and radar (SAR) images and to develop effective 3D reconstruction techniques using data obtained from multiple sensors or from a single sensor tracking a moving object. This work was partially funded by a grant from the Air Force Office of Scientific Research. From a mathematical perspective the work made use of geometric invariant theory and aspects of algebraic cycles on various quotient varieties, for example Schubert cycles on Grassmannians.

- **Topological data analysis.**
A second and more recent project deals with topological data analysis and clustering algorithms in collaboration with a researcher at AFRL and one at the University of Pennsylvania in the Electrical & Systems Engineering department. - Applications of algebraic geometry.
Stiller has renewed interest in some of his older interdisciplinary work on applications of algebraic geometry to problems related to splines and their use in computer graphics, geometric modeling, and numerical methods. He has recently submitted a proposal to NSF on this topic.

Catherine Yan
- Industrial Engineering, Computer Science.
Dr. Catherine Yan has collaborated with researchers in industrial engineering to apply combinatorial optimizations and probabilistic methods to problems in logistic and supply chain. In particular, she has applied random graph models to help identify and mitigate enterprise risks. Joint with faculty in Computer Science, she has also collaborated on discrete methods for modeling large scale networks and RNA structures. Recently she has collaborated with a group of mathematicians and physicists in TAMU-Qatar on searching and scheduling problems in complex networks. Dr. Yan's research has been funded by National Science Foundation, Qatar National Research Foundation, and General Motors Research and Development.
Interdisciplinary Research
Faculty members in the Department of Mathematics are involved in numerous interdisciplinary research efforts. Some of these efforts are detailed here.

Lecture Series, Seminars, Conferences
The department has five named lecture series, four of which are partially funded through their own endowment. The stimulating research atmosphere is evidenced by our lengthy list of seminars/working seminars. In addition, the department hosts from five to ten conferences a year.

Membership in National Institutes
Our department is an institutional member of the NSF-funded Institute for Mathematics and its Applications (IMA) and of the Mathematics Sciences Research Institute (MSRI). We have sent numerous faculty and graduate students to IMA sponsored conferences and workshops and to conferences/workshops and special semesters at MSRI. We also regularly send graduate students to MSRI Summer Schools (14 since summer 2014). In addition, we have obtained IMA funding to run Participating Institute Conferences. Here is a list of recent IMA-sponsored conferences here at A&M:

"Waves and Spectra" at A&M in January 2011,
http://www.math.tamu.edu/~comech/events/tamu-2011/

Questions in Geometry arising in the Sciences (2012),
http://www.math.tamu.edu/~jml/workshop12.html

https://www.math.tamu.edu/~berko/ipst/index.html

CombinaTexas is partially supported by IMA and will be held on Feb 10-11, 2018 at TAMU.
http://www.math.tamu.edu/conferences/combinatexas/

We also regularly send graduate students to MSRI Summer Schools (14 since summer 2014). In addition, we have obtained IMA funding to run Participating Institute Conferences. Here is a list of recent IMA-sponsored conferences here at A&M:

Goals for TT Faculty Hiring
Mathematics plays a critical role in resolving some of the outstanding scientific challenges facing our state and country. Sophisticated new theoretical and computational methods are needed to successfully model climate and oceans, optimize engineering design, simulate complex physical and biological processes, and for numerous imaging applications. New high dimensional techniques are needed to extract useful and manageable information from big data sets. Advances in signal processing and encoding are needed for secure internet commerce and to defend against cyber attacks. Next generation computing paradigms will employ randomized and probabilistic algorithms and quantum mechanical hardware. While the department and the university have a presence in the areas needed to address these challenges, the next decade will see tremendous competition to build and maintain mathematical research teams that can make significant advances on these and other essential issues. This list of emerging areas may seem to favor "applied" over "pure" mathematics. However, this distinction has been obsolete for some time now. Indeed, many of these themes have arisen organically inside of and by exchanges between more "pure" research groups which possess the tools to attack important questions of broader scientific
interest. The department therefore proposes that its intermediate range hiring be directed to these areas. Because the department is highly regarded nationally and internationally, we are in a very strong strategic position to make world class hires in these directions. Of course, we will also work to maintain strength in existing high profile areas. As will be seen below, these two goals are not in conflict.

We first discuss two issues/opportunities where area considerations will play a comparatively minor role.

1. **Fill the new chair from the Powell donation.** We plan to fill this chair within two years, ideally with a National Academy caliber candidate (current or future); identification of potential candidates has begun. Given that attracting a candidate of the desired caliber is always a challenge, area considerations will be secondary. Junior positions will have to be part of the start up package for this appointment. Obviously, it will be up to the chair holder how to fill them. Accordingly, these positions are not part of the discussion below.

2. **Hire female TT faculty.** Having an adequate number of female tenure stream faculty is of critical importance to our teaching and research mission. These women are role models, and often mentors, to female students and post-docs. We have recently lost 2 female TT faculty members, and one is about to retire. This would leave us with 6 female TT faculty, about 8.5%, which is well below the national average of about 14%. As a result, a concerned effort is under way this hiring season to address the situation. (As of Jan. 13, one female Assistant Professor has been hired.)

We now discuss five topical areas in (items 3) through 7) below). These areas are not disjoint; often, hiring in one will contribute to another.

3. **Complexity, Quantum Computing.** Recently, theoretical mathematicians have made substantial contributions to computer science in the areas of quantum computing, complexity, and the design of algorithms. In our department, these contributions have come from representation theory, geometry, number theory, and operator theory. In addition to these areas, contributions from topology and probability have become prominent. The subject lies at the triple juncture of mathematics, physics, and computer science and thus offers excellent opportunities for interdisciplinary collaborations.

4. **Randomness: Probability, Combinatorics.** Many seemingly unrelated research topics - cellular networks, data analysis, epidemiology-involve the study of random phenomena. Combinatorics has become increasingly important in the study of networks, which are ubiquitous in the modern world, including cellular networks, distribution networks, and the internet. Very recent uses of combinatorics include applications to biology and chemistry. A research field which brings together both the probabilistic and counting techniques is the study of random matrices. This field has a wealth of applications, including physics, signal processing, statistics, and even cancer research. For a department of our research footprint, our representation in these central areas of mathematics is wholly inadequate. There is also student demand for training which we have trouble meeting with our current faculty.

5. **Mathematical Cryptography and Cyber Security.** Advances in number theory and arithmetic algebraic geometry are at the heart of modern cryptographic algorithms. Other applications of techniques developed in these fields allow for guaranteed digital signatures and secure key exchange protocols. On the other side, attacks on secure systems are based on results in these fields and in probabilistic analysis and algorithms. Research in number theory, arithmetic algebraic geometry, combinatorics, and probability all contribute directly to the development of more secure cryptographic systems (see also 8) below for the problem of anomaly detection; there is also considerable overlap with 4) above).

6. **Computation: Uncertainty Quantification.** This area has developed rapidly in recent years and is now recognized as an important subdiscipline within computational mathematics. Uncertainty quantification is both of high interest in important engineering applications areas and has natural connections with statistics, so investing in this direction will further the numerical mathematics group's already strong interdisciplinary profile. Moreover, the study of randomness and uncertainty is of increasing importance across many mathematical disciplines, but is not currently well-represented in the department (see also 3 and 4 above). Thus investing in uncertainty quantification will aid the department in keeping abreast of broader trends in mathematics as well.

7. **Imaging, Inverse Problems.** The tools here, while based on partial differential equations, require broad knowledge of mathematical analysis and geometry as well as sophisticated computational techniques, making the area of inverse problems not only interdisciplinary but also omni-disciplinary within mathematics itself. The department has a strong nucleus of a group in this area; adding a strong hire will go a long way towards establishing Texas A&M as a leading center.
8. Big Data. Big Data, ubiquitous in discussions about applications of the mathematical sciences, intersects all of the previous topical areas. Acquisition and transmission requires signal processing, an area where harmonic analysis has long made crucial contributions. Or, the collected data are not the data one wants to measure. This then typically leads to an inverse problem, as discussed in 7) above. Data transmission inevitably has to deal with errors that occur. Error correcting codes involve such mathematical theories as sphere packing and curves over finite fields (this circle of ideas is closely related to 5) above). In order to analyze data, simplifying them is often a necessary step. One method to do this, dimensionality reduction, relies on methods from the mathematical disciplines of Banach space theory, real analysis, and probability. Related to dimensionality reduction is the issue of anomaly detection, determining which changes in a large system or network are anomalous or dangerous (this issue is also relevant in 5) above). Sometimes data consist of images, leading to the problem of finding mathematical descriptions of the shapes of objects. The mathematical disciplines of (differential) geometry and topology allow one to handle this issue. Both geometry and topology are also useful in the analysis of general data sets (point clouds, topological data analysis). Data may also come in the form of a network; performing mathematical analyses then depends on some of the methods discussed in 4) above (combinatorics, probabilistic methods). No matter how the data are "prepped", eventually one has to search for the information one wants. That is, search algorithms are needed. Their analysis needs techniques discussed in 6) above. We therefore propose to continue building strength in Big Data by strategic hires in areas 3)-7) rather than by slotting positions specifically for Big Data.

Academic Professional Track Faculty

Each Texas A&M student, regardless of major, is required to complete two courses in mathematics and/or logical reasoning. This requirement results in a high teaching load of courses designed for non-technical majors. These are primarily taught by 33 Academic Professional Track faculty in the department. The teaching loads are 4 classes per semester for Lecturers, 3 classes plus a 'soft duty' (such as course coordination) for Senior Lecturers, and 3 classes for APT faculty with instructional titles (plus the requirement of contributions beyond classroom teaching in service and/or scholarly/creative activities). We have a number of extra large classes in business mathematics courses (250-300); for such courses the requirement is 2 instead of 3 (i.e. the instructor receives 1.5 course credits). Despite these challenging assignments, our APT faculty do a superb job and by and large receive exemplary teaching evaluations from students. Many of them have won major College and University level teaching awards (see Mathematics Faculty Awards). In addition to classroom teaching, many are involved in curriculum reform efforts (web-streaming video of lectures and review sessions, textbook, and lab-manual writing etc.). Further details about lecturer and senior lecturer activities are available in the section on service teaching. A one-page vita for each Academic Professionals Track Faculty member is given in the Appendix Section entitled: Faculty Profiles.

APT Faculty Goals

1. Encourage and promote professional development opportunities APT faculty. There are many professional development opportunities offered at the university that address teaching related topics. The APT faculty can directly benefit from attending these events and can also contribute their own experiences to enhance the quality of these opportunities. The department will actively promote, encourage, and highlight these activities for the APT faculty.

2. Improve the student experience in the Math 14x and Math 16x sequence by organizing a resource structure similar to that of the Math 15x sequence. For the Math 15x sequence, there is a host of resources available to the students. These include past common exams, videos, and instructor's old notes. These type of resources will be organized for the students in Math 14x and Math 16x sequence so they have access to resources that can improve their chances of success in their math courses.

3. Design and implement a mentoring program for APT faculty. The range of teaching experience among APT faculty is large. A mentoring program would greatly benefit APT faculty that are new to the department and/or new to teaching. This program will be researched, designed, and implemented by the APTC.

4. Create a climate that fosters and encourages collaboration among APT faculty. This climate already exists, but we are ready to take it to the next level. Sharing of ideas regarding teaching effectiveness and professional development will be done through monthly seminar series or other organized gatherings for APT faculty.

5. Improve teaching effectiveness among APT faculty. Many APT faculty are already effective instructors, but they can become even better by engaging in reflective practices. In the upcoming semesters, we hope to make reflective
teaching practices a more common practice among APT faculty by implementing a more comprehensive annual report document for APT faculty.
Overview of Graduate Program

Mission. The graduate program in mathematics at Texas A&M University prepares students to pursue successful careers as professional mathematicians. Students in the program are rigorously trained for a wide range of career directions which include academia, industry, and government labs. Program requirements are based on the premise that graduate students should have a broad exposure to graduate level mathematics combined with hands-on experience, either through research activities conducted within the department or through coordinated experiences with other departments and partners in industry, government labs, and national research institutes. The overall principle in the program is to foster independent and creative work, combined with professional scholarship and high academic standards.

Degrees Offered. The program offers both traditional and interdisciplinary PhD tracks, and five different flexible Master’s tracks, including two that can be pursued entirely on-line. The interdisciplinary track allows students to choose an advisor in math and a co-advisor in an appropriate outside area, and to develop a truly interdisciplinary degree plan. The Master’s tracks are traditional (i.e., PhD prep), teaching, computational, industrial, and math biology. The teaching and computational tracks are available entirely on-line.

In addition to these degrees, the department is introducing a new Master of Science in Quantitative Finance (MSQF), joint with the Department of Finance, and with participation from the Department of Statistics. The first cohort for this program will start in Fall 2018.

Personnel. The graduate program is administered by the Associate Head for Graduate Studies, Peter Howard, who is advised by a graduate committee comprising six faculty members active in graduate mentoring (and representing a variety of mathematical areas). A typical term on this committee is two years. The important task of preparing our graduate students for their teaching assignments is overseen by our Director of TA Training, David Manuel. The administrative assistant for the campus program is Monique Stewart, and the administrative assistant for the distance program is Judy Muzny. Once the MSQF program is up and running, a new administrative assistant will be hired in association with that program.

Student Body Profile. In Fall 2017, we had 118 students in our PhD program, 33 students in our campus Master’s program, and 49 students in our distance Master’s program. This reflects a modest overall growth from Fall 2009 (the previous review year), during which we had 102 students in our PhD program, 21 students in our campus Master’s program, and 59 students in our distance Master’s program. Of the Fall 2017 campus students (PhD and Master’s), 24% were female, and 48% where classified as domestic. Of the domestic students, 15% were from underrepresented minorities. For the distance Master’s program, 57% of the students were female, and 100% were domestic. Of the domestic students, 8% were from underrepresented minorities. Detailed program demographics for the period 2011 - 2016 are given in the Program Demographics table in the report appendix.

Student support. Most students in the PhD program are supported either on a teaching assistantship or on a research assistantship. Both teaching and research assistantships pay $1,850 per month, and tuition is also paid. (University fees are not generally paid, and these are substantial: about $300 per month.) Except for Summer 2016, during which a new College Dean severely reduced our funding, all students requesting summer support have been supported for the full three summer
months. (In Summer 2016, students requesting support were only supported for 1.5 summer months, but full support was returned in Summer 2017.) In Fall 2017, 98 (of 118) PhD students were supported as teaching assistants, 7 were supported as graduate research assistants, 7 were supported on fellowships or other outside funds, and 6 were not supported. Students in our campus and distance Master's programs are not supported. Detailed information about student support during the period 2012 - 2017 is given in the Support for PhD Students table in the report appendix.

**Graduates.** Over the seven years since the previous department review (Fall 2010 – Summer 2017), the average number of students receiving a PhD per year has been, 14.9, the average number receiving a campus Master's degree has been 12.6, and the average number receiving a distance Master's degree has been 13.0. Of the students graduating with a PhD during the period Fall 2010 – Summer 2017, positions obtained immediately after graduation were as follows: post-doc: 51.0%; tenure-track teaching: 13.5%; industry: 10.6%; government (including National Labs): 2.9%; temporary teaching: 6.7%; other, including additional graduate studies: 3.8%. (About 11.5% of students did not report having a job at the time of graduation.) Of the students graduating with a campus Master's degree during the period Fall 2010 – Summer 2017, positions obtained immediately after graduation were as follows: pursuing a PhD in a mathematics, statistics, or computer science: 31.8%; pursuing a PhD in different area: 10.2%; tenure-track teaching: 1.1%; non-tenure-track teaching: 8.0% K-12 teaching: 3.4%; industry: 11.4%; government: 1.1%; other: 2.3%. (About 30.7% of students did not report having a job at the time of graduation.) Of the students graduating with a distance Master's degree during the period Fall 2010 – Summer 2017, fewer than have informed us about jobs obtained, and consequently we don't have reasonable data for that group. Detailed information about program graduates during the period is provided in the following tables, all of which are available in the report appendix: Number of Graduates; Campus MS Jobs Reported at Graduation; Distance MS Jobs Reported at Graduation; PhD Jobs Reported at Graduation.

**Alumni.** Each year the department administers a survey to students who have been out of the program for five years. Of the PhD students graduating during the period Fall 2003 – August 2011, positions obtained within five years were as follows (36 of 80 responding): U.S. research university: 12; Satellite state university: 6; Industry: 9; Liberal arts college or university: 3; International research university: 2; Government: 1; Postdoctoral: 2; Academic professional track: 1.

**Summary of Recent Initiatives.** Since the date of the last review (Fall 2009), several important changes have been implemented in the graduate program. Some of the more significant changes are as follows:

1. Increased PhD enrollment from 102 in Fall 2009 to 118 in Fall 2017 (15.7% increase). Increased Campus MS enrollment from 21 in Fall 2009 to 33 in Fall 2017 (57.1% increase). Distance MS enrollment dropped from 59 in Fall 2009 to 49 in Fall 2017.

2. Established AMS, AWM, and SIAM student chapters. (The AWM student chapter was registered with the AWM, but was not recognized by the university, and had been subsumed into the undergraduate math club, and was inactive.)

3. Initiated annual recruiting trips to the Joint Mathematics Meetings and the Field of Dreams Conference (for underrepresented minority students). This has contributed to an increase in PhD applicants from 95 in Fall 2014 to 169 in Fall 2016. The number of MS applicants declined from 59 in Fall 2014 to 51 in Fall 2016. The quality of applicants has increased as well. Average GRE scores increased from quantitative/verbal 761/508 in Fall 2008 to 165/157 in Fall 2016. These latter scores translate to 795/560.

4. Fully incorporated the distance MS program into the graduate office. i.e., the Associate Head for Graduate Studies is now also the Director of the Distance MS Program.

5. Jointly with the Department of Finance, introduced a new Master of Science in Quantitative Finance, which will begin running in Fall 2018. The Associate Head for Graduate Studies in our department will be the director of this program.

6. Introduced a systematic TA training program, which is now run by our Director of TA training (a new position). This includes a summer course covering all TA assignments, and additional seminars during the semester. In addition, more students are being given the opportunity to serve as instructor of record, and an informal graduate teaching committee has been formed so that each instructor of record will have a faculty mentor.
7. Reduced the number of required classes from ten (four qual-prep classes plus six breadth classes) to 6 (four qual-prep classes plus two breadth classes).

8. Introduced an annual jobs panel to help prepare students for the academic and industrial job markets.

9. Introduced a bi-weekly seminar for first-year graduate students, and an annual "booster" seminar for second-year graduate students. These seminars are intended to help students navigate graduate school in mathematics.

10. Created an alumni database and mailing list, and developed a survey for students who have been out of the program for five years.

11. Organized an annual alumni, student, and faculty reception to be held each year at the Joint Mathematics Meetings.

12. Introduced a new Industrial and Applied Math Seminar to help students prepare for jobs outside of academia.

13. Began supporting first-year students who need to take a class with the English Language Institute (ELI). (The ELI has been eliminated, so this is no longer active.)

14. Eliminated the department's translation requirement.

15. Began posting doctoral defenses on the department calendar.

16. Began requiring applicants to the PhD program to submit math subject GRE scores.

17. Updated all Master's tracks, both campus and distance.

**Graduate Programs and Curricula**

**MS Curricula.** The five campus Master's tracks can be taken as either thesis or non-thesis. For the non-thesis option, students must complete 36 hours of coursework, and also pass a final comprehensive exam. For the thesis option, students must complete 32 hours of coursework and also pass a thesis defense. The two distance Master's tracks are only available with the non-thesis option. Students must complete 36 hours of coursework and pass a comprehensive oral exam. These requirements are comparable with those of peer institutions. Additional information about the five campus Master's tracks can be found here.

**Doctoral Curricula.** Students entering with an undergraduate degree must complete 96 credit hours, while students entering with a Master's degree must complete 64 credit hours. Students are expected to pass two qualifying exams during their first two years in the program, and each exam is based on a two-semester sequence. In addition, students must take two courses outside their primary area of interest as a breadth requirement. Once a student has completed these requirements, he or she may take research credits or regular courses, depending on the recommendation of his or her advisor. Additional information about the Doctoral Curricula can be found here. Students in the doctoral program often take seminar and special topics courses during their second and later years in the program. A list of such courses, along with links to full descriptions, is available here for the years 2015 - 2018.

**Admissions criteria (doctoral program).** All applications to the graduate program in the Department of Mathematics are reviewed by the department's graduate committee, which consists of seven members, including the Associate Head for Graduate Studies, who chairs the committee. Applicants are evaluated based on a wide range of criteria, including quality of undergraduate institution; success with undergraduate coursework, especially with upper division undergraduate coursework in mathematics; letters of recommendation, with an emphasis on indications of promise for conducting a high level of mathematics research; statement of purpose; and standardized test scores. Each applicant self-selects one of the department's eleven primary research areas, and the applicant is reviewed by one or more committee members with expertise in that area and also by the Associate Head for Graduate Studies. Per university policy, international applicants must be English Language Verified prior to receiving an I-20, and so applicants must have received one of the following scores prior to admission: GRE verbal, 146 or higher; TOEFL, 80 or higher; IELTS, 6.0 or higher; PTE, 53 or higher; or
satisfy other criteria as described in the University’s Graduate Advisor Handbook. The Department of Mathematics receives more than 300 applications each year for about 20 to 25 funded positions, and so the application process is necessarily quite competitive. It is the nature of this process that we cannot accept all well-qualified applicants; our decision not to admit an applicant should not in any way be construed as a negative statement about the applicant’s qualifications or potential for future success. Data on our applicant demographics and average GRE scores for admitted students is available respectively in the tables Applicant Demographics and Average GRE Scores for Admitted Students in the report appendix.

Academic enhancements/high-impact opportunities for students. In preparation for their oral exams, most students in the Master’s program (both campus and distance) complete a research project in order to show that they have developed to the point at which they can study and report on high-level mathematics with only minimal guidance. Original research is not required; rather, mastery of known results is the goal. All students in the doctoral program must conduct a high level of research. In addition, most students teach their own classes, and many students participate in significant outreach activities such as the math fair and the high school math contest.

Assessment of student learning outcomes. All students in the program (MS and PhD) are evaluated annually by the graduate committee and informed of the result.

MS Assessment of student learning outcomes. All students in the Master’s programs (campus and distance) complete a final oral exam, and performance is assessed with a standard assessment tool. (See the document Master's Oral Exam Evaluation Form in the report appendix.) Students are evaluated with a numerical score in each of the following areas:

- Foundational knowledge
- Knowledge of specialized area
- Ability to communicate

In addition, student satisfaction with the program and future success are evaluated with an exit survey and an alumni survey. For full details on our assessment process, see the attached document MS Assessment of Student Learning Outcomes in the appendix.

PhD Assessment of student learning outcomes. Students in the doctoral program are evaluated in several ways (in addition to standard coursework). First, they must pass two qualifying exams during their first two years in the program. These exams measure their foundational knowledge in core areas of mathematics. Next, they are evaluated during a preliminary exam. Performance is assessed with a standard assessment tool. (See the document Preliminary Exam Evaluation Form in the report appendix.) Students are evaluated with a numerical score in each of the following areas:

- Specialized knowledge
- Viability of research plan
- Ability to communicate

Last, students are evaluated based on a thesis defense, which serves as their final examination. These examinations are evaluated as Pass/Fail. For full details on our assessment process, see the attached document PhD Assessment of Student Learning Outcomes in the appendix.

MS Analysis. Improvements made to our Master’s programs based on the assessment process described above include the following:

- Increased student access to training with computational skills
- Introduced a new industrial and applied math seminar
- Introduced of a new on-line course in real analysis
- Developed support programs for incoming international students
- Initiated recruiting trips to the annual “Field of Dreams” conference targeting underrepresented minority students
- Created an alumni survey for both our campus and distance programs
- Refined our exit surveys for both our campus and distance programs
Developed and disseminated new recruiting materials
- Refined our evaluation rubric for Master's final oral exams

PhD Analysis. Improvements made to our PhD program based on the assessment process described above include the following:

- Increased student access to training with computational skills
- Increased student teaching opportunities, especially in regard to serving as instructor of record
- Introduced a new writing workshop for students working on papers and/or their doctoral thesis
- Introduced a new industrial and applied math seminar to better inform students about jobs outside of academia
- Developed support programs for incoming international students
- Initiated recruiting trips to the annual "Field of Dreams" conference targeting underrepresented minority students
- Created an alumni survey
- Refined our exit survey
- Developed and disseminated new recruiting materials
- Introduced a new forum to inform second-year students about timelines and documents associated with their continued success in the program
- Introduced an annual jobs forum each spring to serve as a jump-start for students who will be applying for jobs in the fall
- Initiated a new TA training course that students take during the summer after their first year in the program

Progress and Efforts
In this section, we discuss the graduate program's progress and efforts related to retention, time to degree, degrees awards, and placement upon graduation.

MS retention.
Retention has been strong for students in the campus Master's program, but it has always been weaker for students in the distance Master's program. Much of this is due to outside issues such as student work-life balance, but we are working to improve retention where possible. We have increased the flexibility in our distance Master's program, allowing students to take a wider range of classes, and we have also introduced two new classes, graduate-level courses in abstract algebra and analysis. Data on MS retention and graduation rates for students entering during the period 2008 - 2012 is available in the table MS Retention & Graduation Rates in the report appendix.

MS time to degree.
Most students in our campus Master's program earn their degree within one or two years of starting the program. (Five to ten students each year earn their Master's degree as part of a 4+1 BS + MS initiative, and are only in the program for one year.) Students in our distance Master's program generally do not take a full load of classes each semester, and are often in the program for three or four years. Nonetheless, we are working to allow students more flexibility with their choices of courses so that the classes students need are always available. Data on MS time to degree for students graduating during the period 2011 - 2016 is available in the table MS and PhD Time to Degree in the report appendix.

MS degrees awarded.
The number of students in our campus Master's program has been steadily increasing for the last few years, and so the number of degrees awarded has naturally increased. For example, during the most recent five-year period, we went from 11 graduates in 2013 to 19 graduates in 2017. Starting in 2012, we increased expectations on applicants to our distance Master's program, and enrollment has dropped somewhat. Nonetheless, the number of degrees awarded has remained fairly steady, since a higher percentage of admitted students are completing the program. Data on MS degrees awarded during the period 2010 - 2017 is available in the table Number of Graduates in the report appendix.
MS job placement.

Students in our distance MS program generally work full time while in the program, and so job placement isn't a substantial factor. Rather, students who complete our program are often able to take on new responsibilities at their currently jobs, often concomitantly with higher pay. For students in our campus Master's program, we understand that computational skills are highly valued among employers, and we are working to ensure that most students in our program develop these skills while here. In addition, we have introduced a new Industrial and Applied Math Seminar that serves to inform students in both our Master's and PhD programs about job opportunities outside of academia. Data on campus MS job placement and distance MS job placement is available respectively in the tables Campus MS Jobs Reported at Graduation and Distance MS Jobs Reported at Graduation in the report appendix.

PhD retention.

The graduate program has several on-going initiatives intended to improve retention in our PhD program. These include:

- A bi-weekly seminar for first-year graduate students during which students are provided with information about things like adjusting to graduate school, participating in department activities, preparing for qualifying exams, choosing an advisor, applying for fellowships, and preparing early for the eventual job search
- An annual seminar for second-year students in which timelines and requirements are discussed for the students' remaining years in the program
- A TA training program that prepares students for their TA assignments
- Summer preparation courses for the department's qualifying exams

Data on PhD retention and graduation rates for students entering during the period 2005 - 2009 is available in the table PhD Retention & Graduation Rates in the report appendix.

PhD time to degree.

As noted in our data, the average time to degree for students in our PhD program ranged between 5.5 and 6 years. While we certainly encourage students to proceed through the program in a timely manner, the department is much more interested in eventual job placement than in time to degree. Nonetheless, we are working to get students working on their research as soon as possible in an effort to ensure that they graduate on time. This includes a flexible policy of allowing students to take qualifying exams upon arrival at the program, and a modest general requirement of only one year of standard courses. Data on PhD time to degree for students graduating during the period 2011 - 2016 is available in the table MS and PhD Time to Degree in the report appendix.

PhD degrees awarded

Despite the fact that enrollment in our PhD program has been mostly stagnant since our last seven-year review, the number of graduates has increased considerably. For example, the average number of graduates has increased from an annual average of 12.4 during the five-year period 2008-2012 to an annual average of 17.2 during the subsequent five-year period 2013-2017. This increase is likely due, at least in part, to the initiatives described in the above section on PhD retention. Data on PhD degrees awarded during the period 2010 - 2017 is available in the table Number of Graduates in the report appendix.

PhD publications & presentations

Students receiving a PhD in our program are expected to produce publishable work and develop the skills to communicate their work to a mathematically sophisticated audience. During the period 2012 - 2017, 84 students graduated with a PhD from our program, and of these students, 66 had published at least one paper at the time of graduation, and 69 had given at least one presentation. Additional data on PhD publications and presentations is given in the table PhD Publications & Presentations in the report appendix.

PhD placement upon graduation
We begin preparing students for their eventual job search during their first year in our program, with two sessions of our first-year seminar devoted to the topic. In addition, we have an on-going Industrial and Applied Math Seminar intended to inform students about jobs outside of academia, and we have an annual Jobs Panel each spring intended to serve as a jump-start for students who will be applying for jobs in the fall. Even with these initiatives in place, we understand that the student's advisor and quality of research are the most important factors affecting his or her job search, and we strongly encourage advisors to be highly active in promoting their students. In addition, we encourage students to travel as much as possible as they get closer to graduation to ensure that the mathematics community in their area becomes aware of their work. Data on PhD job placement is available in the table PhD Jobs Reported at Graduation in the report appendix.

**Major Goals for the Future**

**Expand the graduate program**

Seven years ago, during the previous review, we stated that our primary need for the graduate program was to expand the number of teaching assistantships, and that continues to be the top priority. In Fall 2017, we had 118 students in our PhD program, with only 98 supported on teaching assistantships and 7 supported on research assistantships. Our tenure/tenure-track faculty size for Fall 2017 was 73. For comparison, a table of data from peer institutions is given in the appendix. For example, the University of Illinois, Urbana-Champaign has a comparable number of tenure/tenure-track faculty (about 72), but is able to offer 133 assistantships at the rate $2,171/mo. This growth is needed for two reasons. First, a strong graduate program is critical for the overall health of the department. The quality and quantity of our department exceeds that of many top-ranked departments. It is now time to increase the stature of our graduate program to match that of the faculty we have. Second, especially with the College of Engineering's 25-by-25 plan, undergraduate enrollments in mathematics have significantly increased in precisely those courses that make heavy use of TA's. In order for our department to effectively serve this increase in enrollments, we simply must increase our graduate population. One approach we are taking to effect this increase is to staff more classes with graduate instructors of record. This serves both to provide a viable way to support graduate students in our program, and to give the graduate students experience that they will need when applying for jobs and beginning work in the profession.

**Eliminate fees and increase stipends**

During the seven years from the previous review to this one, graduate stipends have not increased, and this stagnation cannot continue. Worse, graduate students at Texas A&M are charged considerable fees (about $300/month), making students' financial situations even worse. Over time, we are becoming less and less competitive, and so it is getting harder and harder to recruit top students.

**Increase program diversity**

According to the American Mathematical Society (AMS), the total number of graduate students in mathematics in U.S. PhD-granting institutions in Fall 2015 (the most recent report) was 13,431, with 4,039 female (30%), 7,118 US citizens (53%), and 997 underrepresented minority (9% of US citizens). In the same year (for direct comparison), our department had 138 full-time graduate students, with 34 female (25%), 54 US citizens (39%), and 5 URM students (9% of the US students). In both cases, female and minority students are clearly underrepresented, and it is absolutely critical that we make every effort to recruit talented students in these categories into our program.

**Increase student teaching opportunities** Students interested in academic employment, and especially those interested in jobs with an emphasis on teaching, need the opportunity to develop a well-rounded teaching portfolio while in our program. Unfortunately, students in our program traditionally haven't done much teaching (of their own classes), and changing this culture has been slow. Also, there is a very limited selection of courses that students are allowed to teach. We need to give students more opportunities to teach their own classes, and we need to allow them to teach a broader range of classes, including range in subject matter, class size, and class type (e.g., flipped classes).

**Increase student awareness of, and access to, non-academic jobs** From the academic year 2003-2004 to the academic
year 2014-2015 the percentage of students receiving a PhD in math in the US who took a job in industry rose from 12.7% to 25.9% (according to the AMS, most recent report). One of our on-going goals is to provide our students with more information about such jobs, and to help students both with identifying appropriate internships prior to graduation, and with identifying job opportunities following graduation.
The Undergraduate Program

Mission and overview of undergraduate programs offered
The Undergraduate Programs in the Department of Mathematics seek to provide a high quality education to our students, focusing both on depth and breadth in all fields of Mathematics. This may include but is not limited to algebra, analysis, topology, number theory, differential equations, geometry and numerical analysis.

Our mission is to prepare our students not simply to feed the workforce with qualified professionals, but to produce catalysts of change who will propel our society, our economy and our scientific enterprise beyond our current achievements. The program is structured to foster strong analytical and quantitative reasoning, aiming to connect the highest abstract concepts with both the concrete origins of the subject and their direct applications to important societal problems.

By engaging our students in various extra-curricular activities, such as the Math Club, Actuarial Club, AMUSE (Applied Math Undergraduate Seminar), Math Circle, Math Mini-Fair and others, we prepare our students to assume leadership roles and to develop a high sense of personal and social responsibility.

The Bachelor of Arts (BA) degree has an emphasis on the teaching aspects of the field. Teacher preparation is one of the most important tasks for an academic program, for it has a direct and fundamental impact in our society. We strive to produce knowledgeable teachers who will be effective professionals and capable of working in diverse environments while maintaining the highest quality of instruction. Students seeking the B.A. degree in Mathematics are prepared to fill teaching positions at the secondary school level, upon receiving the appropriate secondary teaching certification.

Students seeking the Bachelor of Science (BS) degree in Mathematics are prepared to pursue admission to graduate degree programs or employment in industry. This program fosters an innovation culture, with an emphasis on undergraduate research to provide high-impact learning experiences and to develop the necessary skills to work in teams or on large-scale projects.

While the study of mathematics in and of itself is its central focus, the Applied Mathematical Sciences (APMS) degree provides students an opportunity to explore applications of mathematics to various other fields (tracks), such as Actuarial Sciences, Statistics, Economics, Computational Sciences, and Biological Sciences. Students in the program are prepared to pursue admission to graduate degree programs or employment in the professional industrial job marketplace.

The comprehensive professional preparation provided by our programs benefits not only our students but provides future employers and society in general with uniquely prepared professionals capable of effectively facing our rapidly developing world.

Program Curricula
The degree plans for each of our degrees are described next.

- Bachelor of Arts - Mathematics (BA) Degree Plan
- Bachelor of Sciences - Mathematics (BS) Degree Plan
The layout of each degree plan is based on the following courses.

Courses offered (for Math and Science Majors)

<table>
<thead>
<tr>
<th>Crs. No.</th>
<th>Crs. Name</th>
<th>Crs. No.</th>
<th>Crs. Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
<td>Functions, Trigonometry and Linear Systems</td>
<td>302</td>
<td>Discrete Mathematics</td>
</tr>
<tr>
<td>170</td>
<td>Freshman Mathematics Laboratory</td>
<td>308</td>
<td>Differential Equations</td>
</tr>
<tr>
<td>171</td>
<td>Analytic Geometry and Calculus</td>
<td>323</td>
<td>Linear Algebra</td>
</tr>
<tr>
<td>172</td>
<td>Calculus</td>
<td>325</td>
<td>The Mathematics of Interest</td>
</tr>
<tr>
<td>200</td>
<td>Horizons of Mathematics</td>
<td>396</td>
<td>Communications in Mathematics</td>
</tr>
<tr>
<td>220</td>
<td>Foundations of Mathematics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>221</td>
<td>Several Variable Calculus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>225</td>
<td>Advanced Spreadsheet Techniques</td>
<td></td>
<td></td>
</tr>
<tr>
<td>285</td>
<td>Directed Studies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>289</td>
<td>Special Topics in...</td>
<td></td>
<td></td>
</tr>
<tr>
<td>407</td>
<td>Complex Variables</td>
<td>436</td>
<td>Introduction to Topology</td>
</tr>
<tr>
<td>409</td>
<td>Advanced Calculus I</td>
<td>437</td>
<td>Principles of Numerical Analysis</td>
</tr>
<tr>
<td>410</td>
<td>Advanced Calculus II</td>
<td>439</td>
<td>Differential Geometry of Curves and Surfaces</td>
</tr>
<tr>
<td>411</td>
<td>Mathematical Probability</td>
<td>442</td>
<td>Mathematical Modeling</td>
</tr>
<tr>
<td>412</td>
<td>Theory of Partial Differential Equations</td>
<td>446</td>
<td>Principles of Analysis I</td>
</tr>
<tr>
<td>414</td>
<td>Fourier Series and Wavelets</td>
<td>447</td>
<td>Principles of Analysis II</td>
</tr>
<tr>
<td>415</td>
<td>Modern Algebra I</td>
<td>460</td>
<td>Tensors and General Relativity</td>
</tr>
<tr>
<td>416</td>
<td>Modern Algebra II</td>
<td>467</td>
<td>Modern Geometry</td>
</tr>
<tr>
<td>417</td>
<td>Numerical Methods</td>
<td>469</td>
<td>Introduction to Mathematical Biology</td>
</tr>
<tr>
<td>419</td>
<td>Applications of Actuarial Science</td>
<td>470</td>
<td>Communications and Cryptography</td>
</tr>
<tr>
<td>420</td>
<td>Application of Actuarial Science II</td>
<td>471</td>
<td>Communications and Cryptography II</td>
</tr>
<tr>
<td>423</td>
<td>Linear Algebra II</td>
<td>482</td>
<td>Research Seminar</td>
</tr>
<tr>
<td>425</td>
<td>The Mathematics of Contingent Claims</td>
<td>485</td>
<td>Directed Studies</td>
</tr>
<tr>
<td>427</td>
<td>Introduction to Number Theory</td>
<td>489</td>
<td>Special Topics in...</td>
</tr>
<tr>
<td>431</td>
<td>Structures and Methods of Combinatorics</td>
<td>490</td>
<td>The Putnam Challenge</td>
</tr>
<tr>
<td>433</td>
<td>Applied Algebra</td>
<td>491</td>
<td>Research</td>
</tr>
</tbody>
</table>

Degrees awarded, time-to-graduation and completion rates

- The following table and chart summarize our historic graduation data.

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Level of Degree (Inventory)</th>
<th>Major</th>
<th>Entry Type</th>
<th>Degree Count</th>
<th>Year To Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-11</td>
<td>BS</td>
<td>APMS</td>
<td>Freshman</td>
<td>25</td>
<td>4.02</td>
</tr>
<tr>
<td></td>
<td>BA and BS</td>
<td>MATH</td>
<td>Freshman</td>
<td>40</td>
<td>4.28</td>
</tr>
<tr>
<td>2011-12</td>
<td>BS</td>
<td>APMS</td>
<td>Freshman</td>
<td>20</td>
<td>4.02</td>
</tr>
<tr>
<td></td>
<td>BA and BS</td>
<td>MATH</td>
<td>Freshman</td>
<td>34</td>
<td>4.24</td>
</tr>
</tbody>
</table>
- The following chart describes our historic enrollment, by gender.

- The following table contains main demographical information. Additional demographic information can be found in the Appendix.
Academic Enhancements
Advising and Student Success Programs

1. New Student conferences
2. Departmental advising
   - Advising structure/software
     (http://www.math.tamu.edu/undergraduate/advising/)
       - We have developed a carefully designed advising web page, addressed both to our current majors and to prospective students. Despite its simplicity, the page is extremely functional and helps our majors to have their questions quickly directed to the right advisor and promptly answered.
       - The last link in the page gives TAMU students (via NetID login) the ability to make appointments with our advisors by directly accessing an appointment calendar showing the chosen advisor's availability. On the other end, advisors get notification of appointment, with student's information and a synopsis of the meeting's purpose. This expedites the process and creates an effective advising system.
       - We use open-source software developed in-house by our IT staff.
   
   - Job placement and career advising
     In addition to individual advising, Career Fair panels and similar activities, we also give opportunity for our majors to have a broad view of career possibilities and areas of interest in Mathematics via the activities
conducted by two clubs:

  - Regular meetings with talks by faculty, activities of interest, Pi-Mu-Epsilon meetings (Math Honor Society).
  - Bi-Weekly Math Contests (for a prize)

- The Aggie Actuaries Club: (https://maroonlink.tamu.edu/organization/aggieactuaries)
  - The purpose of this organization is to help Aggie students further their understanding of actuarial science and is done so by exposing students to market leaders in the field. This not only allows for students to introduce themselves to potential employers but it also is an engaging learning experience.
  - Companies (mostly from Houston, Dallas and Austin) visit the club weekly and talk about what they do, how they do it, and overall serve as a source for students to ask questions and learn more about what an actuary does on a daily basis and what are their career prospects.

3. Regent’s Scholars Mentoring
   - The Regent’s scholars are first generation students attending Texas A&M University
   - All Regent’s scholars were assigned a dedicated advisor who meets with each one of them individually for about 30 minutes per week.
   - In those sessions, students address all types of issues, ranging from study strategies and adaptation issues, to math questions from the courses they are taking.
   - This has been expanded to the broader context of the College’s RetainU program.

Activities, organizations and lecture series

Math Club
The Math Club is an umbrella organization for all undergraduate math organizations at Texas A&M. The club holds joint monthly meetings and events. At these meetings, speakers are invited to share information with and talk to members. Often, prospective employers will visit and give presentations about their companies. The club also sponsors a bi-weekly Math Contest by sending out a math problem to its members.

Pi-Mu-Epsilon Honor Society
Pi Mu Epsilon is an honorary mathematics organization whose purpose is to promote scholarship and mathematics. Students are required to meet certain requirements in order to join Pi Mu Epsilon. There is no membership requirement to attend the meetings.

Aggie Actuaries
The purpose of this organization is to help our students further their understanding of actuarial science by promoting interactions between students and actuarial companies. This not only allows for students to introduce themselves to potential employers but it also is a valuable source of learning. Companies visit their meetings weekly and talk about what they do, how they do it, and what career opportunities they offer.

AMUSE Seminar (Applied Math Undergraduate Seminar)
The purpose of this seminar is to introduce undergraduates to applications of mathematics, such as: finance, engineering, biology, physics etc. Students at all levels, as well as occasional graduate students and faculty attend it. Talks are delivered by faculty, graduate students and professionals and the format leaves plenty of time for questions from the audience. The first 15-20 minutes of a talk are accessible to freshmen students in their first year of calculus. AMUSE occasionally hosts undergraduate student talks related to their undergraduate research and REU’s.

Texas A&M AWM (Association for Women in Mathematics) Chapter
The Chapter has both undergraduate and graduate students as members, and operates for educational and scientific
purposes to promote:

1. An increased knowledge of and greater interest in the mathematical sciences;
2. A greater understanding of the contributions of women in the mathematical sciences;
3. Mentoring and encouraging women as they prepare for careers in the mathematical sciences.

Texas A&M MAA (Mathematical Association of America) Student Chapter

The Texas A&M student chapter of the Mathematical Association of America is open to all students that have an interest in mathematics. There are no scholastic requirements such as class standing or grade point average. Students from any major are welcome to join. In addition to receiving a choice of journals, students will receive discounts on meeting registration fees and MAA publications, information on graduate study and career opportunities, information about speakers, and opportunities to participate in student paper sessions at sectional meetings.

Annual Sue Geller Undergraduate Lecture

This annual Undergraduate Lecture Series, renamed in 2018 to honor Prof. Sue Geller, is intended as a venue for undergraduate students to interact with a leading researcher from outside Texas A&M University who has also demonstrated a deep interest in mentoring students. Before 2018 it was known as the Mathematics Undergraduate Research Lecture Series. The 2016 speaker was Richard P. Stanley from MIT, the 2017 speaker Jeffrey C. Lagarias from the University of Michigan.

Additional Activities

Mathematics Undergraduate Research Expo (annual)

- Gives students the opportunity to showcase their research in a friendly, low-pressure setting.
- Gives undergraduates the opportunity to talk to their peers already involved in research, and to faculty interested in working with undergraduate students.
- Gives the mathematics faculty the opportunity to learn about research performed by TAMU undergraduates, and to meet students interested in joining their research groups.

University-sponsored activities

- Undergraduate Research Expo
- Student Research Week
- Undergraduate Research Scholars Program
- Undergraduate Research Summer Poster Session

High-Impact Experiences and Special Programs

Honors program

The Mathematics Department was the first department to offer departmental honors for its majors and is still the only department to offer an honors minor. These honors are listed on the student’s transcript and are earned by taking honors courses, six within the math department plus a seventh capstone project course for the major, two outside and four inside the department for the minor. Since we want to be sure these are true honors courses, we start counting honors courses at Calculus II. Each student must take an honors course at freshman (100) level or higher, sophomore (200) level or higher, junior (300) level or higher, and senior (400) level or higher. The extra capstone course for the honors major can be fulfilled by research hours with a faculty member (491H), participation in a summer research project off campus (REU), a research seminar (482H), or a graduate class. The purpose of making each level be that level or higher is to allow people to join the honors program late, e.g., transfer students, and still earn Math Honors. Mathematics graduate courses count as honors courses, and we encourage our advance students to fulfill honors requirements by taking as many as appropriate. For more details see the Honors Major or the Honors Minor. A history of our honors program can be found here [2;1.

Our system fits well with University Honors, which requires at least 9 honors hours of Core Curriculum credit, at least 12 honors hours of upper division courses, and 30 total honors hours. In addition, some of our honors students earn Foundation
Honors, which requires 6 honors courses in 6 different specified disciplines of which humanities and mathematics are two. Because of the good fit with the University Honors program, our departmental program has been used as a prototype for many other departmental programs.

In addition to having the Honors in Mathematics designation on their transcript, there are other perks to being honors students. One that means a lot to them is that they get to register first, even before seniors, so that they usually can get into any class they want to take. Another is being taken to conferences and encouraged to present their research findings, with their expenses paid by designated funds from the mathematics department (more details below). A third is the FastTrack, a program in which they earn a bachelors and a masters in five years. In fact, in order to be accepted into the FastTrack program, a student must have at least three honors math classes of which at least one must be at the 400 or 600 level.

Honors courses have a University designated limit of 25 students, but, except for Calculus I, II and Differential Equations, we try to keep the limit to 20 students. This is particularly true of the writing intensive courses. We also choose professors who are particularly gifted in teaching and give a lot of time out of class to the students. That way the students receive mentoring as well.

Many of our honors students participate on research projects with math department faculty mentors; many attend REUs; and several go to graduate school. Some of them become high school teachers; and many others go to work in some mathematically related field, both groups expecting to return to graduate school for at least a masters in mathematics.

Undergraduate Participation in Conferences
One important part of our undergraduate program, especially the honors program and the undergraduate research program, is having students attend conferences to give papers or present posters. In addition we make an effort to take students who do not present to conferences. These conferences include the Nebraska Conference for Undergraduate Women in Mathematics, MathFest, and the Joint Mathematics Meetings. Funding for these activities comes from various sources such as REU grant, diversity funds from the college, and departmental sources.

Undergraduate Research
Mathematics faculty involve undergraduate students in their projects (primarily math majors, but also students from engineering, physics, and biology). And mathematics undergraduates work on research projects with faculty (primarily in mathematics, but also in computer science, statistics, biology, and astronomy). Some faculty, such as the winner of the College of Science Undergraduate Research Mentoring Award Stephen Fulling, have been continuously working with undergraduates for decades. However the number of both students and faculty involved in undergraduate research has been growing. The approximate students numbers (counting only the students formally registered) are

<table>
<thead>
<tr>
<th>Undergraduate Research in Mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td>36</td>
</tr>
</tbody>
</table>

This is including 6-8 students annually from the exchange program with Beihang University, who get involved in undergraduate research as part of their graduation requirement. The department maintains a web page with an annually updated list of faculty interested in working with undergraduates. In addition, Director of Undergraduate Research (appointed in 2012) advises students interested in getting involved in research, and assists them in finding a faculty mentor.

TAMU math majors have participated in a number of REU programs around the country, including the ones at UIC, U Michigan-Dearborn, Cornell, Boise State, U Conn, Kansas State, U Hawaii, etc. The department maintains a web page with an annually updated list of REU programs, and holds an annual REU information session. The department has also run its own REU program, with three annual topics, for a decade.

TAMU math majors have presented their research results at numerous venues. Locally, the department hosts an annual Mathematics Undergraduate Research Expo, and students also present at the university-wide Student Research Week (three math students won awards for their 2017 presentations). Regionally, TAMU participates in the rotating LA-TX Undergraduate Mathematics Conference. Nationally, our students annually present at the MAA MathFest, Nebraska
Conference for Undergraduate Women in Mathematics, and AMS Joint Meetings, and every year some students receive awards for outstanding presentations. The department maintains a web page with other conferences of interest to undergraduates.

The department hosts an annual Sue Geller Undergraduate Lecture (previously called the Undergraduate Research Lecture). The series is intended as a venue for undergraduate students to interact with a leading researcher from outside Texas A&M University who has also demonstrated a deep interest in mentoring students. Previous speakers include Richard P. Stanley, Jeffrey C. Lagarias, and Judy L. Walker.

The department runs a weekly AMUSE (Applied Mathematics Undergraduate Seminar), where students get exposed to uses of mathematics by professionals in industry and other university departments. In addition to one-on-one work with faculty members, the department also has several courses where students get exposed to research in a more structured environment: the very popular Mathematical Modeling course, as well as the long-running Research Seminar course, where students concentrate on the presentation aspects of research.

Fast-Track Program

Overview
The FastTrack Degree Program enables ambitious and academically talented math majors to earn both a bachelor's degree and a master's degree within five years after entering A&M. Amongst the various advantages of the program, upon its completion a student will be in an exceptionally strong position to enter:

- The professional industrial job marketplace;
- A career in secondary education;
- A doctoral program in mathematics, or in a related discipline, at Texas A&M or another university.

Structure
Upon admission in the program, students will have completed at least 96hrs towards completion of their BS, BA or APMS degree in Mathematics. The program allows up to 6 credit hours of dual credit. Under this provision, students may use graduate courses to obtain credits towards the completion of the Undergraduate and Master's degrees.

Using a combination of Graduate and Undergraduate level courses, students need to cover all courses necessary for the completion of the chosen undergraduate degree, according to Texas A&M University's Undergraduate Catalog. In order to be conferred the Master's degree, students will be required to complete the same basic 36 credit hour curriculum for the non-thesis option or the 32 credit hour curriculum for the thesis option as any other student admitted into the Master's program in the Department of Mathematics.

Study-Abroad Programs
Currently we run two faculty-led Study Abroad Programs. One in Besancon, France, and one in Beijing, China.

A&M Mathematics in Besancon, France
- Students will spend one week in College Station and four weeks at the University of Franche-Comte, Besancon, learning how to apply precise mathematical reasoning in reading, understanding, and writing proofs of theorems in analysis. The Functional Analysis team from the host university's Department of Mathematics gathers some of the best worldwide experts in the field of Functional Analysis. Besancon, also known as the City of Time, is one of France's numerous enticing cultural hubs. The program will then make a stop in Paris where the students will explore some of the most famous French higher education institutions and cultural sites.

A&M Mathematics in Beijing, China
- Students spend 5 weeks in Beijing. The trip is preceded by a pre-departure orientation and a language crash-course (offered by the Confucius Institute). Upon return, class meets for one more week for final presentations. This course is an introduction to topics in Geometry and Algebraic Topology, with an emphasis on developing intuition through a
hands-on approach. The course discusses algebraic structures that help distinguish and classify geometric and topological objects such as wallpaper, knots, surfaces and polyhedra. The course also explores symmetry and topology in Chinese architecture, art and music, such as Chinese knotting, paper cutting and ceiling design.

International Programs

Texas A&M-Beihang University International Math Program

- Undergraduate students from the elite "Hua Luogeng class" at Beihang University come to Texas A&M in their last year of studies. These are top students who enroll as a non-degree seeking students in the first phase of the program. During this year they will:
  - Complete a capstone project;
  - Take a combination of graduate and upper level undergraduate courses.

- Upon completion of the first phase of the program, they graduate from Beihang and apply to our graduate program. If admitted they complete a MS degree in one year, using the credits from their first year. Important remarks:
  - In their first year, they are allowed to take our qualifying exams;
  - They can apply directly to our Ph.D. program at the end of the first year.
  - They are sponsored (at least in the first year) by Beihang/Chinese NSF.

- At the end of the first year, we hold a mini-symposium where the students present the results of their research.

Benefits

Program increases the competitiveness of our domestic students and raises the bar for the students involved in undergraduate research and related activities. It also raises the profile of our degree programs, with an output of highly qualified and competitive MS graduates.

Data

Program started in 2014 and each year has admitted between 6 and 9 students.

Assessment of Student Learning Outcomes

The office of Institutional Assessment at Texas A&M assesses the student learning outcomes of all three degrees, BA, BS and APMS separately. The instruments used for the three programs are similar and a detailed description for each program can be found in Appendix .... Here we outline the assessment of the BS MATH degree program.

Learning Outcomes

The learning outcomes and measures that we use in all of our undergraduate degrees (BS, BA, APMS) fall under the same general structure. The differences lie in the focus areas, reflected on the choice of courses and assessment instruments. The outcomes are divided in 2 categories:

A. Mathematical Knowledge SLOs

- These 4 SLOs target the main pillars of a solid mathematical education and are the fundamental components of a high quality undergraduate degree in mathematics.
- Mastering these four fundamentals gives the students the tools and skills to:
  - Apply their knowledge to a variety of concrete and novel situations.
  - Have the ability to solve complex problems.
  - Have the ability to explain and synthesize the connections between the four foundational areas of mathematical knowledge acquired in their degree.
  - Have the ability to assimilate new information and mathematical knowledge to become lifelong learners.
- They are designed to align with national guidelines and recommendations developed by the Committee on the
Undergraduate Program in Mathematics (CUPM) of the Mathematical Association of America.

- The CUPM is charged with making recommendations to guide mathematics departments in designing curricula for their undergraduate students. CUPM recommendations can be found as a supplemental document to this report.
- We utilize the CUPM report as a guideline to identify the key mathematical knowledge and skills that a student should achieve to earn a baccalaureate degree in mathematics.

- This group of SLOs addresses a corresponding set of University Learning Outcomes.

B. General and Cognitive SLOs

- Address a complementary set of University Learning outcomes. (See tables and diagrams below.)
- Designed to assess the student's ability to communicate effectively, work collaboratively and associate depth of knowledge and theory with applications.

Each SLO has a set of interconnected assessment instruments that are measured in succession, as the students progress in their degree plan. The assessment is taken while the students are taking a carefully target set of courses associated with the SLO in question. Each SLO has a main direct measure and a holistic overall measure, which is a weighted composite of all measures taken.
Alignment with Texas A&M Learning Outcomes

The tables below list our SLOs, the corresponding CUPM competencies and the corresponding TAMU SLOs (denoted by the acronym UNIV). The precise relationship between our SLOs and TAMU SLOs will be clearly displayed in the Measures section.

Mathematical Knowledge SLOs

It is understood that all SLOs described in this group fall under the broad umbrella of Content Knowledge. The particular measures and artifacts designed for them are designed to assess the various learning outcomes expected from a TAMU graduate with a baccalaureate degree.

<table>
<thead>
<tr>
<th>SLO</th>
<th>CUPM</th>
<th>UNIV</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Fundamentals of Logic and Proof-Writing</td>
<td>Communicate Effectively</td>
<td>Critical Thinking</td>
</tr>
<tr>
<td>2) Fundamentals of Mathematical Analysis and Geometric Methods</td>
<td>Continuous Methods</td>
<td>Work Collaboratively</td>
</tr>
<tr>
<td></td>
<td>Geometric Methods</td>
<td>Analytical Thinking</td>
</tr>
<tr>
<td>3) Fundamentals of Algebraic and Discrete Methods</td>
<td>Exact and Approximate Methods</td>
<td>Critical Thinking</td>
</tr>
<tr>
<td></td>
<td>Algebraic and Discrete Methods</td>
<td>Depth of Knowledge</td>
</tr>
<tr>
<td>4) Fundamentals of Data Analysis and Modeling Techniques</td>
<td>Deterministic and Stochastic Methods</td>
<td>Critical Thinking</td>
</tr>
<tr>
<td></td>
<td>Exact and Approximate Methods</td>
<td>Communicate Effectively</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Work Collaboratively</td>
</tr>
</tbody>
</table>

General and Cognitive SLOs

These SLOs represent general competencies that are essential to the student's success in their professional careers.

<table>
<thead>
<tr>
<th>SLO</th>
<th>UNIV</th>
</tr>
</thead>
<tbody>
<tr>
<td>5) Communication Skills</td>
<td>Communicate Effectively</td>
</tr>
</tbody>
</table>
6) Associate applications and theory

- Depth of Knowledge
- Critical Thinking

7) Use of Technology

- Communicate Effectively
- Lifelong learning

Measuring the Learning Outcomes
Each learning outcome has a carefully chosen set of measures, which are described in detail below.

1. Fundamentals of Logic and Proof-Writing

   - **Outcome description:** Students will be able to effectively utilize fundamental logic axioms to construct and reproduce proofs of basic mathematical statements.

   - **Measures:**
     - Rubrics or guidelines are provided for each instrument utilized, as an attached document.
     - The measures for this SLO will be drawn from the following four courses:

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Title</th>
<th>Measures</th>
<th>Targets</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 220 (W)</td>
<td>Foundations of Mathematics</td>
<td>Comprehensive Final Exam</td>
<td>65% or higher</td>
<td>40%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Written Assignments</td>
<td>65% or higher</td>
<td>15%</td>
</tr>
<tr>
<td>Math 323</td>
<td>Linear Algebra</td>
<td>Midterm Exams (avg. grade)</td>
<td>65% or higher</td>
<td>15%</td>
</tr>
<tr>
<td>Math 409</td>
<td>Advanced Calculus</td>
<td>Midterm Exams (avg. grade)</td>
<td>65% or higher</td>
<td>15%</td>
</tr>
<tr>
<td>Math 415</td>
<td>Modern Algebra I</td>
<td>Midterm Exams (avg. grade)</td>
<td>65% or higher</td>
<td>15%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>65% or higher</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

   - **Summary description of chosen courses:**
     - **Math 220:** This course is the main gateway to the math baccalaureate degrees. The main topics covered are: foundations of propositional logic and rigorous proof-writing techniques.
     - **Math 323:** This is the first Linear Algebra course for Math majors. It covers both algebraic and geometric methods. The entire course development is proof-based and enforces mathematical precision and rigor. In this course students apply, for the first time, the proof-writing knowledge acquired in Math 220.
     - **Math 409:** This is an introduction Mathematical Analysis, covering the foundations of the real number system; the basic notions of continuity and Riemann integral, together with the topology of metric spaces and their functions. Analytical skills form the basic foundation of this proof-based course.
     - **Math 415:** This is an introduction to Abstract Algebra and fundamental algebraic systems. This proof-based course fosters abstract thinking and applications to other areas in mathematics.

   - **Targets:**
     - The main Direct Measure for this SLO is the comprehensive Final Exam in Math 220.
The performance target for this measure is that the Final Exam grade in Math 220 will be 65% of maximal grade or higher. This target was set based on data related to success rate in targeted courses (Math 323, 409, 415), and the correlation between the performance in Math 220 and successful completion of those courses.

The overall measure the weighted average of the various measures displayed on the table above. This gives an assessment of depth of knowledge and ability to prove results with increasing levels of complexity in the basic foundations of mathematics.

In addition to logic and proof-writing skills per se, we also assess working knowledge on the application of those skills in different contexts, measured by midterm exams grades. The overall performance target is set at 65%.

This target was set to reflect standards set on the CUPM report and on graduation data and their correlation with successful completion of degree program.

The weight assigned to each measure expresses its level of relevance to assess competency in this SLO and the prevalence of the course subject throughout the curriculum.

### 2. Fundamentals of Mathematical Analysis and Geometric Methods

- **Outcome description:** Students will be able to utilize analytical and geometric methods to produce precise solutions to mathematical problems.
- **Measures:** The measures for this SLO will be drawn from the following two courses.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Measure</th>
<th>Target</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 323</td>
<td>Linear Algebra</td>
<td>Comprehensive Final Exam</td>
<td>65% or higher</td>
<td>40%</td>
</tr>
<tr>
<td>Math 409</td>
<td>Advanced Calculus</td>
<td>Comprehensive Final Exam</td>
<td>65% or higher</td>
<td>60%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>65% or higher</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

- **Summary description of chosen courses:**

  - **Math 323:** This is the first Linear Algebra course for Math majors. The entire course development is proof-based and enforces mathematical precision and rigor. In this course students apply, for the first time, the proof-writing knowledge acquired in Math 220.
  - **Math 409:** This is an introduction Mathematical Analysis, covering the foundations of the real number system; the basic notions of continuity and Riemann integral, together with the topology of metric spaces and their functions. Analytical skills form the basic foundation of this proof-based course.

- **Targets:**

  - The main Direct Measure of this SLO is the weighed average of the measures displayed in the table above. The weights are distributed according to the prevalence of the course topic throughout the curriculum.
  - The overall performance target is set at 65%.
  - The weight assigned to each measure expresses the level of relevance of each measure to assess competency in this SLO, as indicated by the prevalence of analytical and geometric methods in our curriculum.

### 3. Fundamentals of Algebraic and Discrete Methods
• **Outcome description:** Students will be able to utilize algebraic and discrete methods to formulate hypotheses and solve mathematical problems.

  **Measures:** The measures for this SLO will be drawn from the following two courses:

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Title</th>
<th>Measure</th>
<th>Targets</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 323</td>
<td>Linear Algebra</td>
<td>Comprehensive Final Exam</td>
<td>65% or higher</td>
<td>40%</td>
</tr>
<tr>
<td>Math 415</td>
<td>Modern Algebra I</td>
<td>Comprehensive Final Exam</td>
<td>65% or higher</td>
<td>60%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>65% or higher</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

  **Summary description of chosen courses:**

  - **Math 323:** This is the first Linear Algebra course for Math majors. The entire course development is proof-based and enforces mathematical precision and rigor. In this course students apply, for the first time, the proof-writing knowledge acquired in Math 220.
  - **Math 415:** This is an introduction to Abstract Algebra and fundamental algebraic systems. This proof-based course fosters abstract thinking and applications to other areas in mathematics.

  **Targets:** The main Direct Measure of this SLO is the weighted average of the measures displayed in the table above.

    - The weights are distributed according to the prevalence of the course topic throughout the curriculum.
    - The overall performance target is set at 65%.
    - The weight assigned to each measure expresses the level of relevance of each measure to assess competency in this SLO, as indicated by the prevalence of discrete and algebraic methods in our curriculum.

4. **Fundamentals of Data Analysis and Modeling Techniques**

• **Outcome description:** Students will be able to utilize data to construct mathematical models and make predictions.

• **Measures:** The measures for this SLO will be drawn from the following two courses:

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Title</th>
<th>Measure</th>
<th>Targets</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 411</td>
<td>Mathematical Probability</td>
<td>Comprehensive Final Exam</td>
<td>65% or higher</td>
<td>50%</td>
</tr>
<tr>
<td>Math 442</td>
<td>Mathematical Modeling</td>
<td>Final Project Report</td>
<td>65% or higher</td>
<td>50%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>65% or higher</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

  **Summary description of chosen courses:**

  - **Math 411:** This is a senior level course in mathematical probability. Topics include probability spaces, discrete and continuous random variables, special distributions, joint distributions, expectations, law of large numbers and the central limit theorem. The course has particular emphasis on mastering computational aspects of the material and various applications.
  - **Math 442:** This is an upper-level course in Mathematical Modeling offered either as a writing-intensive or as a communications course. The course revolves around the construction of mathematical models from areas such as economics, game theory, integer programming, mathematical biology and mathematical physics. The primary tools used are regression analysis, difference equation theory, modeling with
difference equations, ordinary differential equation theory, modeling with ordinary differential equations, and stochastic modeling. Students also gain proficiency in the use of MATLAB and LaTeX.

- **Targets:** The main Direct Measure of this SLO is the weighed average of the measures displayed in the table above.
  - The weights are distributed according to the prevalence of the course topic throughout the curriculum.
  - The overall performance target is set at 65%.
  - The weight assigned to each measure expresses the level of relevance of each measure to assess competency in this SLO, as indicated by the prevalence of analytical and geometric methods in our curriculum.

5. Communication Skills

- **Outcome description:** Students will demonstrate written and oral mathematical communication skills and the ability to work in groups.

- **Measures:** The measures for this SLO will be drawn from the following three courses:

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Measure</th>
<th>Target/Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 220 (W)</td>
<td>Foundations of Mathematics</td>
<td>(Final) Written Assignment</td>
<td>65% or higher</td>
</tr>
<tr>
<td>Math 442</td>
<td>Mathematical Modeling</td>
<td>Final Written Report</td>
<td>65% or higher</td>
</tr>
<tr>
<td>Math 482</td>
<td>Research Seminar</td>
<td>Final Project Presentation</td>
<td>65% or higher</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td></td>
<td>65% or higher</td>
</tr>
</tbody>
</table>

- **Summary description of chosen courses:**
  - **Math 220:** This course is the main gateway to the math baccalaureate degrees. The main topics covered are: foundations of propositional logic and rigorous proof-writing techniques.
  - **Math 442:** This is an upper-level course in Mathematical Modeling offered either as a writing-intensive or as a communications course. The course revolves around the construction of mathematical models from areas such as economics, game theory, integer programming, mathematical biology and mathematical physics. The primary tools used are regression analysis, difference equation theory, modeling with difference equations, ordinary differential equation theory, modeling with ordinary differential equations, and stochastic modeling. Students also gain proficiency in the use of MATLAB and LaTeX.
  - **Math 482:** This is a research seminar on problems, methods and recent developments in mathematics, with emphasis on projects, written and oral presentations.

- **Targets:** The main Direct Measure of this SLO is the weighed average of the measures displayed in the table.
  - The overall performance target is set at 65%.
  - Emphasis is placed on written communication, as indicated by the chosen weights. Weights were determined by our Undergraduate Studies Committee, and were based on job placement and graduate school requirements for our Math BS degree.

6. Associate Application and Theory

- **Outcome description:** Students will be able to utilize various mathematical tools and techniques to design models and direct applications to contemporary challenges.

- **Measures:** The measures for this SLO will be drawn from the following two courses:
Summary description of chosen courses:

- **Math 442**: This is an upper-level course in Mathematical Modeling offered either as a writing-intensive or as a communications course. The course revolves around the construction of mathematical models from areas such as economics, game theory, integer programming, mathematical biology, and mathematical physics. The primary tools used are regression analysis, difference equation theory, modeling with difference equations, ordinary differential equation theory, modeling with ordinary differential equations, and stochastic modeling. Students also gain proficiency in the use of MATLAB and LaTeX.

- **Math 470**: This course covers the basics of coded communications, digital signatures, secret sharing, one-way functions, authentication, and error control and data compression. The tools utilized are drawn from basic discrete mathematics and algebraic tools.

**Targets**: The main Direct Measure of this SLO is the weighted average of the measures displayed in the table.

- The overall performance target is set at 65%.
- Weights are set evenly, as both measures target distinct but equally relevant skills.

7. **Use of Technology**

- **Outcome description**: Students will be able to demonstrate proficiency in the use of essential technological tools to a working mathematician.

- **Measures**: The measures for this SLO will be drawn from the following two courses:

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Title</th>
<th>Measures</th>
<th>Targets</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 308</td>
<td>Differential Equations</td>
<td>CalcLab Assignments</td>
<td>65% or higher</td>
<td>50%</td>
</tr>
<tr>
<td>Math 442</td>
<td>Mathematical Modeling</td>
<td>Final Project Report</td>
<td>65% or higher</td>
<td>50%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td>65% or higher</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Summary description of chosen courses:**

- **Math 308**: This is a basic introduction to ordinary differential equations and various solving techniques such as solutions in series, solutions using Laplace transforms, along with the theory of systems of differential equations. Instruction takes place in a computer lab and students learn how to utilize computer software (MATLAB) to solve differential equations in various applied contexts.

- **Math 442**: This is an upper-level course in Mathematical Modeling offered either as a writing-intensive or as a communications course. The course revolves around the construction of mathematical models from areas such as economics, game theory, integer programming, mathematical biology, and mathematical physics. The primary tools used are regression analysis, difference equation theory, modeling with difference equations, ordinary differential equation theory, modeling with ordinary differential equations, and stochastic modeling. Students also gain proficiency in the use of MATLAB and LaTeX.
technological tools designed for this degree plan include software packages such as matlab, LaTeX, Beamer (or PowerPoint) and other, along with working knowledge with the Linux operating system.

- **Targets:** The main Direct Measure of this SLO is the weighed average of the measures displayed in the table.
  - The overall performance target is set at 65%.
  - Weights are set evenly, as both measures target distinct but equally relevant skills.

**Major Changes Since 2009 Review**
This is a summary of the changes that were implemented in the program since the last External Review. Complete description of these changes are found in the corresponding sections of the self-study document.

**Courses created and related changes**
- Math 200: Horizons in Math
- Math 225: Advanced Spreadsheet Techniques
- Math 396: Communications in Mathematics
- Math 420: Applications of Actuarial Science II
- Math 437: Principles of Numerical Analysis
- Changes in Credit for Internship reporting process: Needs a final written report (9 to 12 pages long) at the end of the internship.

**Undergraduate Research**
A concerted effort was made to implement and expand our undergraduate research activities. Here are the highlights:
- Increased the number of math majors participating in REUs throughout the country.
- Director of Undergraduate Research: position created.
- Increased enrollment in Math 491 classes and number of participants in Undergraduate Research.

**Advising Process**
All our advisors are experienced faculty members with deep knowledge of our curriculum.
- Increased the number of program advisors.
  - 2 freshmen advisors
  - 2 upperclassmen advisors
  - 4 honors advisors (including the director of the program)
- Created a dedicated advising page: http://www.math.tamu.edu/undergraduate/advising/
- Developed an in-house advising scheduling software to connect students and advisors and optimize the appointment process.
- Regents Scholars Mentoring and RetainU program Faculty mentors program

**Programmatic Changes**
- Restructured the Math Minor requirements (twice)
- Revamped the Assessment of Student Learning Outcomes (twice)

**Enhancements**
- Created New Scholarships and Awards
- Created the AMUSE (Applied Math Undergraduate Student Seminar)

**International programs**
We are developing various partnerships with international institutions, and have implemented a few programs stemming from these partnerships, such as: 

Future Goals for the Undergraduate Program

Recruitment, retention and student-related goals

1. Retention and Student Success

Our first year retention rates and graduation rates are summarized as follows:

<table>
<thead>
<tr>
<th>Fall Cohort</th>
<th>Headcount</th>
<th>% 1-yr Retention</th>
<th>% 4-yr Graduation</th>
<th>% 5-yr Graduation</th>
<th>% 6-yr Graduation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>99</td>
<td>62.60%</td>
<td>32.30%</td>
<td>36.40%</td>
<td>37.40%</td>
</tr>
<tr>
<td>2010</td>
<td>88</td>
<td>62.50%</td>
<td>27.30%</td>
<td>36.40%</td>
<td>37.50%</td>
</tr>
<tr>
<td>2011</td>
<td>117</td>
<td>66.70%</td>
<td>32.50%</td>
<td>40.20%</td>
<td>41.90%</td>
</tr>
<tr>
<td>2012</td>
<td>173</td>
<td>50.90%</td>
<td>19.10%</td>
<td>26.00%</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>237</td>
<td>39.20%</td>
<td>14.30%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>194</td>
<td>52.60%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>146</td>
<td>56.80%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>143</td>
<td>58.00%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>56.16%</td>
<td>25.10%</td>
<td>34.75%</td>
<td>38.93%</td>
</tr>
</tbody>
</table>

The Spring 2018 preliminary headcount is down to 462 enrolled majors, which is 6.1% lower than last year's enrollment. Such difference is partially explained by the creation of the new undergraduate degree offered by the Dept. of Statistics. Nevertheless, we aim at maintaining a stable undergraduate population having between 500 and 600 students.

The first year retention rate of 58% last year is slightly above national average and above our 8 yr average. Our goal is to raise this rate to 75% in the next 4 years, and to raise the 5-yr graduation rate to at least 50%.

To achieve this goal, we will utilize various initiatives, including our implementation of the College's RetainU initiative, along with a coordinated proactive advising strategy, the utilization of a recently implement advising platform (SSC) at A&M, and potentially the creation of targeted learning communities.

Curricular changes (see section on Curricular changes) such as broadening the offering of Horizons in Math and early introduction to programming and group projects will also contribute to improving retention and success. Along with curricular changes, we are gradually moving towards further pedagogical changes, aiming at fostering more active learning techniques employed in our classes.

2. More effective recruitment of top students

The current Admission Statistics in our college by HS rankings and top students is as follows.

<table>
<thead>
<tr>
<th>Group</th>
<th>Applications (2015-18)</th>
<th>% Accepted (2015-17)</th>
<th>% Canceled (2015-17)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natl Merit SF</td>
<td>4.3</td>
<td>55</td>
<td>20</td>
</tr>
<tr>
<td>Natl Hisp Sch</td>
<td>2.5</td>
<td>29</td>
<td>26</td>
</tr>
</tbody>
</table>
Our goal is to increase the percentage of National Merit and Hispanic Scholars applying to our programs to at least 8%, and their acceptance rate to at least 40%. At the same time, we aim at increasing both the percentage of applicants in the 90-100 HS rank range and their acceptance rate to at least 60%.

For this purpose, we will revamp our recruitment strategies with a variety of measures, including:

- The production of new recruitment materials to be disseminated throughout the state;
- A strong recruitment/informational campaign reaching out parents and high school counselors, with information about career prospects and opportunities for math majors and about our programs;
- A more personalized approach to encourage acceptance of top students, such as letters to parents and phone calls to accepted applicants.
- Financial incentives in the form of fellowships and bonuses.

**Fellowships/Scholarships**
Currently we have 9 Endowed Scholarships and 2 Departmental Scholarships that are annually awarded to our majors. On average each scholarship awards between $1,000 and $1,500 per year, per student, for 1 and 3 students per year. Our goal is to increase the number and amount of scholarships, including:

- More freshmen scholarships to boost enrollment/acceptance rate of top students;
- Scholarships to fund high impact learning experiences, such as Study Abroad Programs and Undergraduate Research.
- Pursuing endowments of more substantial scholarships targeting low-income, high achievers.

### Scholarships Awarded by the Math Department

<table>
<thead>
<tr>
<th>Scholarship Name</th>
<th>Amount</th>
<th>Terms</th>
</tr>
</thead>
</table>

**Endowed Scholarships**

<table>
<thead>
<tr>
<th>Term</th>
<th>Major</th>
<th>N</th>
<th>Mean</th>
<th>Median</th>
<th>Lower Quartile</th>
<th>Upper Quartile</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2011</td>
<td>APMS</td>
<td>24</td>
<td>1234</td>
<td>1245</td>
<td>1150</td>
<td>1330</td>
<td>990</td>
<td>1490</td>
</tr>
<tr>
<td></td>
<td>MATH</td>
<td>62</td>
<td>1200</td>
<td>1220</td>
<td>1080</td>
<td>1310</td>
<td>850</td>
<td>1560</td>
</tr>
<tr>
<td>Fall 2012</td>
<td>APMS</td>
<td>35</td>
<td>1217</td>
<td>1240</td>
<td>1150</td>
<td>1300</td>
<td>870</td>
<td>1520</td>
</tr>
<tr>
<td></td>
<td>MATH</td>
<td>90</td>
<td>1201</td>
<td>1195</td>
<td>1100</td>
<td>1310</td>
<td>830</td>
<td>1570</td>
</tr>
<tr>
<td>Fall 2013</td>
<td>APMS</td>
<td>46</td>
<td>1243</td>
<td>1245</td>
<td>1120</td>
<td>1360</td>
<td>970</td>
<td>1530</td>
</tr>
<tr>
<td></td>
<td>MATH</td>
<td>142</td>
<td>1162</td>
<td>1150</td>
<td>1040</td>
<td>1290</td>
<td>770</td>
<td>1600</td>
</tr>
<tr>
<td>Fall 2014</td>
<td>APMS</td>
<td>40</td>
<td>1190</td>
<td>1200</td>
<td>1035</td>
<td>1330</td>
<td>850</td>
<td>1560</td>
</tr>
<tr>
<td></td>
<td>MATH</td>
<td>113</td>
<td>1140</td>
<td>1120</td>
<td>1010</td>
<td>1260</td>
<td>760</td>
<td>1600</td>
</tr>
<tr>
<td>Fall 2015</td>
<td>APMS</td>
<td>42</td>
<td>1281</td>
<td>1315</td>
<td>1190</td>
<td>1360</td>
<td>930</td>
<td>1600</td>
</tr>
<tr>
<td></td>
<td>MATH</td>
<td>63</td>
<td>1190</td>
<td>1220</td>
<td>1020</td>
<td>1300</td>
<td>870</td>
<td>1530</td>
</tr>
<tr>
<td>Fall 2016</td>
<td>APMS</td>
<td>34</td>
<td>1255</td>
<td>1305</td>
<td>1120</td>
<td>1390</td>
<td>940</td>
<td>1550</td>
</tr>
<tr>
<td></td>
<td>MATH</td>
<td>51</td>
<td>1193</td>
<td>1230</td>
<td>1060</td>
<td>1320</td>
<td>800</td>
<td>1580</td>
</tr>
<tr>
<td>Scholarship Name</td>
<td>Amount</td>
<td>Criteria</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>---------</td>
<td>-----------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Robert and Mary Walker</td>
<td>$1,000/yr</td>
<td>Renewable for 3 years if in good standing. In recent years, used as one-time-only awards for students applying for continuing scholarships</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>W. E. Koss/E. C. Klipple Endowed Scholarship</td>
<td>$1,000/yr</td>
<td>Freshman in top 25% of HS class; sophomore or above should have min. of 3.2 GPA in math</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>W. E. Koss/Hillman Scholarship</td>
<td>$1,000/yr</td>
<td>2 scholarships to worthy and deserving students; freshman in top 25% of HS class; sophomore or above should have min. of 3.2 GPA in math</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walter E. Koss Endowed Scholarship</td>
<td>open</td>
<td>Full-time in good standing; freshman who graduated in the top 25% of HS class; sophomore and above students with minimum 3.2 gpa.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elizabeth A. Lepley</td>
<td>$1,250/yr</td>
<td>Freshman with need, US Citizen, split 1/2 Fall, 1/2 Spring, renewable through Sophomore year with a 3.0 GPR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G. Alan Cannon</td>
<td>open</td>
<td>Full time; overall and major gp or 3.0 or above. Freshman who graduated in top 25% of HS class and 1000 on SAT or 22 on ACT. Preference given to BS Math, BA in Math</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Freshman who graduated in top 25% of HS class and 1000 on SAT or 22 on ACT. Preference given to BS Math, BA in Math (certification), or a BS APMS-Math option. Renewable for up to 4 years with a 3.0 gpa or above and all other criteria met. Recipient must have demonstrated leadership through HS and/or college activities.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bruce Treybig</td>
<td>open</td>
<td>Deserving student pursuing Math degree.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jack and Nancy Matz</td>
<td>open</td>
<td>US Citizen; renewable up to 4 years with a 3.0 gpa or higher</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Margaret Mount Moore Endowed Scholarship</td>
<td>open</td>
<td>Full-time; Junior/senior status; good standing; 2.5 minimum gpa; pursuing math degree. Preference to students from Deer Park HS and Harris county HS. Selection based upon academic achievement, financial need, and extracurricular activities. Scholarship committee to select three candidates to be reviewed by the donor. Donor will rank; if no response within 14 days, committee allowed to make selection.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom Excellence Awards</td>
<td>$100</td>
<td>Instructor nominated; select 400 level classes. One awardee per section of course.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Madhava Award for Excellence in Analysis</td>
<td>$100</td>
<td>Awarded to top two (2) students in the Math 446/447 series each spring.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Donated by Dr. Sivakumar)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Curricular goals

1. Coursework
   - Expand the Horizons in Mathematics experience
     - Currently we offer a 1 credit hour Freshmen Seminar course entitled Horizons in Mathematics (Math 200) with capacity of about 25 students. This course has been very successful in broadening the students' perspective of mathematics and has contributed to improving the first year retention of our majors, while training their writing skills. We expect to gradually increase the enrollment in this class, by initially doubling its offering and eventually having all Freshmen with a U1 classification taking it.
   - Expand the Mathematical Modeling experience
     - Our mathematical modeling course (Math 442) can only enroll 25 students per semester and we need to at least double this capacity to attend the demand and properly train our students, especially in the APMS track.
   - New courses:
     - We will introduce Mathematical Computer Programming at an early stage in our curriculum, in addition to the current programming requirements in our degree plans.
     - We will introduce an upper level course on Geometry, Topology and the Imagination, as a broad and modern overview of geometric topics, including geometry of surfaces, knots, braids and symmetries. The aim is to expose the student to geometric and topological reasoning and how it relates to current topics of research.

2. Comprehensive curriculum reform
   - We will re-evaluate the current APMS options. Our goals are:
     - Revamping APMS degree plans;
     - Emphasize more internships and summer experiences
   - Will remove the STAT option and add a Security, Encryption and Cryptography track.
     - Develop Undergraduate Elliptic Curves course with a computational approach to it. Redesign the offerings of Math 470/471 specifically for math majors in this track.

3. International and Cultural Experiences
   - Increase the Study Abroad Programs opportunities for math majors.
   - Expand the scope of international experiences with short-term international programs and activities.
Bachelor of Arts (BA) - Degree Plan

<table>
<thead>
<tr>
<th>Category</th>
<th>Courses</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math Core</td>
<td>171, 172, 220, 221, 323, 308, 409</td>
<td>24</td>
</tr>
<tr>
<td>Math Elec. (see Note)</td>
<td>415 or 433, 467, 403, 4xx, 4xx</td>
<td>15</td>
</tr>
<tr>
<td>STAT/CSCE</td>
<td>STAT 211; CSCE 110, 111, 206, or 121</td>
<td>7</td>
</tr>
<tr>
<td>EDUC Core</td>
<td>SCEN 201, TEFB 322, TEFB 324, TEFB 407 (methods), RDNG 372 or 465</td>
<td>13</td>
</tr>
<tr>
<td>EDUC Elec.</td>
<td>SOCI 317 or INST 222</td>
<td>3</td>
</tr>
<tr>
<td>Student Teaching</td>
<td>TEFB 423</td>
<td>12</td>
</tr>
<tr>
<td>Science Elec.</td>
<td>elec, elec, PHYS 218</td>
<td>12</td>
</tr>
<tr>
<td>Gen. Core Elec.</td>
<td>ENGL 104, COMM 203, 205, or 243, INST 210, Lang. Phil. and Cult., Creative Arts</td>
<td>21</td>
</tr>
<tr>
<td>HIST/POLS Elec.</td>
<td>HIST 105, HIST 106, POLS 206, POLS 207</td>
<td>12</td>
</tr>
<tr>
<td>Free Elec.</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Total Hrs</td>
<td></td>
<td>120</td>
</tr>
</tbody>
</table>

Note

- Math Electives: (15 hours) Take 415 or 433, 467, 403. Of the remaining 6 hours of 4xx, at least 3 hours must be selected from MATH 411, 414, 442, 470. The other 3 hours should be selected from MATH 405-489; STAT 407, 410, 414, 415, 485, 489; CSCE 210-489; ISEN 320-499.
  - Note: Maximum of 3 hours of MATH 411 or STAT 414 may be used in this degree program.
- See the Common requirements to all degrees for details on General Core, HIST/POLS, Free and Science Elec.
# Bachelor of Science (BS) Mathematics - Degree Plan

<table>
<thead>
<tr>
<th>Category</th>
<th>Courses</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Math Core</strong></td>
<td>171, 172, 220, 221, 323, 308, 409, 410 or 446</td>
<td>27</td>
</tr>
<tr>
<td><strong>Math Elec. (see Note)</strong></td>
<td>416, 415, MATH 411 or STAT 414, elec, elec, elec, elec</td>
<td>21</td>
</tr>
<tr>
<td><strong>CSCE</strong></td>
<td>CSCE 110, 111, 206, or 121</td>
<td>4</td>
</tr>
<tr>
<td><strong>PHYS</strong></td>
<td>Phys 218, PHYS 208 or OCNG 451</td>
<td>8</td>
</tr>
<tr>
<td><strong>Science Elec.</strong></td>
<td>ENGL 104, COMM 203, 205, or 243, Lang., Phil. and Cult., Social and Behavioral Sci., Creative Arts, ICD (5 hrs.)</td>
<td>18</td>
</tr>
<tr>
<td><strong>Gen. Core Elec.</strong></td>
<td>HIST 105, HIST 106, POLS 206, POLS 207</td>
<td>21</td>
</tr>
<tr>
<td><strong>Free Elec.</strong></td>
<td></td>
<td>9</td>
</tr>
<tr>
<td><strong>Total Hrs</strong></td>
<td></td>
<td>120</td>
</tr>
</tbody>
</table>

### Notes:
- **Math Electives**: (12 hours required) 3 to 12 hours to be selected from MATH 427, 431, 436, 439. Up to 9 hrs. may be selected from MATH 325, 407-489. Students are encouraged to take one of MATH 412, 414, 442, 470, or 471. Departmental permission is required to include MATH 485, or to enroll in a MATH 6xx course. Students who plan to attend graduate school are encouraged to take MATH 447 and at least one 6xx course as electives and 415, 416, and 446 from the required choices.
  - Note: Maximum of 3 hours of MATH 411 or STAT 414 may be used in this degree program.
- See the **Common requirements to all degrees** for details on General Core, HIST/POLS, Free and Science Elec.
# Bachelor of Sciences - Applied Mathematical Sciences (APMS)

## Degree Plans: APMS MATH/STAT/ACTUARY

<table>
<thead>
<tr>
<th>BS APMS MATH</th>
<th>BS APMS STAT</th>
<th>BS APMS ACTUARY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Math Core</strong></td>
<td><strong>Math Elec.</strong></td>
<td><strong>STAT/CSCE</strong></td>
</tr>
<tr>
<td>171, 172, 220, 221, 323, 308, 409, 410 or 446, 417 or 437</td>
<td>MATH 415 or 433; MATH 412, 414, 442, or 470, 4xx, 4xx, 4xx, 4xx, 4xx</td>
<td>STAT 211, STAT 212, CSCE elec., CSCE elec.</td>
</tr>
<tr>
<td>31</td>
<td>21</td>
<td>14</td>
</tr>
<tr>
<td><strong>Math Elec.</strong></td>
<td><strong>Electives</strong></td>
<td><strong>Total Hrs</strong></td>
</tr>
<tr>
<td>MATH 415 or 433, MATH 412, 414, 442, or 470, 4xx, 4xx, 4xx, 4xx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Science Elec.</strong></td>
<td><strong>(General) Core Elec.</strong></td>
<td><strong>Hist/Pols Elec.</strong></td>
</tr>
<tr>
<td>xxx (note 3)</td>
<td>ENGL 104, COMM 203, 205, or 243, ECON 202 or 203, Lang., Phil. and Cult., Creative Arts, ICD (6 hours)</td>
<td>HIST 105, HIST 106, POLS 206, POLS 207</td>
</tr>
<tr>
<td>8</td>
<td>21</td>
<td>12</td>
</tr>
<tr>
<td><strong>Free Elec.</strong></td>
<td><strong>Total Hrs</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

### 1. Math Electives:
- APMS MATH (21 hours): Take
  - MATH 415 or 433,
  - 3 hours from MATH 412, 414, 442, 447, or 470.
  - 9-15 hours from MATH 325, 405-489.
  - Up to 6 hrs may be from STAT 407-416; CSCE 211-452, 461-481 (except CSCE 442); ISEN 320, 340.
- Students pursuing a minor in Computer Science may use up to 9hrs of 300/400 level CSCE courses towards their 15hr Math elective requirement, which is an exception to the rule that allows at most 6 hours of STAT, CSCE or ISEN courses to count toward the 15 hour Math elective requirement.

[http://www.math.tamu.edu/0ae1a4c37f2c54e541cbf8809db6548/APMS_MSA_degree_plan.html](http://www.math.tamu.edu/0ae1a4c37f2c54e541cbf8809db6548/APMS_MSA_degree_plan.html)
- **APMS STAT** (15 hours): Take
  - ISEN 320 or 340.
  - Select 6-12 hours from MATH 325, 407-489; STAT 410, 415, 485, 489.
  - Select up to 6 hours from CSCE 210-499 (except CSCE 442); ISEN 320-499; STAT 400-499.

- **AMPS ACTUARY** (15 hours): Take
  - MATH 325, 425 and STAT 414 or MATH 411.
  - Of the remaining 6 hours of 4xx, select 2 courses from MATH 405-489; STAT 407-416; CSCE 211-499 (except CSCE 442); ISEN 320 or 340.
  - Note: A maximum of 3 hours of MATH 411 or STAT 414 may be used in these degree programs.

2. **CSCE electives:**

- **AMPS MATH/STAT/ACTUARY** (8 hours) Select 2 courses from CSCE 110, 111, 121, and 206.

3. **ECON/FINC electives:**

- **APMS ACTUARY** (12 hours): Take
  - ECON 202 or 203 (3 hours).
  - Select 3 courses from ECON 311-489; ECMT 463; FINC 309-489.

  - ECON 312, 319, 320, 324, and 330 will count towards the ICD CORE requirement, but note that they ALL have a prerequisite which is not built into the Actuarial Science degree plans.

- See the **Common requirements to all degrees** for details on General Core. HIST/POLS, Free and Science Elec.
# Degree Plans: APMS ECON/CPCS/BIOL

<table>
<thead>
<tr>
<th></th>
<th>BS APMS ECON</th>
<th>BS APMS CPCS</th>
<th>BS APMS BIOL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Crs</strong></td>
<td><strong>Hrs</strong></td>
<td><strong>Crs</strong></td>
<td><strong>Hrs</strong></td>
</tr>
<tr>
<td><strong>Math Core</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>171, 172, 220,</td>
<td>27</td>
<td>171, 172,</td>
<td>31</td>
</tr>
<tr>
<td>221, 323, 308,</td>
<td></td>
<td>220, 221,</td>
<td></td>
</tr>
<tr>
<td>409, 411 or</td>
<td></td>
<td>323, 308,</td>
<td></td>
</tr>
<tr>
<td>STAT 414</td>
<td></td>
<td>409, 415 or</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>433, 417 or</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>437</td>
<td></td>
</tr>
<tr>
<td><strong>Math Core</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(additional)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>325, 425, ISEN</td>
<td>15</td>
<td>4xx, 4xx,</td>
<td>12</td>
</tr>
<tr>
<td>320 or 340,</td>
<td></td>
<td>4xx</td>
<td></td>
</tr>
<tr>
<td>MATH 4xx, MATH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4xx</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>STAT/CSCE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAT 211, STAT</td>
<td>14</td>
<td>STAT 211,</td>
<td>14</td>
</tr>
<tr>
<td>212, CSCE elec,</td>
<td></td>
<td>STAT 212,</td>
<td></td>
</tr>
<tr>
<td>CSCE elec.</td>
<td></td>
<td>CSCE elec,</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>CSCE 121</td>
<td></td>
</tr>
<tr>
<td><strong>PHYS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>218, 208 or 219</td>
<td>8</td>
<td>PHYS 218,</td>
<td>8</td>
</tr>
<tr>
<td>or OCNG 451</td>
<td></td>
<td>208 or OCNG</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>451</td>
<td></td>
</tr>
<tr>
<td><strong>BIOL/ CHEM</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Core</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Science Core</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CSCE Core</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>CSCE 221,</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CSCE 314,</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>CSCE 411,</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>CSCE 433</td>
<td></td>
</tr>
<tr>
<td><strong>ECON Core</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECON 202 or</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>203, ECON 323,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECON 459,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECMT 463</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Quant. Biology</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6 x MATH/BIOL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>285 (1 hr),</td>
</tr>
</tbody>
</table>

http://www.math.tamu.edu/0ae1a4c37f254e541cb8809db6548/APMS_ECB.html[3/29/18, 3:06:16 PM]
1. Math Electives:
   - **APMS ECON** (15 hours): Of the 6 free elective hours, select 2 courses from MATH 405-489.
   - **APMS CPCS** (12 hours): Take
     - 9 - 12hrs from MATH 325, MATH 407-489.
     - Up to 3hrs may be selected from CSCE 210-452, ISEN 320-340, or STAT 407-415.
   - **AMPS BIOL** (12 hours): At least one course should be a W or a C course.
   - Note: A maximum of 3 hours of MATH 411 or STAT 414 may be used in these degree programs.

2. CSCE electives:
   - **AMPS ECON**: (8 hours) Select 2 courses from CSCE 110, 111, 121, and 206.
   - **APMS CPCS**: (4 hours) Select 1 course from CSCE 110, 111, or 206.

**Common Requirements To All Degrees**
The following requirements and remarks apply to all degree plans:

1. **General Core Electives**: (18 hours) Take
   - ENGL 104 (3 hours);
   - COMM 203, 205, or 243 (3 hours)
   - a 200-400 level Language, Philosophy and Culture CORE course (3 hours)
   - 3 hours of a Creative Arts CORE course.
     - For a list of the acceptable Language, Philosophy and Culture and Creative Arts courses, please see the catalog at Undergraduate Catalog Listings.
   - 6 hours of International and Cultural Diversity are required.
     - Some of these courses may be used to satisfy other degree requirements. Please see the catalog or the Mathematics Department's List of International and Cultural Diversity Requirements for a list of these courses.

```markdown
<table>
<thead>
<tr>
<th>Seminar</th>
<th>elective, elective</th>
<th>8</th>
<th>xxx note 3</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science Elec.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(General)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Core Elec.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIST/POLS Elec.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Free Elec.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL HOURS**

<table>
<thead>
<tr>
<th></th>
<th>120</th>
<th>120</th>
<th>120</th>
</tr>
</thead>
</table>
```
2. **HIST/POLS:** (12 hours)
   - POLS 206 and 207 are required.
   - For the HIST requirement, 6 hours of American History are required.
     - Most students satisfy this requirement by taking HIST 105 and 106.
     - For other options, see the catalog.

3. **Free electives:** Almost every course offered at TAMU will count as a free elective, with some exceptions.
   - Please see an advisor or the Mathematics Department's List of Ineligible Free Electives for a list of unacceptable courses.
   - Math 170 counts as free elective hours.

4. **General Science Electives:** (8 hours) Select 2 courses from:
   - CHEM 101/111 (or 107) or CHEM 103/113; CHEM 102/112 or CHEM 104/114; BIOL 111; BIOL 112; ASTR 111.
     - See the **Common requirements to all degrees** for details on General Core. HIST/POLS, Free and Science Elec.
Service Teaching

The Department of Mathematics teaches about 30,000 students per year, in over 800 sections, servicing essentially all undergraduate programs at Texas A&M University. Technical majors, either engineering or science, usually take four or more mathematics classes. However, all students have to complete at least two mathematics or logical reasoning classes as part of a general core curriculum requirement for graduation. About six percent of our enrollments are math majors (undergraduate and graduate combined), and thus the magnitude of our service role to the university is immense.

In our commitment to provide quality instruction coupled with the necessary support for student success, we have implemented several measures and initiatives along the years to ensure a successful realization of our commitment. Our service load breaks into three main components:

- **STEM track** - consists mostly of three semesters of calculus, a course in differential equations and another one in linear algebra. This collection of courses is taken by most engineering majors. Science and Math majors have their only version of those courses.
  - For some engineering majors we have developed hybrid courses that combine linear algebra, vector calculus and special functions.
  - Annual enrollment in this track during 2016-17 is approximately 14,050 as compared with 9,600 in 2008-09. This huge increase reflects the large increases in enrollments in the Engineering programs over the last few years.
  - Success rates in these courses (percentage of A, B and C grades) average about 80%.
  - We have formed various committees along the years that interact with our STEM clients.

- **Core Mathematics for Social Sciences and Agriculture** - consists basically of a two-semester sequence of finite mathematics (Math 166) and calculus (Math 131), or a general course of applications of math, statistics and probability (Math 167).
  - Annual enrollment is currently about 2,150 and has experienced a gradual from an enrollment of 2,600 students in 2008-09.

- **Core Mathematics for Business** - this is also a two-course sequence of finite mathematics (Math 140 or Math 141 - matrices, probability) and calculus (Math 142) similar to the one that is taught to social science and agriculture. The primary difference is that applications are tailored to the needs of business.
  - Annual enrollment is currently about 6,500 and has remained roughly the same over the last few years.

Overview of Service teaching

Service Courses

| STEM Service courses | Business, Liberal Arts, Pre-Med and AgriLife |
A description of the content of our classes can be found here.

Enrollment Data

The document Full Enrollment Data contains a detailed enrollment history in all our courses, per semester, since Fall 2011, excluding Summer semesters. (For the information in spreadsheet form, click here.) Data about Summer Programs can be found in the document Summer Enrollment Data.
### Enrollment in Math Classes

<table>
<thead>
<tr>
<th>Year</th>
<th>Fall</th>
<th>Spring</th>
<th>Summer</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011-2012</td>
<td>12,581</td>
<td>10,038</td>
<td>1,481</td>
<td>24,100</td>
</tr>
<tr>
<td>2012-2013</td>
<td>12,650</td>
<td>9,922</td>
<td>1,366</td>
<td>23,938</td>
</tr>
<tr>
<td>2013-2014</td>
<td>13,418</td>
<td>11,016</td>
<td>1,411</td>
<td>25,845</td>
</tr>
<tr>
<td>2014-2015</td>
<td>15,049</td>
<td>12,058</td>
<td>1,438</td>
<td>28,545</td>
</tr>
<tr>
<td>2015-2016</td>
<td>14,807</td>
<td>12,165</td>
<td>1,315</td>
<td>28,287</td>
</tr>
<tr>
<td>2016-2017</td>
<td>14,559</td>
<td>12,070</td>
<td>1,064</td>
<td>27,693</td>
</tr>
</tbody>
</table>

### Enrollment, Student Credit Hours (SCH) and Weighted Student Credit Hours (WSCH)

<table>
<thead>
<tr>
<th>Year</th>
<th>Enrollment</th>
<th>SCH</th>
<th>WSCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011-2012</td>
<td>Fall 12,581</td>
<td>41,530</td>
<td>64,728</td>
</tr>
<tr>
<td></td>
<td>Spring 10,038</td>
<td>32,733</td>
<td>56,696</td>
</tr>
<tr>
<td></td>
<td>Summer 1,481</td>
<td>4,669</td>
<td>12,221</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong> 24,100</td>
<td><strong>78,932</strong></td>
<td><strong>133,645</strong></td>
</tr>
<tr>
<td>2012-2013</td>
<td>Fall 12,650</td>
<td>41,738</td>
<td>66,920</td>
</tr>
<tr>
<td></td>
<td>Spring 9,922</td>
<td>32,415</td>
<td>57,266</td>
</tr>
<tr>
<td></td>
<td>Summer 1,366</td>
<td>4,329</td>
<td>11,130</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong> 23,938</td>
<td><strong>78,482</strong></td>
<td><strong>135,316</strong></td>
</tr>
<tr>
<td>2013-2014</td>
<td>Fall 13,418</td>
<td>44,605</td>
<td>70,137</td>
</tr>
<tr>
<td></td>
<td>Spring 11,016</td>
<td>36,224</td>
<td>63,713</td>
</tr>
<tr>
<td></td>
<td>Summer 1,411</td>
<td>4,521</td>
<td>13,381</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong> 25,845</td>
<td><strong>85,350</strong></td>
<td><strong>147,230</strong></td>
</tr>
<tr>
<td>2014-2015</td>
<td>Fall 15,049</td>
<td>49,911</td>
<td>78,526</td>
</tr>
<tr>
<td></td>
<td>Spring 12,058</td>
<td>39,645</td>
<td>69,713</td>
</tr>
<tr>
<td></td>
<td>Summer 1,438</td>
<td>4,559</td>
<td>13,342</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong> 28,545</td>
<td><strong>94,115</strong></td>
<td><strong>161,580</strong></td>
</tr>
<tr>
<td>2015-2016</td>
<td>Fall 14,807</td>
<td>48,746</td>
<td>76,727</td>
</tr>
<tr>
<td></td>
<td>Spring 12,165</td>
<td>39,927</td>
<td>70,056</td>
</tr>
<tr>
<td></td>
<td>Summer 1,315</td>
<td>4,140</td>
<td>10,912</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong> 28,287</td>
<td><strong>92,813</strong></td>
<td><strong>157,695</strong></td>
</tr>
<tr>
<td></td>
<td>Fall 14,559</td>
<td>47,542</td>
<td>72,958</td>
</tr>
</tbody>
</table>
Student Support Infrastructure
The number of students taught by our department already demands significant organizational challenges, but the greatest challenge we face is how to best support students in our classes, especially those at-risk. The department has an extensive track record of developing and implementing innovative supplemental instructional programs and educational assistance tools. The chart below exemplifies some of the structure we have in place that were developed in the last several years.

| 2016-2017 | Spring  | 12,070 | 39,410 | 66,748 |
|夏 | | 1,064 | 3,456 | 9,512 |
| TOTAL | 27,693 | 90,408 | 149,218 |
Current Support Structure
Assessment and Placement
**Math Placement Exam:**
One of the most important first steps towards student success is the appropriate placement of freshmen into introductory courses. In the last five years we have developed, tested and calibrated our math placement exams (MPE1: for STEM students and MPE2: for non-stem students) which are now applied to every incoming student to Texas A&M. In a nutshell:

- New students take exam to determine the appropriate mathematics class they need to be placed in. For example, for engineering students, the MPE determines whether or not they are calculus ready (i.e. can enroll in Math151), or whether they first need to take the remedial pre--calculus (Math150).
- This exam is now fully online, and is marketed nationwide by WebAssign through their new PlaceU portal. ([http://placeu.webassign.com/tests/calculus-i-placementl](http://placeu.webassign.com/tests/calculus-i-placementl)).

**Personalized Pre-Calculus Program (PPP):** The PPP is a three-week online program, offered through WebAssign’s platform, which works in tandem with the MPE. Students who miss the cut-off for enrollment in Math151 by only a little can enroll in the PPP. Upon enrollment:

- They receive a personalized study plan, based on the concepts they did not master on the MPE, and on category pretests the students take while working through their plan.
- Each student is assigned a personal tutor who works with the student to clear misconceptions, fill gaps, and generally helps to move the student to higher levels of mathematical understanding. The tutors are experienced High School teachers who have received special training for the program.

Upon completion of the program, the student retakes the MPE. Our data show significant improvement for those who complete the program.

The PPP was developed through a five-year NSF grant in the Department of Mathematics. In order to make it self-sustaining, we now assess a $150 program fee. Given that students who need to take Math150 in their first semester almost never finish in four years, this amount is a very modest investment compared to the cost of an extra semester (if not an extra year) in college.

**Ready-Set-Go:**
This is a new mini-MPE that we have recently developed. Students take it during the first week of classes and the results are used to identify at-risk students as well as to validate students' results on the MPE.

Currently, we are applying the Ready-Set-Go test to all students in Math 151 and Math 147. The preliminary results show that a significant number of students performing at a much lower level than in their original MPE exam. Further studies of this data are being conducted.

- We expect this test to accurately identify at an early stage the students who are contributing to the current DFQ rates in Math 151. This will allow us to implement effective early intervention measures.

**Scheduled Support**

- **HELP Sessions:**
  - These sessions are available twice weekly, for two or two and half hours in the evening, supporting the following courses:

```
<table>
<thead>
<tr>
<th>Math 131</th>
<th>Math 141/166</th>
<th>Math 142</th>
<th>Math 147/148</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 150</td>
<td>Math 151/171</td>
<td>Math 152/172</td>
<td>Math 220</td>
</tr>
<tr>
<td>Math 221/251</td>
<td>Math 304/323</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```

- Graduate students staff these sessions. Any student enrolled in one of the listed courses is welcome to come to the respective session and get help with homework problems, questions from class and theory.
Week-in-Review:
- Weekly two hours long review sessions for the following courses:
  - Math 131
  - Math 141
  - Math 142
  - Math 150
  - Math 151 (2 sessions/wk)
  - Math 152
  - Math 166
- These sessions, staffed by departmental Academic Professional Track faculty, are very popular. Often with standing room only, even on Sundays.

On-Demand Support
- Dedicated Help Pages:
  - The department has dedicated help pages available for Pre-Calculus and Calculus, containing videos, supplemental course materials, and test banks.
  - The Virtual Math Learning Center (see below) will replace those pages by state-of-the-art online educational technology and additional resources.
- Pre-Calculus Misconceptions Boot Camp:
  - This is a self-paced online (no credit) course to help students solidify knowledge and eliminate pre-calculus misconceptions.
  - Many students with borderline scores in the MPE choose to take this course and recent data shows that their performance improves considerably when compared to peers with same MPE scores who did not participate in the Boot Camp.
- Calculus Bridge Programs:
  - The Calculus Bridge Program is designed for any TAMU student enrolled in Calculus II or Calculus III who wants to review concepts from previous math courses and preview concepts in the next calculus course. Students spend three hours per day attending online sessions for one week, reviewing the most important aspects of their last math class and getting familiar with the new material they will learn in their next math class, giving them a head start going into the semester.

Supplemental Instruction
- Peer Led Team Learning:
  - Students are grouped into cohorts of about eight people. They meet once a week, outside of regular class, each group under the guidance of a senior peer leader. These PLTL leaders are trained to help their peers in active-learning activities.
  - The activities are designed by faculty coordinators, who compose worksheets and assignments for the group activities.
  - This option is offered for off-semester courses in the Engineering Calculus sequence for Freshmen (Math 151, 152). Our PLTL activities are impact are designed primarily to impact those students who are already falling behind in the sequence.

Support for Math Majors
- Regent’s Scholars Mentoring
  - All Regent’s scholars have now a dedicated advisor (Marcia Drost, Senior Lecturer and Math Freshmen advisor) who meets with each one of them individually for about 30 minutes per week.
In those sessions, students address all types of issues, ranging from study strategies and adaptation issues, to math questions from the courses they are taking.

**Advising structure/software:**
- We have developed a carefully designed advising web page, addressed both to our current majors and to prospective students. Despite its simplicity, the page is extremely functional and helps our majors to have their questions quickly directed to the right advisor and promptly answered.
- The last link in the page gives TAMU students (via Netld login) the ability to make appointments with our advisors by directly accessing an appointment calendar showing the chosen advisor's availability. On the other end, advisors get notification of appointment, with student's information and a synopsis of the meeting's purpose. This expedites the process and creates an effective advising system.
- We use open-source software developed in-house by our IT staff.

**Job placement and career advising**
In addition to individual advising, Career Fair panels and similar activities, we also give opportunity for our majors to have a broad view of career possibilities and areas of interest in Mathematics via the activities conducted by two clubs:
- The Math Club:
  - Regular meetings with talks by faculty, activities of interest, Pi-Mu-Epsilon meetings (Math Honor Society).
  - Bi-Weekly Math Contests (for a prize)
- The Aggie Actuaries Club:
  - The purpose of this organization is to help Aggie students further their understanding of actuarial science and is done so by exposing students to market leaders in the field. This not only allows for students to introduce themselves to potential employers but it also is an engaging learning experience.
  - Companies (mostly from Houston, Dallas and Austin) visit the club weekly and talk about what they do, how they do it, and overall serve as a source for students to ask questions and learn more about what an actuary does on a daily basis and what are their career prospects.

**Use of Technology**
Technology has played an increasing role in recent years, ranging from the way we deliver instruction, to the current paradigm of student learning and the way we assess learning outcomes. A brief summary of how technology has been utilized in our courses is as follows:

1. **Students:**
   - Students in Math 151/152/308 utilize MATLAB, and the first two courses has a 3-2 meeting format where one of the lab hours is devoted to using MATLAB.
     - These assignments are accompanied by videos that show students how to use MATLAB commands pertaining to the assignment at hand and to solve similar problems.
     - Non-STEM students use graphing calculators in an integrated way during the entire course. Calculator source code is made available to students.
     - These courses use online homework systems. Information about homework, lab assignments and additional support structures are available to the students in our Courses and General Information pages.

2. **Instructors:** Technology in various forms is used by instructors. This varies from the standard use of Beamer/Power Point presentations, to fully integrated SmartBoard class delivery coupled with Learning Management Systems (the version of Blackboard at A&M is called eCampus) where the "captured" classes are stored and made available to our students. Instructors have utilized active learning systems such as Learning Catalytics, and Clickers are also widely
Relationship with Client Departments.
Our department maintains a continuous dialogue with client units throughout the university to ensure we are serving their needs and meeting their expectations. To support the recent growth of the College of Engineering, our major client, we spent a period of two years have bi-weekly meetings between the Department of Mathematics and Associate Deans and advisors from Engineering. Some of goals and initiatives implemented include:

- Early intervention initiatives, to detect student at risk at an early stage and take prompt action to address their difficulties;
- Curricular alignment between freshmen engineering courses and freshmen math;
- Course placement strategies, including the MPE (Math Placement Exam) and the Ready-Set-Go exam.
- Remedial measures and supplemental instruction.

Our department is also involved with the accrediting process for Engineering through ABET (the Accrediting Board for Engineering Technologies). This process involves examining our course syllabi, textbooks, and sample exams in our engineering mathematics courses. Recently, the Colleges of Science and Engineering formed a joint committee to revise the Math, Physics and Engineering freshmen curriculum, aiming at revamping and uniformizing courses across the board. The contents of math classes were uniformly vetted by the various departments in the College of Engineering.

With the Colleges of Business and Liberal Arts we also maintain a close relationship, meeting periodically to discuss common issues, curriculum and course offerings. We often address the AOC (Academic Operations Committee) Deans Meetings to answer their questions about the various services we offer to the university.

Initiatives in Development.

- PreCalculus Package: In collaboration with WebAssign, we are currently developing a PreCalculus packaged product that will contain an e-textbook, videos, and adaptive learning technology to deliver homework, along with an online delivery system.
- Calculus Concept Inventory test-bank: Starting with the test-bank for the randomized Final Exams in Math 151 and Math 152, we will establish a comprehensive test-bank based on carefully designed learning outcomes based on national calculus standards.
  - The long-term goal is to develop a product that will set standards and be disseminated.
- Mathematics Virtual Learning Center:
  - Recognizing that many students are now as comfortable in the virtual world as in the physical world, we are developing a virtual math-learning environment where students will find a rich set of tools, instructional materials, and content.
  - Currently, the Department of Mathematics houses a large collection of online instructional materials that have been created in-house since the mid 90's. Our students rely heavily on these materials to study the subject matter and prepare for exams.
  - This environment will host a community of learners where students can connect, interact, collaborate, and learn with their peers.
  - There will be authoring tools and mechanisms in place to help math faculty produce online materials, including self-publishing of texts and lecture notes.

- Highlights of current Video Resources
  On peak periods we reach
  - more than 4,000 hits per day
  - close to 2,400 files assessed per day
- more than 954,000 hits per year

In our video collection we have roughly 5,387hrs (or 224.5 days) worth of videos that are accessed by our students. The most significant examples include
- Online classes (ranging from Math 141 online to our online MS program)
- A large collection of Week-in-Review videos
- Solutions of past common exams (by Amy Austin)
- Vast collection of videos for our Calculus classes (Math 151, 152, 251) by many instructors: Amy Austin, Art Belmonte etc.

- Goals

- Create a dedicated web site (similar to Khan Academy) that will organize our online resources and supplemental instructional material in a single, functional and visible space.
- Develop study guides and self-learning material that students can use to navigate the video library and other resources.
- Create a mechanism to track A&M students' usage of resources by their UIN.
- Create an online help center with real time answers to student questions and guidance on the use of our resources.
- The videos will be tied to our posted weekly course content and syllabi.
- This will be a useful resource to our students, new instructors and graduate students in training to become instructors of record.
- This will give instructors some freedom to dedicate more class time to active learning drills and similar in-class activities.
- Create a library of master classes by recording live classes of various skillful instructors, comprising an entire semester of each of the basic engineering calculus courses.

- Benefits

- Our students will have a much better venue to access our resources.
- The Virtual Learning Center will be a one-stop center where students can find answers to most of their questions and study guides that will improve their chances of success in our exams.
- With the ability to track usage by UIN we will connect the utilization of our resources with early intervention initiatives currently taking place, jointly with the College of Engineering.
- Together with early intervention initiatives mentioned in the previous bullet, the proposed Virtual Learning Center is expected to both help reduce time-to-degree and improve retention of at risk engineering students.

- The Maplets for Calculus project

- This NSF funded project develops interactive tools for Calculus I, II and III, where students can visualize and interactively solve math problems on a graphic environment, utilizing the Maple machine in the background.
- Maplets are also being utilized in the classroom by many instructors, an auxiliary tool to explain math concepts

- Commercial Partnerships:

- Calculus video game program:
  - We are partnering with Triseum, a local spin-off company from the VizLab in the College of Architecture (Department of Visualization) in the development of a series of math video games.
  - They are producing Variant a calculus video game whose
Our Service Role

Proof-of-concept was developed through a joint TOPS grant between the Dept. of Mathematics and the Visualization Dept. (PI's: P. Lima-Filho and A. Thomas, $100K).

- The game is currently being tested in some of our calculus sections. Mathematics faculty are involved in the further development of the game as content experts.

- Partnership with WebAssign to offer various tools to our students. The most recent project is the Pre-Calculus package mentioned above. Other projects are:
  - The MPE, PPP, Ready-Set-Go and the Pre-Calculus Bootcamp
Assessment, Evaluation, Promotion and Review Procedures

All faculty, staff, and graduate students are evaluated annually both for the purpose of merit raises and to encourage improved performance and personal growth. In addition, our curriculum programs (graduate, undergraduate, and service) are overseen by the appropriate committee and/or administrative member(s) of the department. Here is a summary of how the faculty, staff, graduate students, and programs are evaluated and assessed.

Review Process for Faculty. Each faculty member is required to submit an annual report early in the spring term. For tenured and tenure-track faculty, this "annual report" covers the previous three calendar years in order to provide a broader picture of accomplishments rather than just evaluating the previous year's record. The Executive Committee of the Department, which is chaired by the Head, is in charge of evaluating the faculty on the basis of these annual reports. These evaluations take into consideration the contributions made to research, teaching and service. For research, the emphasis is on measuring the impact of the faculty member's work, as measured by publications, grants, and invited talks. Teaching evaluation includes classroom performance, as well as the impact of any curriculum reform efforts (either within the department or elsewhere). To facilitate the evaluation, the Executive Committee receives input from our Teaching Committee, which reviews teaching evaluations from students (sample on line form) grade distributions, class materials (hard copy or on line) and also performs an in class observation for the Assistant and Associate Professors. Service includes departmental committee work, service to the profession (e.g. conference organization), and service to the community (e.g. outreach activities). Of course, some activities fall under more than one rubric. For example, directing and mentoring graduate students contributes to both the teaching and research missions of the department. As another example, conference organization is a service to the profession, but it also enhances and facilitates the organizer's research program.

The evaluation of tenure track faculty is currently undergoing a transition. Under the current paradigm, each tenured or tenure-track faculty member is rated on a scale of Excellent, Good, Satisfactory, or Unsatisfactory with various gradations (plus, minus) in between. There are no fixed percentage weights on the contributions of research, teaching, and service. The change that is being phased in (university wide) is that there should be three separate evaluations, one for each category. Moreover, and importantly, an unsatisfactory evaluation in one of the categories should result in an overall unsatisfactory evaluation, with the attendant consequences (develop a plan for improvement, etc). While each faculty member is invited to discuss their evaluation with the Head, Assistant Professors are required to do so and discuss their progress towards tenure.

Postdocs (Visiting Assistant Professors) are evaluated on the basis of their research and teaching (service is not emphasized). The evaluation is done by the Head in consultation with the postdoc's mentor. As with Assistant Professors, each postdoc is required to discuss their evaluation with the Head. However, the tone of this discussion is very much in the spirit of answering the question: what can the postdoc and the department do to help develop his or her career and maximize the chances of landing a fulfilling job upon completion of the postdoctoral appointment?

Academic Professional Track (APT) faculty are evaluated by the Assistant Head for APT Faculty Affairs in conjunction with the Associate Head for Operations and Undergraduate Studies. For faculty with instructional titles, the evaluation criteria include classroom teaching, the impact of curriculum development (e.g. electronic curriculum delivery, textbook writing), service (e.g. course coordination, review sessions, help-session coordination), or other scholarly activities (for example
research in mathematics education). For Lecturers and Senior Lecturers, the evaluation is based entirely on classroom teaching related activities.

**Review Process for Graduate Students.** Graduate students who already have a thesis advisor are reviewed annually by the advisor; this review is reported to the Graduate Committee. Students who have not yet chosen an advisor are reviewed by the Graduate Committee.

**Review Process for Staff.** Each staff member has a primary supervisor who is responsible for monitoring the staff member's performance and conducting their annual review. In some cases, the supervisor is a senior staff member. In other cases, the supervisor is a faculty member with an administrative role in the department. For example, the assistant to the graduate program (Monique Stewart) is supervised by the Associate Head for Graduate Studies (Peter Howard). Here is a link to the staff organizational chart [link] which shows the reporting lines from staff to their supervisors. The review process for staff is overseen university wide by University's Department of Human Resources (HR). HR mandates that each staff member be given a written annual review along with a face to face meeting with his or her supervisor. A copy of the University's annual review form is available upon request.

**Curriculum Review Committees.** As mentioned in the section on departmental operations, we have standing committees to review our graduate program, undergraduate program for majors, and non-STEM core curricula. Our graduate and undergraduate program committees meet regularly (at least once per month) to discuss program requirements (e.g. qualifying exams, courses which count for the major) as well as the curricula of existing courses and proposed new courses. The Non-STEM Core Committee meets as needed. Engineering Mathematics issues are handled by the Associate Head for Operations and the Assistant Head for APT Affairs (in her role as supervisor of first year instruction) through regular contact with the College of Engineering. These contacts are facilitated by the Associate Dean for Undergraduate Programs in the College of Science and also involve Chemistry and Physics and Astronomy (the two other large providers in the college of service to engineering).

**Promotion Process.** Our department has two promotion subcommittees for tenure track faculty: Subcommittee T, which assembles the materials for promotion cases to the rank of Associate Professor with Tenure; Subcommittee P, to handle promotion cases for Professor. Subcommittees T and P are elected by the tenured faculty, and the professors, respectively. In the spring of each year, subcommittees T and P consult with the tenured faculty (in the case of T), or the professors (in the case of P) to formulate recommendations on who should be considered for promotion to Associate and Full Professor, respectively. Once a set of promotion candidates has been determined, these subcommittees assemble the information needed to document each promotion case (vitae, referee letters, reports from the teaching committee etc.). Subcommittees T and P do not record votes on promotion candidates. Instead the tenured faculty (in the case of promotion candidates to Associate Professor) or the Professors (in the case of promotion candidates to Professor) vote on each promotion candidate after discussing each case in a meeting chaired by a member of the promotions subcommittee. At least two thirds yes votes among all votes cast for or against are required for the result to be considered a positive recommendation by the faculty to promote a candidate. After the vote, the subcommittees write a report on each candidate summarizing the vote and the discussion of the merits of the case. The Head of the Department also writes a report formulating his or her recommendation on the case. The faculty vote, the subcommittee reports, and the report of the Head are then forwarded to the Dean of the College.

The procedures for promotion of faculty with instructional titles are analogous, except that the eligible voters consist of all tenured faculty plus all Instructional Associate and Full Professors (in the case of promotion to Instructional Associate Professor), and all Professors and Instructional Professors (in the case of promotion to Instructional Professor).

For promotion to Senior Lecturer, the APT Affairs Committee takes the lead. Each year in the spring, in consultation with the Head and the Associate Head for Operations and Undergraduate Affairs, the committee prepares a list of candidates to be considered for promotion to Senior Lecturer. The committee prepares a dossier for each candidate (vita, departmental teaching evaluations, evaluations of service activities, scholarly activities). The cases are discussed in a meeting of all Senior Lecturers and all faculty with an instructional title. This group then votes on whether to recommend promotion. Taking all the information into account, the APT Committee provides its own recommendation as well. These recommendations,
together with the complete dossiers, are forwarded to the Head. The Head, in consultation with the Associate Head and the Assistant Head, then formulates his or her own recommendation. The complete dossier, along with all the recommendations, is then forwarded to the College of Science.
Outreach Programs
The department has numerous outreach programs designed for undergraduates and secondary high-school students. These activities are coordinated by a departmental Outreach Committee, currently chaired by Oksana Shatalov. The following activities are included in our Outreach Programs:

- **Research Experiences for Undergraduates.** For the past eighteen years, the department has operated a NSF-funded REU site grant (Pis on the current grant are Maurice Rojas and Anne Shiu). This program brings in 15 to 20 students each summer to participate in mentored research in one of three fields: mathematical biology (organized by Anne Shiu), number theory (organized by Riad Masri and Matt Young), and computational algebraic geometry (organized by Maurice Rojas). REU participants are required to give presentations on their work at the end of the summer program. The grant pays stipends plus living and travel expenses for the participants. The department provides salaries for mentors from its summer budget. During the past three years, the REU grant has supported 45 participants - 18 in algebraic biology, 13 in algorithmic algebraic geometry, and 14 in number theory. The gender breakdown is 22 males and 23 females. More details on the REU program are available from the department's web page.

- **High School Mathematics Competition.** Each fall, the department runs a high-school mathematics competition with a variety of contests suitable for students at different levels. Well over 400 students from around the state participate each year. The director of the competition is Oksana Shatalov.

- **Other Competitions.** The department sponsors a Putnam Exam team, coached by Doug Hensley. Doug also sponsors a freshman-sophomore mathematics competition in the spring of each year. In association with Math Awareness Month, the department hosts an Integral Bee and a Derivative Bee. These are calculus competitions offered in the style of a spelling bee. The competitions are organized by David Manuel and other members of the department.

- **Mathematics and Statistics Fair.** The Mathematics and Statistics Departments host an annual fair to showcase the fun and beauty of our fields. We have games, puzzles, arts and crafts, talks and more. Fun for the whole family. This fair is held as a precursor for Mathematics and Statistics Awareness Month.

- **TAMU Math Circle.** The TAMU Math Circle is a weekly gathering of 5th, 6th, 7th and 8th grade math students from the Brazos Valley to do interesting and fun math activities with faculty from our Math Department. It is jointly sponsored by the Electrical and Computer Engineering Department. For information contact the faculty sponsors, Frank Sottile or Philip Yasskin.

- **Brazos Valley Math Teachers' Circle.** Throughout the year, a group of faculty along with high-school and middle-school teachers meet periodically to promote a culture of enjoyment of mathematics problem solving with the expectation that the teacher participants will take these activities and their enthusiasm back to their classrooms. The Mathematics Department organizer of this Math Circle is Phil Yasskin.

- **SMART Camp.** A Summer Mathematics Research Training camp for high school students. This enrichment camp is part of the NSF-funded MCTP program and lasts about 2 weeks. The main topics revolve around number theory, combinatorics, and algebra. Important applications are addressed, such as coding and logical circuits. This camp is organized by Peter Kuchment and Oksana Shatalov.

- **Summer Educational Enrichment in Mathematics.** For the past fourteen years, the Texas A&M Math Department has sponsored a Summer Educational Enrichment in Math (SEE-Math) Program for middle school students entering the 6th, 7th or 8th grade. This two week day-program is filled with activities, puzzles and contests designed to inspire

<table>
<thead>
<tr>
<th>Table of Contents:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charge to External Review Team</td>
</tr>
<tr>
<td>Executive Summary</td>
</tr>
<tr>
<td>Introduction to the Department</td>
</tr>
<tr>
<td>Overview of Faculty</td>
</tr>
<tr>
<td>Graduate Program</td>
</tr>
<tr>
<td>Undergraduate Program</td>
</tr>
<tr>
<td>Service Teaching, Operations</td>
</tr>
<tr>
<td>Assessment, Evaluation, Promotion &amp; Review</td>
</tr>
<tr>
<td>Outreach Programs</td>
</tr>
<tr>
<td>Centers and Institutes</td>
</tr>
<tr>
<td>Summary of Goals</td>
</tr>
<tr>
<td>Appendices</td>
</tr>
</tbody>
</table>
middle school students. It is organized by Phil Yasskin.

- **AP Calculus and Pre-AP High School Mathematics Institute.** Organized by Sandra Nite, our week-long summer AP Institute offers a choice of five training classes for high school teachers from pre-AP Calculus up through BC level Calculus. This institute not only provides valuable curriculum ideas which teachers can bring back to their high-school classes, it also creates a valuable network which is helpful in recruitment to other outreach programs (such as our high-school mathematics competition) and to our undergraduate mathematics major.

- **Teacher Quality Grant program.** Supporting Mathematics in STEM Education (SMSE) is a Teacher Quality Grant Program funded by the Texas Higher Education Coordinating Board. SMSE runs from February 1, 2016 through February 28, 2018. It provides 100-110 hours of professional development over the course of the year. The faculty sponsors are Don Allen and Sandra Nite.

More information on our outreach programs is available from the department's web page.
Centers and Institutes

There are two centers located within the Department of Mathematics, the Center for Approximation Theory and the Center for Technology Mediated Instruction in Mathematics.

Center for Approximation Theory.

The Center for Approximation Theory (CAT) was founded in September 1981, by Charles K. Chui, L. L. Schumaker, and J. D. Ward. Currently, the director is Professor Francis Narcowich. The Center for Approximation Theory is part of the Department of Mathematics and enjoys its facilities and staff assistance. However, CAT has no budget line of its own. Its support stems from grants awarded to its members by agencies such as NSF, ARO, AFOSR, and so on. Over the years the members of CAT have helped organize the International Conference on Approximation Theory, which originated in 1973 at UT Austin; the 15th in the series was held in San Antonio in May of 2016. In addition, CAT is of course involved in organizing seminars related to approximation theory, including ones that are interdisciplinary.

Here are the faculty currently associated with the Center: Ronald DeVore, Tamas Erdelyi, Simon Foucart, Boris Hanin, Francis Narcowich, Guergana Petrova, Bojan Popov, N. Sivakumar and Joseph Ward. In the period 2009-2017, these faculty have produced over 150 publications (in print or accepted) and seven have been funded by NSF, ONRL, DARPA and other agencies. In addition, they have organized/co-organized a number of symposia and conferences. It is especially noteworthy that Ronald DeVore has been elected to the National Academy of Sciences.

The research interests of this group are varied; they include compressive sensing, "big data" analysis, deep learning neural networks, approximation in high dimensions, polynomial inequalities, scattered-data surface fitting on Riemannian manifolds using highly localized kernel bases, Galerkin mesh-free methods for solving PDEs and non-local diffusion problems, greedy algorithms, non-linear approximation, and applications.

There are significant overlapping interests with a number of groups within the department — applied mathematics, numerical analysis/scientific computing, and partial differential equations/mathematical physics —, and outside of it: chemistry (group theory and orbital calculation), computing science, electrical (signal and image processing) and mechanical engineering (non-local perodynamic problems), geosciences, physics (quantum calculations) and others. In the future, the Center should strive to foster synergistic activities among workers in these areas — both at Texas A&M and at government labs and other universities — and those here in approximation theory, via seminars, symposia and increased activity in organizing conferences.

Center for Technology Mediated Instruction in Mathematics.

Due to the retirement of its long time director Don Allen, this center is now under new leadership. The new director is Associate Head for Operations and Undergraduate Affairs Paulo Lima-Filho; the new Associate Director is Assistant Head for APT Faculty Affairs Jennifer Whitfield. The center will continue the previous initiatives in K-12 schools but will now expand its focus to address (1) recent departmental and college initiatives to improve success rates of students in college
credit bearing math courses, (2) distance learning by expanding selected undergraduate courses to an online format, (3) current trends in video production by establishing a state-of-the-art video production studio, and (4) the need for "on demand" learning by establishing a Virtual Learning Center. Expanding the focus of the center will better align the mission of the center with departmental/college/university initiatives and will better position the center to compete in funding opportunities at the local, state, and national level.

In addition to these two centers, the Department of Mathematics plays a major role in two interdisciplinary institutes that are housed in the College of Science: the Institute for Scientific Computation (ISC) and the Institute for Applied Mathematics and Computational Sciences (IAMCS).

Institute for Scientific Computation.
The ISC is directed by Yalchin Efendiev, who holds the Mobil Chair in Computational Science (together with Jean-Luc Guermond) in the Department of Mathematics. It is a multidisciplinary research center devoted to designing, analyzing, and implementing innovative computational tools that advance scientific engineering research and education. ISC researchers include internationally recognized Texas A&M faculty members devoted to collaborating on major national and global research efforts with other universities, industrial partners, and the government. The ISC also serves as an excellent training ground for students, both graduate and undergraduate, and postdoctoral scholars in a variety of academic disciplines within scientific computing technologies. Eight current members of our department, along with several emeriti, are affiliated with the institute.

Institute for Applied Mathematics and Computational Sciences.
The IAMCS was established as the result of a Global Research Partnership (GRP) award from King Abdullah University of Science and Technology (KAUST) and is a joint effort of Texas A&M University and the Scientific Computing and Imaging Institute at the University of Utah. In June 2008, IAMCS received official Institute designation by the A&M System Board of Regents. The Global Research Partnership ended August 2014, however, IAMCS continues to operate independently. The Institute is fundamentally a collection of applied mathematicians, statisticians, and computer scientists dedicated to the promotion of leading edge research within the interdisciplinary field broadly known as the computational sciences. Its mission is to engage in the underlying development of the core field of computational science through research on cutting edge problems that are motivated and framed by their ability to enable fundamental research in other disciplines. Two current faculty members (Yalchin Efendiev, William Rundell) and one emeritus (Jay Walton) serve on the institute’s Executive Committee. Eight additional department members are affiliated researchers.

Finally, the Texas A&M Institute for Data Science is currently being assembled. The department will play a significant role in this new institute.
**Summary of Goals.**

Below we give summaries of our goals for the next five to ten years in the areas of faculty, graduate program, undergraduate program, and service/operations. Details are in the respective sections of this self-study document.

**TT Faculty Hiring**

Our hiring strategy for the next five to ten years is based on the following considerations. Mathematics plays a critical role in resolving some of the outstanding scientific challenges facing our state and country. The next decade will see tremendous competition to build and maintain mathematical research teams that can make significant advances on these and other essential issues. At the same time, the distinction between "pure" and "applied" mathematics has been obsolete for some time now. Indeed, many of the themes we set forth below have arisen organically inside of and by exchanges between more "pure" research groups which possess the tools to attack important questions of broader scientific interest. In addition, given the size of our department, we aspire to have significant strength in most areas. For some areas, this means continuing to build, in others, it simply means to preserve existing strengths.

We first discuss two issues/opportunities where area considerations will play a comparatively minor role.

1. **Fill the new chair from the Powell donation**
   - We plan to fill this chair within two years, ideally with a National Academy caliber candidate (current or future); identification of potential candidates has begun.

2. **Hire female TT faculty**
   - Having an adequate number of female tenure stream faculty is of critical importance to our teaching and research mission. These women are role models, and often mentors, to female students and post-docs.

We now discuss five topical areas in (items 3) through 7) below) around which we plan to organize our hiring strategies. These areas are not disjoint; often, hiring in one will contribute to another. The Goals section in the document titled Faculty will explain in detail how strengths we already have and new hiring will fit into these broad themes.

1. **Complexity, Quantum Computing**
   - Recently, theoretical mathematicians have made substantial contributions to computer science in the areas of quantum computing, complexity, and the design of algorithms. The subject lies at the triple juncture of mathematics, physics, and computer science and thus offers excellent opportunities for interdisciplinary collaborations.

2. **Randomness: Probability, Combinatorics**
   - Many seemingly unrelated research topics - cellular networks, data analysis, epidemiology - involve the study of random phenomena. Combinatorics has become increasingly important in the study of networks; recent applications also include applications to biology and chemistry. A research field which brings together both the probabilistic and counting techniques is the study of random matrices.

3. **Mathematical Cryptography and Cyber Security**
   - Advances in number theory and arithmetic algebraic geometry are at the heart of modern cryptographic algorithms. Research in number theory, arithmetic algebraic geometry, combinatorics, and probability all contribute directly to the development of more secure cryptographic systems (see also 8) below for the problem of anomaly detection); there is
also considerable overlap with 4) above).

4. Computation: Uncertainty Quantification
This area has developed rapidly in recent years and is now recognized as an important subdiscipline within computational mathematics. But the study of randomness and uncertainty is of increasing importance across many mathematical disciplines, but is not currently well-represented in the department (see also 3) and 4) above).

5. Imaging, Inverse Problems
The tools here, while based on partial differential equations, require broad knowledge of mathematical analysis and geometry as well as sophisticated computational techniques, making the area of inverse problems not only interdisciplinary but also omni-disciplinary within mathematics itself.

6. Big Data
Big Data, ubiquitous in discussions about applications of the mathematical sciences, intersects all of the previous topical areas; in fact, these areas contribute in essential ways. We therefore propose to continue building strength in Big Data by strategic hires in areas 3) through 7).

APT Faculty Goals

1. Encourage and promote professional development opportunities APT faculty.
   There are many professional development opportunities offered at the university that address teaching related topics. The APT faculty can directly benefit from attending these events and can also contribute their own experiences to enhance the quality of these opportunities.

2. Improve the student experience in the Math 14x and Math 16x sequence.
   Organize a resource structure similar to that of the Math 15x sequence. For the Math 15x sequence, there is a host of resources available to the students. These include past common exams, videos, and instructor's old notes.

3. Design and implement a mentoring program for APT faculty.
   The range of teaching experience among APT faculty is large. A mentoring program would greatly benefit APT faculty that are new to the department and/or new to teaching.

4. Create a climate that fosters and encourages collaboration among APT faculty.
   This climate already exists, but we are ready to take it to the next level. Sharing of ideas regarding teaching effectiveness and professional development will be done through monthly seminar series or other organized gatherings for APT.

5. Improve teaching effectiveness among APT faculty.
   Many APT faculty are already effective instructors, but they can become even better by engaging in reflective practices.

Graduate Program Goals

1. Expand the graduate program.
   In Fall 2017, we had 118 students in our PhD program, with only 98 supported on teaching assistantships and 7 supported on research assistantships. Our tenure/tenure-track faculty size for Fall 2017 was 73. For comparison, a table of data from peer institutions is given in the appendix. For example, the University of Illinois, Urbana-Champaign has a comparable number of tenure/tenure-track faculty (about 72), but is able to offer 133 assistantships at the rate $2,171/mo.

2. Eliminate fees and increase stipends.
   During the seven years from the previous review to this one, graduate stipends have not increased. Over time, we are becoming less competitive; as a result, recruiting top students.

3. Increase program diversity.
   Female and minority students are underrepresented, and it is critical that we make every effort to recruit talented students in these categories into our program.

4. Increase student teaching opportunities.
   Students interested in academic employment, and especially those interested in jobs with an emphasis on teaching, need the opportunity to develop a well-rounded teaching portfolio while in our program.

5. Increase student awareness of, and access to, non-academic jobs.
   From the academic year 2003-2004 to the academic year 2014-2015 the percentage of students receiving a PhD in
math in the US who took a job in industry rose from 12.7% to 25.9% (according to the AMS, most recent report).

**Undergraduate Program Goals**

1. **Retention and Student Success**
   The 1st year retention rate of 58% last year is slightly above national average and above our 8 yr average. Our goal is to raise this rate to 75% in the next 4 years, and to raise the 5-yr graduation rate to at least 50%.

2. **More effective recruitment of top students**
   Our goal is to increase the percentage of national Merit and Hispanic Scholars applying to our programs to at least 8% (currently 4.3% and 2.5%, respectively), and their acceptance rate to at least 40% (currently 20% and 26%, respectively), and to increase both rates for applicants in the 90-100 percentile High School rank to at least 60% (from the current 16.2% and 40%).

3. **Scholarships and Fellowships**
   Goals include more freshman scholarships to boost enrollment, scholarships to fund high impact learning experiences, and pursuing an endowment to allow for more substantial fellowships/scholarships targeting low-income high achievers.

4. **Curricula**
   - Expand the Horizons in Mathematics (Math200) experience.
   - Expand the Mathematical Modeling (Math442) experience.
   - Comprehensive curriculum reform
     a. Re-evaluate the current APMS tracks
     b. Potentially remove STAT and add Security, Encryption and Cryptography track
     c. Revamp the Math Biology track

5. **International and Cultural Experiences**
   a. More students in Study Abroad Programs
   b. Expand scope of international experiences

6. **Undergraduate Research**
   Continue to expand the program via increased student and faculty participation.

7. **Honors**
   Further increase the number of "unstacked" honors courses/sections (sections with only honors students, as opposed to "stacked" sections with both honors and non-honors students).

**Service/Operations Goals**

1. **Mathematics Virtual Learning Center**
   - On-line Math Academy: Organize our on-line resources and supplemental instructional materials in a single functional on-line environment that allows for topics searches, links related topics, etc (a la Khan Academy).
   - Study Guides: Develop study guides and self study materials that students can use to navigate our video library.
   - Create/develop an on-line help center with real time (on demand) answers to questions.
   - Library of "Master" Classes: Create a library of "Master" classes by recording live classes by some of our most skillful instructors, comprising an entire semester of each of the basic engineering calculus courses.
   - Publishing tools to assist faculty.

2. **Track use of on-line resources**
   Develop a mechanism that allows to track students' use of our online resources via their university identification number (UIN).

3. **PreCalculus Package**
   Develop a product that will contain an e-textbook, videos, and adaptive learning technology. This project is in collaboration with WebAssign.
4. *Calculus Concept Inventory Test Bank*

Based on our test bank for the randomized final exams in Math151 and Math152, establish a comprehensive test bank based on desired learning outcomes and national calculus standards.
• Table of Contents:
  • Charge to External Review Team
  • Executive Summary
  • Introduction to the Department
  • Overview of Faculty
  • Graduate Program
  • Undergraduate Program
  • Service Teaching, Operations
  • Assessment, Evaluation, Promotion & Review
  • Outreach Programs
  • Centers and Institutes
  • Summary of Goals
  • Appendices

Appendices
  • Faculty Profiles
  • List of Recently Hired Faculty
  • Mathematics Faculty Awards
  • Faculty Salary Peer Institutions
  • Faculty Age Demographics
  • Postdoc Data and Subsequent Employment
  • Student Diversity Profile - Math
  • Mathematics Ed Support Structures 2016
  • Degree Profile
  • Honors History
  • Grad Data
  • Computing Support
  • TAMU Institutional Profile
### Appendix - Faculty Hired Since 2010-2011

<table>
<thead>
<tr>
<th>Faculty Member</th>
<th>Rank Hired</th>
<th>Mathematical Subarea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gregory Pearlstein</td>
<td>Associate Professor (2013)</td>
<td>Algebraic Geometry</td>
</tr>
<tr>
<td>Zhizhang Xie</td>
<td>Assistant Professor (2013)</td>
<td>Non-Commutative Geometry</td>
</tr>
<tr>
<td>Edriss Titi</td>
<td>Owen Professorship (2013)</td>
<td>Partial Differential Equations, Fluid Mechanics</td>
</tr>
<tr>
<td>Alan Demlow</td>
<td>Associate Professor (2014)</td>
<td>Numerical Analysis</td>
</tr>
<tr>
<td>Dean Baskin</td>
<td>Assistant Professor (2014)</td>
<td>Partial Differential Equations, Microlocal Analysis</td>
</tr>
<tr>
<td>Anne Shiu</td>
<td>Assistant Professor (2014)</td>
<td>Algebraic Geometry, Mathematical Biology</td>
</tr>
<tr>
<td>Simon Foucart</td>
<td>Associate Professor (2015)</td>
<td>Compressed Sensing, Approximation Theory</td>
</tr>
<tr>
<td>Eviatar Procaccia</td>
<td>Assistant Professor (2015)</td>
<td>Probability</td>
</tr>
<tr>
<td>Robin Tucker-Drob</td>
<td>Assistant Professor (2015)</td>
<td>Dynamical Systems and Group Theory</td>
</tr>
<tr>
<td>Michael Brannan</td>
<td>Assistant Professor (2015)</td>
<td>Functional Analysis</td>
</tr>
<tr>
<td>Tian Yang</td>
<td>Assistant Professor (2017)</td>
<td>Geometric and Quantum Topology</td>
</tr>
<tr>
<td>Boris Hanin</td>
<td>Assistant Professor (2017)</td>
<td>Probability Theory and Stochastic Processes</td>
</tr>
<tr>
<td>Junehyuk Jung</td>
<td>Assistant Professor (2017)</td>
<td>Global Analysis</td>
</tr>
</tbody>
</table>

### Retirements and Resignations

<table>
<thead>
<tr>
<th>Faculty Member</th>
<th>Rank Hired or Retired</th>
<th>Mathematical Subarea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dante DeBlassie</td>
<td>Associate Professor (2010)(Resigned)</td>
<td>Probability</td>
</tr>
<tr>
<td>Douglas Hensley</td>
<td>Professor (2011)(Retired)</td>
<td>Number Theory</td>
</tr>
<tr>
<td>Itshak Borosh</td>
<td>Professor (2011)(Retired)</td>
<td>Number Theory</td>
</tr>
<tr>
<td>Robert Blakley</td>
<td>Professor (2011)(Retired)</td>
<td>Cryptography</td>
</tr>
<tr>
<td>Lewis Bowen</td>
<td>Associate Professor (2012)(Resigned)</td>
<td>Dynamics and Ergodic Theory</td>
</tr>
<tr>
<td>Carl Pearcy</td>
<td>Professor (2012)(Retired)</td>
<td>Functional Analysis</td>
</tr>
<tr>
<td>Albert Boggess</td>
<td>Professor (2013)(Resigned)</td>
<td>Partial Differential Equations</td>
</tr>
<tr>
<td>Guido Kanschat</td>
<td>Associate Professor (2013)(Resigned)</td>
<td>Numerical Analysis and Scientific Computation</td>
</tr>
<tr>
<td>Daniel Lewis</td>
<td>Professor (2013)(Retired)</td>
<td>Functional Analysis</td>
</tr>
<tr>
<td>Marcelo Aguilar</td>
<td>Professor (2014)(Resigned)</td>
<td>Algebra and Combinatorics</td>
</tr>
<tr>
<td>Colleen Robles</td>
<td>Assistant Professor (2015)(Resigned)</td>
<td>Differential Geometry</td>
</tr>
<tr>
<td>Dmitry Panchenko</td>
<td>Professor (2015)(Resigned)</td>
<td>Probability Theory</td>
</tr>
<tr>
<td>Bruce Lowe</td>
<td>Associate Professor (2015)(Retired)</td>
<td>Applied Mathematics</td>
</tr>
<tr>
<td>Ciprian Fulas</td>
<td>Professor (2015)(Retired)</td>
<td>PDEs and Operator Theory</td>
</tr>
<tr>
<td>Maurice Rahe</td>
<td>Associate Professor (2015)(Retired)</td>
<td>Ergodic Theory</td>
</tr>
<tr>
<td>Name</td>
<td>Title</td>
<td>Department</td>
</tr>
<tr>
<td>---------------------</td>
<td>------------------------------------------------</td>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>Janie Schielack</td>
<td>Professor (2016)(Retired)</td>
<td>Math Education</td>
</tr>
<tr>
<td>Thomas Kiffe</td>
<td>Associate Professor (2016)(Retired)</td>
<td>Integral Equations</td>
</tr>
<tr>
<td>Wolfgang Bangerth</td>
<td>Professor (2017)(Resigned)</td>
<td>Numerical Analysis and Scientific Computation</td>
</tr>
<tr>
<td>Donald Allen</td>
<td>Professor (2017)(Retired)</td>
<td>Applied Mathematics</td>
</tr>
<tr>
<td>Jay Walton</td>
<td>Professor (2017)(Retired)</td>
<td>Solid Mechanics</td>
</tr>
<tr>
<td>Joel Zinn</td>
<td>Professor (2017)(Retired)</td>
<td>Probability</td>
</tr>
<tr>
<td>Michael Pilant</td>
<td>Professor (2017)(Retired)</td>
<td>Partial Differential Equations</td>
</tr>
<tr>
<td>Michael Stecher</td>
<td>Associate Professor (2017)(Retired)</td>
<td>Partial Differential Equations</td>
</tr>
<tr>
<td>Thomas Vogel</td>
<td>Associate Professor (2017)(Retired)</td>
<td>Geometric Analysis</td>
</tr>
</tbody>
</table>
Mathematics Faculty Awards

Our current faculty have won a variety of awards for accomplishments in research and teaching. Major national and international awards for research accomplishments have been won by the following individuals:

- Harold Boas - 1995, Stefan Bergman Prize (joint with Emil J. Straube)
- Ron Douglas - 1980, Guggenheim Fellow
- Yalchin Efendiev - 2010, Fraunhofer-Bessel Award, Humboldt Foundation
- Rostislav Grigorchuk - 2016, Bogolyubov Prize (Ukrainian National Academy of Science), 2017 Steele Prize of the AMS (Research)
- William B. Johnson - 2007, Stefan Banach Medal
- Raytcho Lazarov - 2013, Marin Drinov Medal (Bulgarian Academy of Sciences)
- Joe Pasciak - 2007, Computational and Mathematical Methods in Science and Engineering Prize for Excellence in Research
- Gilles Pisier - 2001, Stefan Banach Medal; 1997, Ostrowski Prize; 1979, Salem Prize
- Emil Straube - 1995, Stefan Bergman Prize (joint with Harold Boas)
- Edriss Titi - 2009, Alexander von Humboldt Foundation, Humboldt Research Award for Senior U.S. Scientists.


Two of our faculty have given invited addresses at the International Congress on Mathematical Physics: Dean Baskin (2015), Gregory Berkolaiko (2015).


SIAM Fellow: Edriss Titi (2012)

The following faculty are members of various National and International Academies: Ron DeVore (2007 Bulgarian Academy of Science, 2001 AAAS, 2017 NAS), Ron Douglas (1989 AAAS), Steve Fulling, (Royal Society of Sciences at Uppsala, Sweden), Peter Kuchment, (2000 Fellow, Institute of Physics, UK, 2017 AAAS), Gilles Pisier (2005 Foreign Member of Polish Academy of Science, 2002 Academy of Science of Paris, Real Academia de Ciencias de Zaragoza, Indian National Academy of Science), William Rundell (2004, Fellow, Institute of Physics, UK), Edriss Titi (Fellow, Institute of
Departmental Sloan Award winners include Ron Douglas (1968), Laura Matusevich (2008), Grigoris Paouris (2011), Jon Pitts (1981), and Catherine Yan (2001).


There have been several University Level Research Awards won by our (current) faculty, including Harold Boas, Ron DeVore, Rostislav Grigorchuk, William B. Johnson, Joe Pasciak, Gilles Pisier, Emil Straube, and Thomas Schlumprecht.

The faculty in our department have also won major Awards in Teaching and Pedagogy. Harold Boas won the Lester R. Ford Award (2007), the Chauvenet Prize (2009), and the Paul Halmos – Lester Ford Award, all of which are awarded by the Mathematical Association of America for mathematical exposition. He also won a Distinguished Teaching Award from the Texas section of the MAA, and he was named both Presidential Professor for Teaching Excellence and Regents Professor here at A&M. He and Dave Larson won a University level Teaching Award sponsored by the Association of Former Students (AFS) at Texas A&M, Yalchin Efendiev their Award for Graduate Student Mentoring, and Sue Geller for Individual Student Relationships. Sue Geller also won a Ron Barnes Distinguished Service to Students award from the Texas Section of the MAA. The following faculty members have won College-level AFS teaching awards: Amy Austin, Art Belmonte, Harold Boas, Peter Howard, David Kerr, Greg Klein, Peter Kuchment, Dave Larson, Jon Pitts, William Rundell, and Oksana Shatalov. Vince Schielack and Jennifer Whitfield were named to the Chancellor’s Academy of Teacher Educators.
Weighted Average Faculty Salary Comparisons vs Peers vs TAMU University-wide vs College

<table>
<thead>
<tr>
<th>Rank</th>
<th>Year</th>
<th>Peer Results</th>
<th>TAMU University-wide</th>
<th>College of Science</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Source</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rank</th>
<th>Year</th>
<th>Peer Results</th>
<th>TAMU University-wide</th>
<th>College of Science</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Source</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) Source: Annual faculty salary survey submission data for full-time instructional faculty
(2) Relative market percentage is MATH all rank weighted average divided by comparison all rank weighted average
(3) Not including the department being compared to its college peers
(4) Weighted average includes only top threeTenure/Tenure track ranks
Age Demographics for Tenured and Tenure-Track Faculty

The Mathematics Department tenure-track faculty has grown from approximately 64 members in 2002 to 83 members in 2009 down to 73 member in 2017. The following three graphs show the change in our age demographics with the one on the top illustrating the age distribution in 2002, the one in the middle in 2009 and the one on the bottom in 2017.
Since 2009, we have hired 16 faculty members. In this same time period, 23 faculty members on our payroll have either resigned or retired. Some of the new hires were at the senior, or at least Associate Professor, level. The above graphs reflect this hiring in that the somewhat bimodal distribution form 2009 still survives, but shifted to the right by about 5 years. The bulge in the 60 to 75+ range indicates that the department should expect a steady and substantial stream of retirements over the next ten years. It will be crucial, in order to preserve the department's strengths, that these faculty members be replaced (at a minimum).
Appendix - Postdoctoral Faculty, 2009-2017

<table>
<thead>
<tr>
<th>Name</th>
<th>Citizenship</th>
<th>Gender</th>
<th>Ethnicity</th>
<th>Ph.D. Inst</th>
<th>Area</th>
<th>Mentor</th>
<th>Start-Date</th>
<th>1st Job</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guignard, Diane</td>
<td>Switzerland</td>
<td>F</td>
<td>White</td>
<td>Ecole Polytechnique Federale de Lausanne</td>
<td>Numerical Analysis</td>
<td>Bonito</td>
<td>19</td>
<td>Current</td>
</tr>
<tr>
<td>Jantsch, Peter</td>
<td>United States</td>
<td>M</td>
<td>W</td>
<td>University of Tennessee</td>
<td>Numerical Analysis</td>
<td>DeVore</td>
<td>18</td>
<td>Current</td>
</tr>
<tr>
<td>Ventura, Emanuele</td>
<td>Italy</td>
<td>M</td>
<td>W</td>
<td>Aalto University in Helsinki, Finland</td>
<td>Algebraic Geometry</td>
<td>Sottile/Landsberg</td>
<td>17</td>
<td>Current</td>
</tr>
<tr>
<td>Liao, Benben</td>
<td>China</td>
<td>M</td>
<td>Asian</td>
<td>Institut de Mathematiques de Jussieu-Paris Rive Gauche, France</td>
<td>Functional Analysis</td>
<td>Yu</td>
<td>17</td>
<td>Current</td>
</tr>
<tr>
<td>Rahm, Robert</td>
<td>United States</td>
<td>M</td>
<td>W</td>
<td>Washington University</td>
<td>Harmonic Analysis, PDE</td>
<td>Poltoratski</td>
<td>17</td>
<td>Current</td>
</tr>
<tr>
<td>Yu, Shilin</td>
<td>China</td>
<td>M</td>
<td>Asian</td>
<td>Pennsylvania State University</td>
<td>Noncommutative Geometry</td>
<td>Yu</td>
<td>17</td>
<td>Current</td>
</tr>
<tr>
<td>Tang, Xiaolian</td>
<td>China</td>
<td>F</td>
<td>Asian</td>
<td>Peking University</td>
<td>Symbolic Computation</td>
<td>Shi</td>
<td>17</td>
<td>Current</td>
</tr>
<tr>
<td>Gu, Cong</td>
<td>China</td>
<td>M</td>
<td>Asian</td>
<td>TAMU</td>
<td>Control Theory</td>
<td>Chen</td>
<td>16</td>
<td>Private</td>
</tr>
<tr>
<td>Cai, Yue</td>
<td>China</td>
<td>F</td>
<td>Asian</td>
<td>University of Kentucky</td>
<td>Algebra Combinatorics</td>
<td>Yan</td>
<td>16</td>
<td>Current</td>
</tr>
<tr>
<td>Lynch, Richard</td>
<td>US</td>
<td>M</td>
<td>W</td>
<td>University of Missouri-Columbia</td>
<td>Fourier Analysis, Fram Theory</td>
<td>Foucaert</td>
<td>16</td>
<td>Current</td>
</tr>
<tr>
<td>Zhang, Yuan</td>
<td>China</td>
<td>M</td>
<td>Asian</td>
<td>Duke University</td>
<td>Interacting Particle Systems and their applications</td>
<td>Proccacia</td>
<td>16</td>
<td>Current</td>
</tr>
<tr>
<td>Forsgaard, Jens</td>
<td>Sweden</td>
<td>M</td>
<td>W</td>
<td>Stockholm University</td>
<td>Complex/Toric/Tropical Geometry</td>
<td>Matusevich/Rojas/Sottile</td>
<td>15</td>
<td>Postdoc, University of Geneva Current</td>
</tr>
<tr>
<td>Harris, Isaac</td>
<td>US</td>
<td>M</td>
<td>Black</td>
<td>University of Delaware</td>
<td>Partial Differential Equations</td>
<td>Rundell/Bonito</td>
<td>15</td>
<td>Current</td>
</tr>
<tr>
<td>Kordek, Kevin</td>
<td>United States</td>
<td>M</td>
<td>W</td>
<td>Duke University</td>
<td>Algebraic Geometry</td>
<td>Pearlstein</td>
<td>15</td>
<td>VAP, Georgia Institute of Technology Current</td>
</tr>
<tr>
<td>Motakis, Pavlos</td>
<td>Greece</td>
<td>M</td>
<td>W</td>
<td>University of Athens</td>
<td>Functional Analysis</td>
<td>Schlumprecht/Johnson</td>
<td>15</td>
<td>Current</td>
</tr>
<tr>
<td>Tomas, Ignacio</td>
<td>Argentina</td>
<td>M</td>
<td>Hispanic</td>
<td>University of Maryland, College Park</td>
<td>Numerical Analysis</td>
<td>Guermond/Popov</td>
<td>15</td>
<td>Current</td>
</tr>
<tr>
<td>Zhang, Zheng</td>
<td>China</td>
<td>M</td>
<td>Asian</td>
<td>Stony Brook University</td>
<td>Algebraic Geometry</td>
<td>Robles/Pearlstein</td>
<td>15</td>
<td>Current</td>
</tr>
<tr>
<td>Plavnik, Julia</td>
<td>Argentina</td>
<td>F</td>
<td>W</td>
<td>Universidad National de Cordoba</td>
<td>Homological Algebra and Category Theory</td>
<td>Rowell</td>
<td>15</td>
<td>Current</td>
</tr>
<tr>
<td>Biard, Severine</td>
<td>France</td>
<td>F</td>
<td>W</td>
<td>Universite Pierre at Marie Curie, Paris VI</td>
<td>Complex Analysis</td>
<td>Straube/Boas</td>
<td>14</td>
<td>Postdoc Fellow, University of Iceland Current</td>
</tr>
<tr>
<td>deWolff, Timo</td>
<td>Germany</td>
<td>M</td>
<td>W</td>
<td>Germany</td>
<td>Goethe University</td>
<td>Rojas/Sottile</td>
<td>14</td>
<td>MSRI AP, University of</td>
</tr>
<tr>
<td>Kiral, Eren</td>
<td>Turkey</td>
<td>M</td>
<td>W</td>
<td>Brown University</td>
<td>Number Theory</td>
<td>Masri/Papanikolas/Young</td>
<td>14</td>
<td>Current</td>
</tr>
<tr>
<td>O'Neill,</td>
<td>United States</td>
<td>M</td>
<td>W</td>
<td>Duke University</td>
<td>Combinatorics</td>
<td>Matusevich</td>
<td>14</td>
<td>Current</td>
</tr>
<tr>
<td>Name</td>
<td>Gender</td>
<td>Nationality</td>
<td>Institution</td>
<td>Field</td>
<td>Advisor</td>
<td>Year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------</td>
<td>--------</td>
<td>-------------</td>
<td>-------------------------------------------</td>
<td>------------------------------------</td>
<td>---------</td>
<td>------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Christopher Skoufranis</td>
<td>W</td>
<td>Canada</td>
<td>UCLA</td>
<td>Operator Theory</td>
<td>Dykema</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Takhtirov, Aziz</td>
<td>M</td>
<td>Uzbekistan</td>
<td>University of Pittsburgh</td>
<td>Numerical Analysis</td>
<td>Guermond</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alexander Skoufranis</td>
<td>M</td>
<td>Canada</td>
<td>UCLA</td>
<td>Operator Theory</td>
<td>Dykema</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paul</td>
<td>W</td>
<td>United States</td>
<td>California Institute of Technology</td>
<td>Noncommutative Probability</td>
<td>Kerr/Anschelevich/Dykema</td>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avsec, Stephen</td>
<td>M</td>
<td>United States</td>
<td>Univ. of Illinois - Urbana-Champaign</td>
<td>Numerical Analysis</td>
<td>Bonito</td>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cacic, Branimir</td>
<td>M</td>
<td>Canada</td>
<td>University of Pittsburgh</td>
<td>Numerical Analysis</td>
<td>DeVore</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chang, Liang</td>
<td>M</td>
<td>China</td>
<td>University of California - Santa Barbara</td>
<td>Quantum Algebra and Topology</td>
<td>Rowell</td>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ikenmeyer, Christian</td>
<td>M</td>
<td>Germany</td>
<td>University of Paderborn</td>
<td>Computational Algebraic Geometry</td>
<td>Landsberg</td>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pollock, Sara</td>
<td>F</td>
<td>United States</td>
<td>Univ. of California-San Diego</td>
<td>Numerical Analysis</td>
<td>Bonito</td>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Welper, Gerrit</td>
<td>M</td>
<td>Germany</td>
<td>Rheinisch-Westfalische Technische Hochschule Aachen</td>
<td>Numerical Analysis</td>
<td>DeVore</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saroglou, Christos</td>
<td>M</td>
<td>Greece</td>
<td>University of Crete</td>
<td>Functional Analysis</td>
<td>Paouris</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shi, Ke</td>
<td>M</td>
<td>China</td>
<td>University of Minnesota</td>
<td>Numerical Analysis, Discontinuous Galerkin Methods</td>
<td>Lazarov</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sifuentes, Josef</td>
<td>M</td>
<td>United States</td>
<td>Rice University</td>
<td>Numerical Analysis, Computational Analysis</td>
<td>Efendiev/Bonito</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sukhtayev, Alm</td>
<td>M</td>
<td>Ukraine</td>
<td>University of Missouri-Columbia</td>
<td>PDE, Traveling Waves, Spectral Theory</td>
<td>Comechi/Howard</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valettas, Petros</td>
<td>M</td>
<td>Greece</td>
<td>University of Athens</td>
<td>Functional Analysis, Asymptotic Convex Geometry</td>
<td>Paouris</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White, Jacob</td>
<td>M</td>
<td>U.S.</td>
<td>Arizona State University</td>
<td>Topological Combinatorics</td>
<td>Sotille/Aguier</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buerg, Markus</td>
<td>M</td>
<td>Germany</td>
<td>Karlsruhe Inst. of Technology</td>
<td>Scientific Computation</td>
<td>Bangerth</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nazarov, Murtazo</td>
<td>M</td>
<td>Tajikistan</td>
<td>Royal Institute of Technology</td>
<td>Scientific Computing</td>
<td>Royal Institute of Technology</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lamby, Philipp</td>
<td>M</td>
<td>Germany</td>
<td>Rheinisch-Westfalische Technische Hochschule Aachen</td>
<td>Computational Fluid Mechanics</td>
<td>DeVore</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Larios, Adam</td>
<td>M</td>
<td>U.S.</td>
<td>Univ. of California, Irvine</td>
<td>PDE &amp; Numerical Analysis</td>
<td>Guermond/Pasciak/Foias</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Williams, John</td>
<td>M</td>
<td>U.S.</td>
<td>Indiana Univ.</td>
<td>Operator Theory</td>
<td>Dykema</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heister, Timo</td>
<td>M</td>
<td>Germany</td>
<td>Univ. of Gottingen</td>
<td>Numerical Analysis</td>
<td>Bangerth</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jin, Bangti</td>
<td>M</td>
<td>China</td>
<td>The Chinese Univ. of Hong Kong</td>
<td>Numerical Analysis &amp; PDE</td>
<td>Rundell</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zemlyanova, Anna</td>
<td>F</td>
<td>Russia</td>
<td>Louisiana State Univ.</td>
<td>Fluid Mechanics</td>
<td>Walton</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>McCarthy,</td>
<td>W</td>
<td>Ireland</td>
<td>Univ. College Dublin</td>
<td>Number Theory</td>
<td>Papanikolos</td>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

California Davis
AP, York University, Canada
Postdoc, University of Alberta
Research Scientist, Institute of Numerical Mathematics, Russia
Technical Staff, Open Data Group
AP, University of New Brunswick
Associate Research Fellow, Chem Institute of Math
Staff in Scientific field, Max-Planck Institute
AP, Wright State University
AP, University of Southern California
AP, Kent State University
AP, Old Dominion University
AP, The University of Texas Rio Grande Valley
VAP, Indiana University, Bloomington
Postdoc Fellow, University of Missouri
AP, University of Texas Rio Grande Valley
Private Sector
AP, Uppsala University, Sweden
Private Industry, Aachen, Germany
AP, University of Nebraska
Postdoc, University of Saarrucken, Germany
AP, Clemson
Reader at UCL
AP, Kansas State University
AP, Texas Tech
<table>
<thead>
<tr>
<th>Name</th>
<th>Gender</th>
<th>Ethnicity</th>
<th>Institution</th>
<th>Field</th>
<th>Advisor</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermot</td>
<td>M</td>
<td></td>
<td>University of Paris VI</td>
<td>Algebraic Geometry</td>
<td>Rojas/Sottile</td>
<td>10</td>
</tr>
<tr>
<td>Nisse, Mounir</td>
<td>M/W</td>
<td>Algeria</td>
<td>University of Paris VI</td>
<td>Algebraic Geometry</td>
<td>Rojas/Sottile</td>
<td>10</td>
</tr>
<tr>
<td>Vargo, James</td>
<td>M</td>
<td>US</td>
<td>Univ. of Washington</td>
<td>Partial Differential Equations</td>
<td>Kuchment</td>
<td>10</td>
</tr>
<tr>
<td>Wang, Xueying</td>
<td>F</td>
<td>Asian</td>
<td>The Ohio State Univ.</td>
<td>Mathematical Biology</td>
<td>Walton</td>
<td>10</td>
</tr>
<tr>
<td>Zeytuncu, Yunus</td>
<td>M</td>
<td>Turkey</td>
<td>The Ohio State Univ.</td>
<td>Several Complex Variables</td>
<td>Straube</td>
<td>10</td>
</tr>
<tr>
<td>Hauenstein, Jonathan</td>
<td>M</td>
<td>US</td>
<td>Univ. of Notre Dame</td>
<td>Algebraic Geometry</td>
<td>Sottile</td>
<td>10</td>
</tr>
<tr>
<td>Kwon, Bongsuk</td>
<td>M</td>
<td>Korea</td>
<td>Indiana University</td>
<td>Partial Differential Equations</td>
<td>Inst. of Sci. and Technology</td>
<td>09</td>
</tr>
<tr>
<td>Liaw, Constanze</td>
<td>M</td>
<td>US</td>
<td>Brown Univ.</td>
<td>Harmonic Analysis</td>
<td>Poltoratski</td>
<td>09</td>
</tr>
<tr>
<td>Liu, Sheng-Chi</td>
<td>M</td>
<td>Taiwan</td>
<td>The Ohio State Univ.</td>
<td>Number Theory</td>
<td>Young</td>
<td>09</td>
</tr>
<tr>
<td>Pauletti, Miguel</td>
<td>M</td>
<td>Argentina</td>
<td>Univ. of Maryland</td>
<td>Numerical Analysis</td>
<td>Bangerth/Walton</td>
<td>09</td>
</tr>
<tr>
<td>Avendano, Martin</td>
<td>M</td>
<td>Argentina</td>
<td>Univ. of Buenos Aires</td>
<td>Computational Algebra</td>
<td>Rojas</td>
<td>08</td>
</tr>
<tr>
<td>Boraevi, Ada</td>
<td>F</td>
<td>Italy</td>
<td>Univ. of Florence</td>
<td>Algebraic Geometry</td>
<td>Landsberg</td>
<td>08</td>
</tr>
<tr>
<td>Galvis, Juan</td>
<td>M</td>
<td>Columbia</td>
<td>Nat'l Inst. of math &amp; apply Pura</td>
<td>Numerical Analysis</td>
<td>Lazarov/Efendiev</td>
<td>08</td>
</tr>
<tr>
<td>Jimenez, David</td>
<td>M</td>
<td>Costa Rica</td>
<td>Georgia Institute of Technology</td>
<td>Approximation Theory</td>
<td>Petrova</td>
<td>08</td>
</tr>
<tr>
<td>Naidu, Deepak</td>
<td>M</td>
<td>India</td>
<td>University of New Hampshire</td>
<td>Algebra</td>
<td>Witherspoon/Aguilar</td>
<td>08</td>
</tr>
<tr>
<td>Nowak, Piotr</td>
<td>M</td>
<td>Poland</td>
<td>Vanderbilt</td>
<td>Analysis &amp; Noncommutative Geometry</td>
<td>Johnson/Grigorchuk</td>
<td>08</td>
</tr>
<tr>
<td>The, Dennis</td>
<td>M</td>
<td>Canada</td>
<td>McGill University</td>
<td>Algebraic Geometry</td>
<td>Landsberg</td>
<td>08</td>
</tr>
</tbody>
</table>

* Denotes a VIGRE Fellow

Ethnicity: W = White, B = Black, H = Hispanic, AS = Asian, AI = American Indian

AP = Assistant Professor; VAP = Visiting Assistant Professor
Student Enrollment Summary for Fall 2016, Fall 2015, Fall 2014, Fall 2013, Fall 2012, Fall 2011 by Semester by Demographics

Student Department: MATH

<table>
<thead>
<tr>
<th>Ethnic Origin</th>
<th>Fall 2011</th>
<th>Fall 2012</th>
<th>Fall 2013</th>
<th>Fall 2014</th>
<th>Fall 2015</th>
<th>Fall 2016</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian Only (NEW)</td>
<td>27</td>
<td>29</td>
<td>51</td>
<td>62</td>
<td>59</td>
<td>63</td>
<td>48.5</td>
</tr>
<tr>
<td>Black only + 2 or more/1 Black (NEW)</td>
<td>12</td>
<td>15</td>
<td>26</td>
<td>24</td>
<td>19</td>
<td>24</td>
<td>20</td>
</tr>
<tr>
<td>Hispanic or Latino of any Race (NEW)</td>
<td>86</td>
<td>123</td>
<td>191</td>
<td>167</td>
<td>153</td>
<td>160</td>
<td>146.6666667</td>
</tr>
<tr>
<td>International</td>
<td>90</td>
<td>99</td>
<td>100</td>
<td>90</td>
<td>99</td>
<td>105</td>
<td>100.1666667</td>
</tr>
<tr>
<td>American Indian Only (NEW)</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>2 or more/excluding Black (NEW)</td>
<td>17</td>
<td>26</td>
<td>17</td>
<td>14</td>
<td>12</td>
<td>13</td>
<td>16.5</td>
</tr>
<tr>
<td>Native Hawaiian Only (NEW)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Unknown or Not Reported</td>
<td>6</td>
<td>5</td>
<td>5</td>
<td>7</td>
<td>10</td>
<td>8</td>
<td>6.83333333</td>
</tr>
<tr>
<td>White Only (NEW)</td>
<td>342</td>
<td>396</td>
<td>386</td>
<td>386</td>
<td>394</td>
<td>384</td>
<td>379.6666667</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sex</th>
<th>Total</th>
<th>Fall 2011</th>
<th>Fall 2012</th>
<th>Fall 2013</th>
<th>Fall 2014</th>
<th>Fall 2015</th>
<th>Fall 2016</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>249</td>
<td>271</td>
<td>311</td>
<td>304</td>
<td>304</td>
<td>300</td>
<td>298.83333333</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>333</td>
<td>423</td>
<td>466</td>
<td>455</td>
<td>442</td>
<td>457</td>
<td>429.33333333</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>14</td>
<td>12</td>
<td>20</td>
<td>20</td>
<td>14</td>
<td>13</td>
<td>15.5</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>14</td>
<td>12</td>
<td>20</td>
<td>20</td>
<td>14</td>
<td>13</td>
<td>15.5</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>6</td>
<td>7</td>
<td>12</td>
<td>10</td>
<td>8</td>
<td>9</td>
<td>8.66666667</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>6</td>
<td>7</td>
<td>12</td>
<td>10</td>
<td>8</td>
<td>9</td>
<td>8.66666667</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>28</td>
<td>41</td>
<td>72</td>
<td>72</td>
<td>59</td>
<td>58</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>29</td>
<td>36</td>
<td>35</td>
<td>32</td>
<td>29</td>
<td>31.66666667</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>10</td>
<td>12</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>8.16666667</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>10</td>
<td>12</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>8.16666667</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>160</td>
<td>167</td>
<td>163</td>
<td>159</td>
<td>182</td>
<td>184</td>
<td>169.66666667</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>13</td>
<td>17</td>
<td>31</td>
<td>42</td>
<td>45</td>
<td>50</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>6</td>
<td>8</td>
<td>14</td>
<td>14</td>
<td>11</td>
<td>15</td>
<td>11.33333333</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>6</td>
<td>8</td>
<td>14</td>
<td>14</td>
<td>11</td>
<td>15</td>
<td>11.33333333</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>58</td>
<td>82</td>
<td>119</td>
<td>95</td>
<td>94</td>
<td>102</td>
<td>91.66666667</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>61</td>
<td>70</td>
<td>64</td>
<td>64</td>
<td>76</td>
<td>76</td>
<td>68.5</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Semester_Year
- Fall 2011
- Fall 2012
- Fall 2013
- Fall 2014
- Fall 2015
- Fall 2016

Average 719.16666667

Provided by Office of Institutional Studies and Planning, Texas A&M University
Nov 17, 2016
## Student Enrollment Summary for Fall 2016, Fall 2015, Fall 2014, Fall 2013, Fall 2012, Fall 2011 by Semester by Demographics

### Student Department: MATH

<table>
<thead>
<tr>
<th></th>
<th>Fall 2011</th>
<th>Fall 2012</th>
<th>Fall 2013</th>
<th>Fall 2014</th>
<th>Fall 2015</th>
<th>Fall 2016</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male 2 or more/excluding Black (NEW)</td>
<td>7</td>
<td>14</td>
<td>10</td>
<td>7</td>
<td>5</td>
<td>7</td>
<td>8.33333333</td>
</tr>
<tr>
<td>Native Hawaiian Only (NEW)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Unknown or Not Reported</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>6</td>
<td>8</td>
<td>7</td>
<td>5.66666667</td>
</tr>
<tr>
<td>White Only (NEW)</td>
<td>182</td>
<td>229</td>
<td>223</td>
<td>227</td>
<td>202</td>
<td>200</td>
<td>210.5</td>
</tr>
<tr>
<td><strong>Top 10 Percent Flag</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Top 10</td>
<td>345</td>
<td>398</td>
<td>397</td>
<td>389</td>
<td>412</td>
<td>439</td>
<td>396.66666667</td>
</tr>
<tr>
<td>Top 10</td>
<td>237</td>
<td>296</td>
<td>380</td>
<td>370</td>
<td>334</td>
<td>318</td>
<td>322.5</td>
</tr>
<tr>
<td><strong>First Generation Student</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Generation</td>
<td>150</td>
<td>182</td>
<td>241</td>
<td>226</td>
<td>196</td>
<td>211</td>
<td>201</td>
</tr>
<tr>
<td>Not First Generation</td>
<td>379</td>
<td>432</td>
<td>417</td>
<td>396</td>
<td>411</td>
<td>414</td>
<td>408.16666667</td>
</tr>
<tr>
<td>Unknown</td>
<td>53</td>
<td>80</td>
<td>119</td>
<td>137</td>
<td>139</td>
<td>132</td>
<td>110</td>
</tr>
<tr>
<td><strong>Major</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>APMS</td>
<td>145</td>
<td>198</td>
<td>239</td>
<td>272</td>
<td>306</td>
<td>317</td>
<td>246.16666667</td>
</tr>
<tr>
<td>MATH</td>
<td>437</td>
<td>496</td>
<td>538</td>
<td>487</td>
<td>440</td>
<td>440</td>
<td>473</td>
</tr>
</tbody>
</table>

Provided by Office of Institutional Studies and Planning, Texas A&M University

Nov 17, 2016

oisp.tamu.edu/cognos8

2:19:41 PM
## Student Enrollment for Fall 2016, Fall 2015, Fall 2014, Fall 2013, Fall 2012, Fall 2011 by Classification Level by Demographics

**Student Department:** MATH

### Fall 2015

<table>
<thead>
<tr>
<th>Student Headcount</th>
<th>Undergraduate/Fall U1</th>
<th>Undergraduate/Fall U2</th>
<th>Undergraduate/Fall U3</th>
<th>Undergraduate/Fall U4</th>
<th>Undergraduate/Fall U5</th>
<th>Undergraduate/Fall Total</th>
<th>Graduate/Fall GS</th>
<th>Masters/Fall G7</th>
<th>Doctorate/Fall G8</th>
<th>Unknown/Fall Total</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>15</td>
<td>1</td>
<td>16</td>
<td>12</td>
<td>11</td>
<td>10</td>
<td>14</td>
<td>14</td>
<td>18</td>
<td>15</td>
<td>156</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Student College</strong></th>
<th><strong>Fall 2016</strong></th>
<th><strong>Fall 2015</strong></th>
<th><strong>Fall 2014</strong></th>
<th><strong>Fall 2013</strong></th>
<th><strong>Fall 2012</strong></th>
<th><strong>Fall 2011</strong></th>
<th><strong>Total</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Science</strong></td>
<td>24</td>
<td>21</td>
<td>19</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>166</td>
</tr>
<tr>
<td><strong>Engineering</strong></td>
<td>33</td>
<td>34</td>
<td>35</td>
<td>36</td>
<td>37</td>
<td>38</td>
<td>275</td>
</tr>
<tr>
<td><strong>Business</strong></td>
<td>44</td>
<td>45</td>
<td>46</td>
<td>47</td>
<td>48</td>
<td>49</td>
<td>375</td>
</tr>
<tr>
<td><strong>Social Sciences</strong></td>
<td>55</td>
<td>56</td>
<td>57</td>
<td>58</td>
<td>59</td>
<td>60</td>
<td>420</td>
</tr>
<tr>
<td><strong>Humanities</strong></td>
<td>66</td>
<td>67</td>
<td>68</td>
<td>69</td>
<td>70</td>
<td>71</td>
<td>450</td>
</tr>
<tr>
<td><strong>Health Professions</strong></td>
<td>88</td>
<td>89</td>
<td>90</td>
<td>91</td>
<td>92</td>
<td>93</td>
<td>450</td>
</tr>
<tr>
<td><strong>Arts &amp; Sciences</strong></td>
<td>100</td>
<td>101</td>
<td>102</td>
<td>103</td>
<td>104</td>
<td>105</td>
<td>1000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Ethnic Details</strong></th>
<th><strong>Asian Only (NEW)</strong></th>
<th><strong>Black Only + 2 or more/1 Black (NEW)</strong></th>
<th><strong>Hispanic or Latino of any Race (NEW)</strong></th>
<th><strong>International</strong></th>
<th><strong>2 or more/excluding Black (NEW)</strong></th>
<th><strong>Unknown or Not Reported</strong></th>
<th><strong>Total</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>15</td>
<td>1</td>
<td>16</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>156</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Top 10 Percent Flag</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Top 10</strong></td>
</tr>
<tr>
<td><strong>Not Top 10</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>First Generation Student</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unknown</strong></td>
</tr>
<tr>
<td><strong>Not First Generation</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Entry Status</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Time in College</strong></td>
</tr>
<tr>
<td><strong>First Time Transfer</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Age Group</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>18 - 21</strong></td>
</tr>
<tr>
<td><strong>22 - 23</strong></td>
</tr>
<tr>
<td><strong>24 - 25</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Blm TEAM Flag</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

---

*Provided by Office of Institutional Studies and Planning, Texas A&M University*

Nov 17, 2016
# Student Enrollment for Fall 2016, Fall 2015, Fall 2014, Fall 2013, Fall 2012, Fall 2011 by Classification Level by Demographics

**Student Department: MATH**

## Fall 2015

<table>
<thead>
<tr>
<th>Student Headcount</th>
<th>Undergraduate-Ed</th>
<th>Undergraduate-NS</th>
<th>Undergraduate</th>
<th>Graduates-Ed</th>
<th>Graduates-NS</th>
<th>Masters</th>
<th>Doctoral</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>17</td>
<td>18</td>
<td>150</td>
<td>119</td>
<td>113</td>
<td>156</td>
<td>2</td>
<td>534</td>
</tr>
</tbody>
</table>

### Student Colleges

<table>
<thead>
<tr>
<th></th>
<th>Science</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>17</td>
<td>18</td>
<td>150</td>
<td>119</td>
<td>113</td>
<td>156</td>
<td>2</td>
<td>534</td>
<td>9</td>
</tr>
</tbody>
</table>

### Sex

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>17</td>
<td>18</td>
<td>150</td>
<td>119</td>
<td>113</td>
<td>156</td>
<td>2</td>
<td>534</td>
<td>9</td>
</tr>
</tbody>
</table>

### Ethnic Origin

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>17</td>
<td>18</td>
<td>150</td>
<td>119</td>
<td>113</td>
<td>156</td>
<td>2</td>
<td>534</td>
<td>9</td>
</tr>
</tbody>
</table>

### Entry Status

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>17</td>
<td>18</td>
<td>150</td>
<td>119</td>
<td>113</td>
<td>156</td>
<td>2</td>
<td>534</td>
<td>9</td>
</tr>
</tbody>
</table>

### Age Group

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>17</td>
<td>18</td>
<td>150</td>
<td>119</td>
<td>113</td>
<td>156</td>
<td>2</td>
<td>534</td>
<td>9</td>
</tr>
</tbody>
</table>

### Blinn TEAM Flag

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>17</td>
<td>18</td>
<td>150</td>
<td>119</td>
<td>113</td>
<td>156</td>
<td>2</td>
<td>534</td>
<td>9</td>
</tr>
</tbody>
</table>

---

*Provided by Office of Institutional Studies and Planning, Texas A&M University*

**Nov 17, 2016**

*OSIP.tamu.edu cognos*
## Student Enrollment for Fall 2016, Fall 2015, Fall 2014, Fall 2013, Fall 2012, Fall 2011 by Classification Level by Demographics

**Student Department: MATH**

### Fall 2014

<table>
<thead>
<tr>
<th>Student Headcount</th>
<th>Undergraduate-NO'S</th>
<th>Undergraduate</th>
<th>Graduate-NO'S</th>
<th>Masters</th>
<th>Doctoral</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>13</td>
<td>1</td>
<td>15</td>
<td>121</td>
<td>2</td>
<td>157</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Student Colleges</strong></th>
<th><strong>Sex</strong></th>
<th><strong>Race</strong></th>
<th><strong>Ethnic</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Science</strong></td>
<td>13</td>
<td>1</td>
<td>15</td>
</tr>
<tr>
<td><strong>Mathematics</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Engineering</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Business</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Human Sciences</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Natural Sciences</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Social Sciences</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Medical</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Other Notes
- **Fall 2015**: 18
- **Fall 2014**: 13
- **Fall 2013**: 15
- **Fall 2012**: 12
- **Fall 2011**: 10

### Table: Overall Enrollment Profile by Major (Interative - Demographics, Multi-Tab) with Chart

<table>
<thead>
<tr>
<th>Major</th>
<th>U0</th>
<th>U1</th>
<th>U5</th>
<th>U8</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>121</td>
<td>2</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td><strong>Science</strong></td>
<td>21</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Mathematics</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Engineering</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Business</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Human Sciences</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Natural Sciences</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Social Sciences</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Medical</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

### Other Notes
- **Fall 2015**: 18
- **Fall 2014**: 13
- **Fall 2013**: 15
- **Fall 2012**: 12
- **Fall 2011**: 10

## Demographics

<table>
<thead>
<tr>
<th><strong>Classification</strong></th>
<th><strong>Population</strong></th>
<th><strong>Repeat</strong></th>
<th><strong>Transfer</strong></th>
<th><strong>Non-Repeat</strong></th>
<th><strong>Non-Transfer</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>157</td>
<td>22</td>
<td>108</td>
<td>40</td>
<td>12</td>
</tr>
<tr>
<td><strong>Fall 2015</strong></td>
<td>20</td>
<td>1</td>
<td>17</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td><strong>Fall 2014</strong></td>
<td>10</td>
<td>1</td>
<td>9</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td><strong>Fall 2013</strong></td>
<td>15</td>
<td>1</td>
<td>14</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td><strong>Fall 2012</strong></td>
<td>14</td>
<td>1</td>
<td>13</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td><strong>Fall 2011</strong></td>
<td>13</td>
<td>1</td>
<td>12</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

### Other Notes
- **Fall 2015**: 18
- **Fall 2014**: 13
- **Fall 2013**: 15
- **Fall 2012**: 12
- **Fall 2011**: 10

## Additional Notes
- **Fall 2015**: 18
- **Fall 2014**: 13
- **Fall 2013**: 15
- **Fall 2012**: 12
- **Fall 2011**: 10

## Provided by Office of Institutional Studies and Planning, Texas A&M University

Nov 17, 2016 - 5 -
## Student Enrollment for Fall 2016, Fall 2015, Fall 2014, Fall 2013, Fall 2012, Fall 2011 by Classification Level by Demographics

**Student Department: MATH**

### Fall 2013

<table>
<thead>
<tr>
<th>Student Headcount</th>
<th>Undergraduate-UGD</th>
<th>Undergraduate-UGD</th>
<th>Undergraduate-UGD</th>
<th>Undergraduate-UGD</th>
<th>Graduate-RSG</th>
<th>Masters</th>
<th>Masters</th>
<th>Masters</th>
<th>Masters</th>
<th>Masters</th>
<th>Docto</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>7</td>
<td>232</td>
<td>110</td>
<td>98</td>
<td>145</td>
<td>1</td>
<td>586</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td><strong>Student College</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>7</td>
<td>232</td>
<td>110</td>
<td>98</td>
<td>145</td>
<td>1</td>
<td>586</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>1</td>
<td>1</td>
<td>94</td>
<td>46</td>
<td>48</td>
<td>17</td>
<td>243</td>
<td>3</td>
<td>3</td>
<td>25</td>
<td>1</td>
<td>26</td>
</tr>
<tr>
<td>Male</td>
<td>2</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>6</td>
<td>17</td>
<td>2</td>
<td>2</td>
<td>17</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Ethnic Origin</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian Only (NEW)</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>7</td>
<td>115</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Black Only + 2 or more/1 Black (NEW)</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Hispanic or Latino of any Race (NEW)</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>115</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>International</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>115</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2 or more including Black (NEW)</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Native Hawaiian Only (NEW)</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>115</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Unknown or Not Reported</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>115</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>White Only (NEW)</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>6</td>
<td>115</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Top 10 Percent Flag</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top 10</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>15</td>
<td>71</td>
<td>15</td>
<td>5</td>
<td>11</td>
<td>1</td>
<td>106</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Not Top 10</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>First Generation Student</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>3</td>
<td>3</td>
<td>6</td>
<td>27</td>
<td>12</td>
<td>6</td>
<td>55</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Not First Generation</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>111</td>
<td>41</td>
<td>67</td>
<td>94</td>
<td>333</td>
<td>5</td>
<td>5</td>
<td>27</td>
</tr>
<tr>
<td>First Generation</td>
<td>94</td>
<td>37</td>
<td>21</td>
<td>41</td>
<td>13</td>
<td>1</td>
<td>16</td>
<td>1</td>
<td>15</td>
<td>16</td>
<td>1</td>
<td>17</td>
</tr>
<tr>
<td><strong>Entry Status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Time in College</td>
<td>217</td>
<td>15</td>
<td>5</td>
<td>237</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First-Time Transfer</td>
<td>5</td>
<td>6</td>
<td>3</td>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First-Time Non-Degree Graduate (FD)</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First-Time Graduate</td>
<td>16</td>
<td>1</td>
<td>17</td>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retained</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuing</td>
<td>7</td>
<td>15</td>
<td>90</td>
<td>140</td>
<td>1</td>
<td>1</td>
<td>35</td>
<td>36</td>
<td>86</td>
<td>90</td>
<td>2</td>
<td>98</td>
</tr>
<tr>
<td><strong>Area Group</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.0</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.0-3.1</td>
<td>2</td>
<td>2</td>
<td>229</td>
<td>105</td>
<td>49</td>
<td>87</td>
<td>932</td>
<td>3</td>
<td>3</td>
<td>25</td>
<td>1</td>
<td>26</td>
</tr>
<tr>
<td>2.0-2.9</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>7</td>
<td>56</td>
<td>65</td>
<td>2</td>
<td>2</td>
<td>13</td>
<td>13</td>
<td>16</td>
<td>29</td>
</tr>
<tr>
<td>1.0-1.9</td>
<td>2</td>
<td>2</td>
<td>15</td>
<td>1</td>
<td>10</td>
<td>4</td>
<td>60</td>
<td>1</td>
<td>15</td>
<td>16</td>
<td>1</td>
<td>15</td>
</tr>
<tr>
<td>0.0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td><strong>Blk TEAM Flag</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>7</td>
<td>232</td>
<td>102</td>
<td>98</td>
<td>145</td>
<td>1</td>
<td>586</td>
<td>11</td>
<td>11</td>
</tr>
</tbody>
</table>
Student Enrollment for Fall 2016, Fall 2015, Fall 2014, Fall 2013, Fall 2012, Fall 2011 by Classification Level by Demographics

Student Department: MATH

Fall 2012

<table>
<thead>
<tr>
<th>Student Headcount</th>
<th>Undergraduates</th>
<th>Graduates</th>
<th>Honors</th>
<th>Masters</th>
<th>Graduate NSOE</th>
<th>Doctoral</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>175 88 104 140</td>
<td>1</td>
<td>508</td>
<td>7</td>
<td>61</td>
<td>26 99</td>
<td>2</td>
</tr>
</tbody>
</table>

Student College

Science

<table>
<thead>
<tr>
<th>Student Headcount</th>
<th>Undergraduates</th>
<th>Graduates</th>
<th>Honors</th>
<th>Masters</th>
<th>Graduate NSOE</th>
<th>Doctoral</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>175 88 104 140</td>
<td>1</td>
<td>508</td>
<td>7</td>
<td>61</td>
<td>26 99</td>
<td>2</td>
</tr>
</tbody>
</table>

Sex

<table>
<thead>
<tr>
<th>Student Headcount</th>
<th>Undergraduates</th>
<th>Graduates</th>
<th>Honors</th>
<th>Masters</th>
<th>Graduate NSOE</th>
<th>Doctoral</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>175 88 104 140</td>
<td>1</td>
<td>508</td>
<td>7</td>
<td>61</td>
<td>26 99</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ethnic Origin</th>
<th>Undergraduates</th>
<th>Graduates</th>
<th>Honors</th>
<th>Masters</th>
<th>Graduate NSOE</th>
<th>Doctoral</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>175 88 104 140</td>
<td>1</td>
<td>508</td>
<td>7</td>
<td>61</td>
<td>26 99</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>First Generation Student</th>
<th>Undergraduates</th>
<th>Graduates</th>
<th>Honors</th>
<th>Masters</th>
<th>Graduate NSOE</th>
<th>Doctoral</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>175 88 104 140</td>
<td>1</td>
<td>508</td>
<td>7</td>
<td>61</td>
<td>26 99</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Entry Status</th>
<th>Undergraduates</th>
<th>Graduates</th>
<th>Honors</th>
<th>Masters</th>
<th>Graduate NSOE</th>
<th>Doctoral</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>175 88 104 140</td>
<td>1</td>
<td>508</td>
<td>7</td>
<td>61</td>
<td>26 99</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Birth TEAM Flag</th>
<th>Undergraduates</th>
<th>Graduates</th>
<th>Honors</th>
<th>Masters</th>
<th>Graduate NSOE</th>
<th>Doctoral</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>175 88 104 140</td>
<td>1</td>
<td>508</td>
<td>7</td>
<td>61</td>
<td>26 99</td>
<td>2</td>
</tr>
</tbody>
</table>
### Student Enrollment for Fall 2016, Fall 2015, Fall 2014, Fall 2013, Fall 2012, Fall 2011 by Classification Level by Demographics

#### Student Department: MATH

#### Fall 2011

<table>
<thead>
<tr>
<th>Student Headcount</th>
<th>Undergraduate-Non- NOS</th>
<th>Undergraduate</th>
<th>Graduate-Non- NOS</th>
<th>Masters</th>
<th>Doctoral</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>1</td>
<td>1</td>
<td>122</td>
<td>81</td>
<td>81</td>
<td>106</td>
</tr>
<tr>
<td>Science</td>
<td>1</td>
<td>1</td>
<td>122</td>
<td>81</td>
<td>81</td>
<td>106</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>61</td>
<td>48</td>
<td>45</td>
<td>2</td>
<td>184</td>
<td>2</td>
</tr>
<tr>
<td>Male</td>
<td>61</td>
<td>43</td>
<td>41</td>
<td>63</td>
<td>109</td>
<td>7</td>
</tr>
<tr>
<td>Ethnic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian Only (NEW)</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>Hispanic or Latino of any Race (NEW)</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>International</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2 or more including Black (NEW)</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Native Hawaiian Only (NEW)</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Unknown or Not Reported</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>White Only (NEW)</td>
<td>36</td>
<td>31</td>
<td>31</td>
<td>28</td>
<td>128</td>
<td>1</td>
</tr>
<tr>
<td>Male</td>
<td>3</td>
<td>2</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Hispanic or Latino of any Race (NEW)</td>
<td>25</td>
<td>11</td>
<td>9</td>
<td>9</td>
<td>54</td>
<td></td>
</tr>
<tr>
<td>American Indian Only (NEW)</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2 or more including Black (NEW)</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Unknown or Not Reported</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>White Only (NEW)</td>
<td>29</td>
<td>28</td>
<td>27</td>
<td>39</td>
<td>124</td>
<td>4</td>
</tr>
</tbody>
</table>

#### Ethnic Origin

- Asian Only (NEW)
- Black only + 2 or more/1 Black (NEW)
- Hispanic or Latino of any Race (NEW)
- International
- 2 or more including Black (NEW)
- Native Hawaiian Only (NEW)
- American Indian Only (NEW)
- Unknown or Not Reported
- White Only (NEW)

#### Top 10 Percent Flag

- Top 10
- Not Top 10

#### First Generation Student

- Unknown
- Not First Generation
- First Generation

#### Entry Status

- First-Time In College
- First-Time Transfer
- First-Time Non-Degree Graduate (PD)
- First-Time Graduate
- Retracted

#### Area Group

- 18 - 21
- 22 - 25
- 26 - 30
- 31 - 35
- 36+

#### Dillon TEAM Flag

- No
The Department of Mathematics teaches in excess of thirty thousand students per year, most of whom are non science majors. While this number poses daunting organizational challenges and often tests the limits of the available infrastructure, perhaps the greatest challenge is how to best support at-risk students. The department has an extensive track record of developing and implementing innovative supplemental instructional programs and educational assistance tools. This document is a report on the programs currently (Fall 2016) in place and recently established, along with some new initiatives in development.
1. Current Support Structure

1.1 Assessment and Placement Infrastructure

*Math Placement Exam:* (http://www.math.tamu.edu/placement/)

One of the most important first steps towards student success is the appropriate placement of freshmen into introductory courses. In the last five years we have developed, tested and calibrated our math placement exams (MPE1: for STEM students and MPE2: for non-stem students) which are now applied to every incoming student to Texas A&M. In a nutshell:

- New students take exam to determine the appropriate mathematics class they need to be placed in. For example, for engineering students, the MPE determines whether or not they are calculus ready (i.e. can enroll in Math151), or whether they first need to take the remedial pre-calculus (Math150).
- This exam is now fully online, and is marketed nationwide by WebAssign through their new PlaceU portal. (http://placeu.webassign.com/tests/calculus-i-placement/).

*Personalized Pre-Calculus Program (PPP):* (http://nsfstep.math.tamu.edu/)

- The PPP is a three-week online program, offered through WebAssign’s platform, which works in tandem with the MPE. Students who miss the cut-off for enrollment in Math151 by only a little can enroll in the PPP. Upon enrollment:
  - They receive a personalized study plan, based on the concepts they did not master on the MPE, and on category pretests the students take while working through their plan.
  - Each student is assigned a personal tutor who works with the student to clear misconceptions, fill gaps, and generally helps to move the student to higher levels of mathematical understanding. The tutors are experienced High School teachers who have received special training for the program.
- Upon completion of the program, the student retakes the MPE. Our data show significant improvement for those who complete the program.
- The PPP was developed through a five-year NSF grant in the Department of Mathematics. In order to make it self-sustaining, we now assess a $150 program fee. Given that students who need to take Math150 in their first semester almost never finish in four years, this amount is a very modest investment compared to the cost of an extra semester (if not an extra year) in college.

*Ready-Set-Go:*

- This is a new ‘mini MPE’ that we have recently developed. Students take it during the first week of classes and the results are used to identify at-risk students as well as to validate students’ results on the MPE.
- Currently, we are applying the Ready-Set-Go test to all students in Math 151 and Math 147.
The preliminary results show that a significant number of students performing at a much lower level than in their original MPE exam.

- Further studies of this data are being conducted.
- Data can be shared upon request.
- We expect this test to accurately identify at an early stage the students who are contributing to the current DFQ rates in Math 151. This will allow us to implement effective early intervention measures.

1.2 On-demand Support Structure

HELP Sessions:
(http://www.math.tamu.edu/courses/helpsessions.html)

- These sessions are available twice weekly, for two or two and a half hours in the evening, supporting the following courses:

<table>
<thead>
<tr>
<th>Math 131</th>
<th>Math 141/166</th>
<th>Math 142</th>
<th>Math 147/148</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 150</td>
<td>Math 151/171</td>
<td>Math 152/172</td>
<td>Math 220</td>
</tr>
<tr>
<td>Math 221/251</td>
<td>Math 304/323</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- These sessions are staffed by graduate students. Any student enrolled in one of the listed courses is welcome to come to the respective session and get help with homework problems, questions from class and theory.

Week-in-Review:
(http://www.math.tamu.edu/courses/weekinreview.html)

- Weekly two hours long review sessions for the following courses:

<table>
<thead>
<tr>
<th>Math 131</th>
<th>Math 141</th>
<th>Math 142</th>
<th>150</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 151 (2 sessions/wk)</td>
<td>Math 152</td>
<td>Math 166</td>
<td></td>
</tr>
</tbody>
</table>

- These sessions, staffed by departmental Academic Professional Track faculty, are very popular. Often with standing room only, even on Sundays!

Dedicated Help Pages:
(http://www.math.tamu.edu/courses/math150/help.html)
(http://www.math.tamu.edu/courses/math151/help.html)

- The department has dedicated help pages available for Pre-Calculus and Calculus, containing videos, supplemental course materials, and test banks.
- The Virtual Math Learning Center (see below) will replace those pages by state-of-the-art online educational technology and additional resources.

Pre-Calculus Misconceptions Boot Camp:
(http://www.math.tamu.edu/~sherry.scarborough/bootcamp2015.html)

- This is a self-paced online (no credit) course to help students solidify knowledge and eliminate pre-calculus misconceptions.
Many students with borderline scores in the MPE choose to take this course and recent data shows that their performance improves considerably when compared to peers with same MPE scores who did not participate in the Boot Camp.

**Calculus Bridge Programs**
(http://ppp.tamu.edu/calculus-bridge-programs/)

- The Calculus Bridge Program is designed for any TAMU student enrolled in Calculus II or Calculus III who wants to review concepts from previous math courses and preview concepts in the next calculus course. Students spend three hours per day attending online sessions for one week, reviewing the most important aspects of their last math class and getting familiar with the new material they will learn in their next math class, giving them a head start going into the semester.

**1.3 Supplemental Instruction**

**Immersive Learning:**
- This semester we offer one immersive session for Math147 and four for Math151. These are sessions targeting 80 students each, meeting twice weekly in the evening for 2 hours. They are staffed APT faculty members or a TA.
- The sessions are available for those students most at risk of not succeeding (success defined as earning a grade of C or better), as identified by their performance on the placement exam.
- The instructor works with the students on concepts that the students have difficulty on, as identified by quizzes/exams.
- A pilot run in Spring 2016 was spectacularly successful; the students from that section performed about one grade point higher on the common exams, compared to the other sections that did not have the immersive option available.

**Peer Led Team Learning:**
- This option is offered for the first time this semester, for Math152. This is the “off-semester” for this course, meaning that most students taking Math 152 in the Fall are already falling behind. As a consequence, this course in the Fall suffers from higher than usual DFQ rates. This makes this course the natural starting point to maximize results with minimal resources.
- Students are grouped into cohorts of about ten people. They meet once a week, outside of regular class, each section under the guidance of two graduate TA’s. These PLTL leaders are trained to identify in-class student leaders who can help their peers in the active learning activities. Despite the lack of adequate resources, we are impacting about 600 students.
1.4 Support for Math Majors

**Regent's Scholars Mentoring**
- All Regent’s scholars have now a dedicated advisor (Marcia Drost, Senior Lecturer and Math Freshmen advisor) who meets with each one of them individually for about 30 minutes per week.
- In those sessions, students address all types of issues, ranging from study strategies and adaptation issues, to math questions from the courses they are taking.

**Advising structure /software**
(http://www.math.tamu.edu/undergraduate/advising/)
- We have developed a carefully designed advising web page, addressed both to our current majors and to prospective students. Despite its simplicity, the page is extremely functional and helps our majors to have their questions quickly directed to the right advisor and promptly answered.
- The last link in the page gives TAMU students (via NetID login) the ability to make appointments with our advisors by directly accessing an appointment calendar showing the chosen advisor’s availability. On the other end, advisors get notification of appointment, with student's information and a synopsis of the meeting’s purpose. This expedites the process and creates an effective advising system.
- We use open-source software developed in-house by our IT staff.

**Job placement and career advising**
- In addition to individual advising, Career Fair panels and similar activities, we also give opportunity for our majors to have a broad view of career possibilities and areas of interest in Mathematics via the activities conducted by two clubs:
  - **THE MATH CLUB:** (https://peaceful-atoll-84937.herokuapp.com/index)
    - Regular meetings with talks by faculty, activities of interest, Pi-Mu-Epsilon meetings (Math Honor Society).
    - BI-Weekly Math Contests (for a prize)
  - **THE AGGIE ACTUARIES CLUB:**
  (https://maroonlink.tamu.edu/organization/aggieactuaries)
    - The purpose of this organization is to help Aggie students further their understanding of actuarial science and is done so by exposing students to market leaders in the field. This not only allows for students to introduce themselves to potential employers but it also is an engaging learning experience.
    - Companies (mostly from Houston, Dallas and Austin) visit the club weekly and talk about what they do, how they do it, and overall serve as a source for students to ask questions and learn more about what an actuary does on a daily basis and what are their career prospects.
2. Initiatives in Development

PreCalculus Package:
- In collaboration with WebAssign, we are currently developing a PreCalculus packaged product that will contain an e-textbook, videos, and adaptive learning technology to deliver homework, along with an online delivery system.

Calculus Concept Inventory test-bank:
- Starting with the test-bank for the randomized Final Exams in Math 151 and Math 152, we will establish a comprehensive test-bank based on carefully designed learning outcomes based on national calculus standards.
- The long-term goal is to develop a product that will set standards and be commercialized.

Mathematics Virtual Learning Center:
- Recognizing that many students are now as comfortable in the virtual world as in the physical world, we are developing a virtual math learning environment where students will find a rich set of tools, instructional materials, and content.
- This environment will host a community of learners where students can connect, interact, collaborate, and learn with their peers.
- There will be authoring tools and mechanisms in place to help math faculty produce online materials, including self-publishing of texts and lecture notes.
- This project continues the department’s tradition of pioneering production and utilization of online instructional materials that started in the mid nineties.
- This project is funded by a $300K TOPS grant.

The Maplets for Calculus project (http://m4c.math.tamu.edu/)
- This NSF funded project develops interactive tools for Calculus I, II and III, where students can visualize and interactively solve math problems on a graphic environment, utilizing the Maple machine in the background.
- Maplets are also being utilized in the classroom by many instructors, as a auxiliary tool to explain math concepts.

Commercial Partnerships:
- CALCULUS VIDEO GAME PROGRAM:
  - We are partnering with TRISEUM, a local spin-off company from the VizLab in the College of Architecture (Department of Visualization) in the development of a series of math video games.
  - They are producing VARIANT (http://triseum.com/products/) a calculus video game whose proof-of-concept was developed through a joint TOPS grant between the Dept. of Mathematics and the Visualization Dept. (PI's: P. Lima-Filho and A. Thomas, $100K).
  - The game is currently being tested in some of our calculus sections. Mathematics faculty are involved in the further development of the game as content experts.
- Partnership with WEBASSIGN to offer various tools to our students. The most recent project is the Pre-Calculus package mentioned above. Other projects are
  - The MPE, PPP, Ready-Set-Go and the Pre-Calculus Bootcamp
Five Year Degree Profile
MATH

Table of Contents

Department Summary ........................................................................................................... 2
Baccalaureate ....................................................................................................................... 4
Masters ................................................................................................................................. 5
Doctoral ............................................................................................................................... 6
Asian Only (NEW) .................................................................................................................. 7
Black only + 2 or more/1 Black (NEW) .................................................................................. 8
Hispanic or Latino of any Race (NEW) ................................................................................... 9
International ........................................................................................................................ 10
American Indian Only (NEW) .............................................................................................. 11
2 or more/excluding Black (NEW) ....................................................................................... 12
Native Hawaiian Only (NEW) ............................................................................................. 13
Unknown or Not Reported .................................................................................................... 14
White Only (NEW) ................................................................................................................ 15

Science ................................................................................................................................... 16
Baccalaureate ....................................................................................................................... 17
Masters ................................................................................................................................. 18
Doctoral ............................................................................................................................... 19

Prepared by Data and Research Services
Texas A&M University

oisp.tamu.edu/cognos8
Nov 17, 2016
### Five Year Degree Profile

**Department Summary**

<table>
<thead>
<tr>
<th>Degree Count</th>
<th>Female</th>
<th></th>
<th>Male</th>
<th></th>
<th>Total Degree Count</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Department Total</strong></td>
<td>46</td>
<td>58</td>
<td>55</td>
<td>53</td>
<td>56</td>
</tr>
<tr>
<td><strong>Degree Level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baccalaureates</td>
<td>34</td>
<td>46</td>
<td>37</td>
<td>41</td>
<td>38</td>
</tr>
<tr>
<td>Masters</td>
<td>7</td>
<td>9</td>
<td>12</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Doctoral</td>
<td>5</td>
<td>3</td>
<td>6</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td><strong>Ethnic Origin CB</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian Only (NEW)</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Black only + 2 or more/Black (NEW)</td>
<td>6</td>
<td>7</td>
<td>9</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Hispanic or Latino of any Race (NEW)</td>
<td>6</td>
<td>2</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>International</td>
<td>6</td>
<td>2</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>American Indian Only (NEW)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2 or more/excluding Black (NEW)</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Native Hawaiian Only (NEW)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Unknown or Not Reported</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>White Only (NEW)</td>
<td>32</td>
<td>42</td>
<td>34</td>
<td>33</td>
<td>37</td>
</tr>
<tr>
<td><strong>Degree Level by Ethnicity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BaccalaureatesAsian Only (NEW)</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Black only + 2 or more/...</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Hispanic or Latino of a...</td>
<td>6</td>
<td>3</td>
<td>8</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>International</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>American Indian Only (N...</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2 or more/excluding Bla...</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Native Hawaiian Only (N...</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Unknown or Not Reported</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>White Only (NEW)</td>
<td>26</td>
<td>32</td>
<td>24</td>
<td>25</td>
<td>30</td>
</tr>
<tr>
<td>MastersAsian Only (NEW)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Black only + 2 or more/...</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Hispanic or Latino of a...</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>International</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>American Indian Only (N...</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2 or more/excluding Bla...</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Unknown or Not Reported</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>White Only (NEW)</td>
<td>6</td>
<td>8</td>
<td>9</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>DoctoralAsian Only (NEW)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Black only + 2 or more/...</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Hispanic or Latino of a...</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>International</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>American Indian Only (N...</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2 or more/excluding Bla...</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Unknown or Not Reported</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>White Only (NEW)</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td><strong>First Generation Student</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not First Generation</td>
<td>35</td>
<td>49</td>
<td>36</td>
<td>36</td>
<td>41</td>
</tr>
<tr>
<td>First Generation</td>
<td>5</td>
<td>5</td>
<td>12</td>
<td>9</td>
<td>13</td>
</tr>
<tr>
<td>Unknown</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td><strong>Age Group</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-21</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>22-25</td>
<td>33</td>
<td>45</td>
<td>35</td>
<td>43</td>
<td>39</td>
</tr>
<tr>
<td>26-30</td>
<td>6</td>
<td>5</td>
<td>8</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>31-39</td>
<td>5</td>
<td>5</td>
<td>8</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>40+</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><strong>Honors at Graduation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Summa Cum Laude</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magna Cum Laude</td>
<td>4</td>
<td>3</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cum Laude</td>
<td>5</td>
<td>4</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Honors</td>
<td>34</td>
<td>55</td>
<td>53</td>
<td>56</td>
<td>47</td>
</tr>
<tr>
<td><strong>Entry Type</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Unknown)</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Prepared by Office of Institutional Studies and Planning
Texas A&M University
- 2 -
cisp.tamu.edu/cognos8
Nov 17, 2016
## Five Year Degree Profile

### Department Summary

| Degree Count | Female | | | | Male | | | | Total Degree Count | | |
|--------------|--------|---|---|---|--------|---|---|---|---|---|---|---|---|
| Freshmen      | 26      | 40      | 32      | 38      | 33      | 36      | 48      | 44      | 51      | 53      | 56      | 87      | 76      | 89      | 86      |
| Graduate      | 11      | 12      | 18      | 12      | 18      | 23      | 27      | 21      | 28      | 30      | 34      | 50      | 39      | 40      | 57      |
| Re-Admit      | 6       | 5       | 4       | 3       | 5       | 7       | 10      | 3       | 4       | 5       | 13      | 16      | 7       | 7       | 10      |
| Transfer      | 6       | 5       | 4       | 3       | 5       | 7       | 10      | 3       | 4       | 5       | 13      | 16      | 7       | 7       | 10      |

### Degree Semester

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>7</td>
<td>14</td>
<td>15</td>
<td>10</td>
<td>12</td>
<td>15</td>
<td>21</td>
<td>19</td>
<td>19</td>
<td>24</td>
</tr>
<tr>
<td>Spring</td>
<td>31</td>
<td>36</td>
<td>38</td>
<td>34</td>
<td>35</td>
<td>31</td>
<td>47</td>
<td>38</td>
<td>45</td>
<td>53</td>
</tr>
<tr>
<td>Summer</td>
<td>8</td>
<td>8</td>
<td>12</td>
<td>9</td>
<td>9</td>
<td>12</td>
<td>16</td>
<td>11</td>
<td>15</td>
<td>20</td>
</tr>
</tbody>
</table>

Prepared by Office of Institutional Studies and Planning
Texas A&M University
oisp.tamu.edu/cognos8
Nov 17, 2015
# Five Year Degree Profile
## Department Summary
### Degree Level: Baccalaureate

<table>
<thead>
<tr>
<th>Degree Count</th>
<th>Female</th>
<th>Male</th>
<th>Total Degree Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baccalaureate Total</td>
<td>34</td>
<td>46</td>
<td>37</td>
</tr>
</tbody>
</table>

### Ethnic College

<table>
<thead>
<tr>
<th>Degree Level</th>
<th>Science</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>34</td>
<td>46</td>
</tr>
</tbody>
</table>

### Ethnic Origin CB

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian Only (NEW)</td>
<td>3</td>
<td>3</td>
<td>7</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Black only + 2 or more/1 Black (NEW)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Hispanic or Latino of any Race (NEW)</td>
<td>6</td>
<td>3</td>
<td>8</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>International</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>American Indian Only (NEW)</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>2 or more/excluding Black (NEW)</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Native Hawaiian Only (NEW)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Unknown or Not Reported</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>White Only (NEW)</td>
<td>25</td>
<td>32</td>
<td>24</td>
<td>25</td>
<td>30</td>
</tr>
</tbody>
</table>

### First Generation Student

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>First Generation</td>
<td>8</td>
<td>4</td>
<td>9</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Not First Generation</td>
<td>26</td>
<td>42</td>
<td>27</td>
<td>23</td>
<td>33</td>
</tr>
<tr>
<td>Unknown</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

### Age Group

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>18-21</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>22-25</td>
<td>30</td>
<td>44</td>
<td>24</td>
<td>39</td>
<td>37</td>
</tr>
<tr>
<td>26-30</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>31-39</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>40+</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

### Honors at Graduation

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Summa Cum Laude</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>Magna Cum Laude</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Cum Laude</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>Not Honors</td>
<td>22</td>
<td>46</td>
<td>27</td>
<td>41</td>
<td>38</td>
</tr>
</tbody>
</table>

### Entry Type

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>27</td>
<td>40</td>
<td>22</td>
<td>30</td>
<td>22</td>
</tr>
<tr>
<td>Re-Admit</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Transfer</td>
<td>6</td>
<td>6</td>
<td>4</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

### Degree Semester

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>6</td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Spring</td>
<td>25</td>
<td>33</td>
<td>24</td>
<td>30</td>
<td>27</td>
</tr>
<tr>
<td>Summer</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

---

Prepared by Office of Institutional Studies and Planning
Texas A&M University

oisp.tamu.edu/cognos8
Nov 17, 2016
# Five Year Degree Profile

## Department Summary

### Degree Level: Masters

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Masters Total</strong></td>
<td>7</td>
<td>9</td>
<td>12</td>
<td>7</td>
<td>10</td>
<td>12</td>
<td>16</td>
<td>12</td>
<td>17</td>
<td>22</td>
<td>19</td>
<td>25</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td><strong>Degree College</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td>7</td>
<td>9</td>
<td>12</td>
<td>7</td>
<td>10</td>
<td>12</td>
<td>16</td>
<td>12</td>
<td>17</td>
<td>22</td>
<td>19</td>
<td>25</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>Ethnic Origin CB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black only + 2 or more/Black (NEW)</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>9</td>
<td>2</td>
<td>7</td>
<td>5</td>
<td>2</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic or Latino of Any Race (NEW)</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>9</td>
<td>2</td>
<td>7</td>
<td>5</td>
<td>2</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>International</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>9</td>
<td>2</td>
<td>7</td>
<td>5</td>
<td>2</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Indian Only (NEW)</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>9</td>
<td>2</td>
<td>7</td>
<td>5</td>
<td>2</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 or more/excluding Black (NEW)</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>9</td>
<td>2</td>
<td>7</td>
<td>5</td>
<td>2</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unknown or Not Reported</td>
<td>2</td>
<td>4</td>
<td>9</td>
<td>6</td>
<td>4</td>
<td>9</td>
<td>9</td>
<td>8</td>
<td>13</td>
<td>13</td>
<td>15</td>
<td>17</td>
<td>19</td>
<td>17</td>
<td>19</td>
<td>17</td>
<td>19</td>
<td>17</td>
</tr>
<tr>
<td>White Only (NEW)</td>
<td>6</td>
<td>8</td>
<td>9</td>
<td>6</td>
<td>4</td>
<td>9</td>
<td>9</td>
<td>8</td>
<td>13</td>
<td>13</td>
<td>15</td>
<td>17</td>
<td>19</td>
<td>17</td>
<td>19</td>
<td>17</td>
<td>19</td>
<td>17</td>
</tr>
<tr>
<td><strong>First Generation Student</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not First Generation</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>6</td>
<td>4</td>
<td>7</td>
<td>13</td>
<td>6</td>
<td>10</td>
<td>11</td>
<td>11</td>
<td>17</td>
<td>14</td>
<td>16</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>10</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Generation</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>10</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Age Group</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-21</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>8</td>
<td>10</td>
<td>5</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22-25</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>4</td>
<td>5</td>
<td>7</td>
<td>8</td>
<td>10</td>
<td>6</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26-30</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Honors at Graduation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Honors</td>
<td>7</td>
<td>9</td>
<td>12</td>
<td>7</td>
<td>10</td>
<td>12</td>
<td>15</td>
<td>12</td>
<td>17</td>
<td>22</td>
<td>19</td>
<td>25</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Entry Type</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshman</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>10</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduate</td>
<td>6</td>
<td>9</td>
<td>12</td>
<td>7</td>
<td>10</td>
<td>11</td>
<td>15</td>
<td>12</td>
<td>17</td>
<td>22</td>
<td>17</td>
<td>25</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Degree Semester</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>8</td>
<td>4</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>6</td>
<td>3</td>
<td>10</td>
<td>7</td>
<td>12</td>
<td>15</td>
<td>8</td>
<td>13</td>
<td>11</td>
<td>14</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Summer</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>7</td>
<td>7</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Prepared by Office of Institutional Studies and Planning  
Texas A&M University  
oisp.tamu.edu/cognos8  
Nov 17, 2016
## Five Year Degree Profile
### Department Summary
#### Degree Level: Doctoral

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctoral Total</td>
<td>5 3 6 5 8 12 11 9 11 17 17 14 15 16 15 25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Degree College

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Science</td>
<td>5 3 6 5 8 12 11 9 11 17 17 14 15 16 15 25</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Ethnic Origin CB

- **Asian Only (NEW)**
  - 2011-12: 1
  - 2012-13: 1
  - 2013-14: 1
  - 2014-15: 1
  - 2015-16: 1

- **Black only + 2 or more Black (NEW)**
  - 2011-12: 1
  - 2012-13: 1
  - 2013-14: 1

- **International**
  - 2011-12: 5
  - 2012-13: 4
  - 2013-14: 4
  - 2014-15: 9
  - 2015-16: 8

- **2 or more excluding Black (NEW)**
  - 2011-12: 1
  - 2012-13: 1
  - 2013-14: 1

- **White Only (NEW)**
  - 2011-12: 2
  - 2012-13: 1
  - 2013-14: 1

### First Generation Student

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Unknown</td>
<td>1 1 1 9 1 1 1 9 1 1 1 9 1 1 9 1 11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not First Generation</td>
<td>1 1 1 9 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Generation</td>
<td>1 1 1 9 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Age Group

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>18-21</td>
<td>5 3 6 5 8 12 11 9 11 17 17 14 15 16 15 25</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22-30</td>
<td>4 1 3 3 5 6 2 8 6 11 10 2 11 9 16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31-39</td>
<td>1 2 3 2 3 6 9 1 5 5 7 11 4 7 8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Honors at Graduation

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Honors</td>
<td>5 3 6 5 8 12 11 9 11 17 17 14 15 16 15 25</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Honors</td>
<td>1 1 1 9 1 1 1 9 1 1 1 9 1 1 9 1 11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Entry Type

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate</td>
<td>5 3 6 5 8 12 11 9 11 17 17 14 15 16 15 25</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Degree Semester

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>1 1 1 2 2 3 3 1 4 4 4 2 2 5 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring</td>
<td>1 1 1 2 2 4 2 3 2 5 2 5 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Summer</td>
<td>3 2 3 5 3 6 8 6 8 11 9 10 11 11 16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Prepared by Office of Institutional Studies and Planning
Texas A&M University

- 6 -

osip.tamu.edu/cognos8
Nov 17, 2016
# Five Year Degree Profile

## Department Summary

**Ethnicity: Asian Only (NEW)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Female</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian Only (NEW) Total</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>1</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Science</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>1</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Doctoral</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Male</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian Only (NEW) Total</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Science</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Doctoral</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Degree Count</strong></td>
<td>5</td>
<td>6</td>
<td>9</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

## Degree College

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>1</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Doctoral</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

## First Generation Student

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not First Gen</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>1</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>First Gen</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Unknown</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

## Age Group

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>18-21</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>22-25</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>26-30</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>31-39</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

## Honors at Graduation

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Summa Cum Laude</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>1</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Not Honors</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

## Entry Type

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>3</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Graduate</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Transfer</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

## Degree Semester

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>3</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Spring</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Summer</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
### Five Year Degree Profile

#### Department Summary

**Ethnicity:** Black only + 2 or more /t Black (NEW)

<table>
<thead>
<tr>
<th>Degree Count</th>
<th>Female</th>
<th>2013-14</th>
<th>Male</th>
<th>2013-14</th>
<th>Total Degree Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black only + 2 or more /t Black (NEW) Total</td>
<td>1</td>
<td>2 2 2 1</td>
<td>1</td>
<td>1 1 2 1</td>
<td>2 3 2 3</td>
</tr>
</tbody>
</table>

**Degree College**

- Science: 1 2 2 1 1 1 2 1 2 3 2 2 1 1

**Degree Level**

- Baccalaureate: 1 2 1 1 3 1 2 3 2 2 1 1
- Doctoral: 1 1 1 1 1 1 1 1 1 1 1 1
- Masters: 1 1 1 1 1 1 1 1 1 1 1 1

**First Generation Student**

- First Generation: 1 1 1 1 1 1 1 1 1 1 1 1
- Not First Generation: 2 1 1 1 1 1 1 3 1 1 1 1

**Age Group**

- 18-25: 1 1 1 1 1 1 1 3 2 2 2 1
- 26-30: 1 1 1 1 1 1 1 1 1 1 1 1
- 31-39: 1 1 1 1 1 1 1 1 1 1 1 1
- 40+: 1 1 1 1 1 1 1 1 1 1 1 1

**Honors at Graduation**

- Not Honors: 1 2 2 1 1 1 1 2 1 2 3 2 3 1

**Entry Type**

- Freshman: 2 1 1 1 1 1 1 3 2 2 1 1
- Graduate: 1 1 1 1 1 1 1 1 1 1 1 1
- Transfer: 1 1 1 1 2 1 2 2 2 2 2 2

**Degree Semester**

- Fall: 1 2 2 1 1 1 2 2 2 2 2 2
- Spring: 1 1 1 1 1 1 1 1 2 1 2 1
- Summer: 1 1 1 1 1 1 1 1 1 1 1 1

---

Prepared by Office of Institutional Studies and Planning  
Texas A&M University  
- 8 -  

cisp.tamu.edu/cognos8  
Nov 17, 2016
### Five Year Degree Profile
#### Department Summary

**Ethnicity: Hispanic or Latino of any Race (NEW)**

<table>
<thead>
<tr>
<th>Degree Count</th>
<th>Female</th>
<th>Male</th>
<th>Total Degree Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hispanic or Latino of any Race (NEW) Total</td>
<td>6</td>
<td>3</td>
<td>9</td>
</tr>
</tbody>
</table>

**Degree College**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Science</td>
<td>6</td>
<td>3</td>
<td>9</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Masters</td>
<td>0</td>
<td>3</td>
<td>8</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>

**Degree Level**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Baccalaureate</td>
<td>0</td>
<td>3</td>
<td>8</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Masters</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

**First Generation Student**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>First Generation</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Not First Generation</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

**Age Group**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>18-21</td>
<td>6</td>
<td>3</td>
<td>7</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>22-25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26-30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31-39</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Honors at Graduation**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cum Laude</td>
<td>2</td>
<td>3</td>
<td>9</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Not Honors</td>
<td>4</td>
<td>3</td>
<td>9</td>
<td>4</td>
<td>10</td>
</tr>
</tbody>
</table>

**Entry Type**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>4</td>
<td>3</td>
<td>6</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Graduate</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Re-Admit</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Transfer</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

**Degree Semester**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Spring</td>
<td>5</td>
<td>1</td>
<td>7</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Summer</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
# Five Year Degree Profile

## Department Summary

### Ethnicity: International

<table>
<thead>
<tr>
<th>Sex, Ethnic Origin CB</th>
<th>Female</th>
<th>Male</th>
<th>International</th>
<th>- 5-Year Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

## Degree Count

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>International Total</td>
<td>6</td>
<td>2</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
</tbody>
</table>

## Degree College

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Baccalaureate</td>
<td>5</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Doctoral</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Masters</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

## First Generation Student

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Unknown</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>First Generation</td>
<td>5</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Not First Generation</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

## Age Group

| 59-65 | 13 | 15 | 9 
| 46-55 | 13 | 15 | 9 
| 36-45 | 13 | 15 | 9 
| 26-35 | 13 | 15 | 9 
| 16-25 | 13 | 15 | 9 
| 9-18  | 13 | 15 | 9 
| 0-9   | 13 | 15 | 9 

## Honors at Graduation

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>2</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

## Entry Type

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>2</td>
<td>6</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

## Degree Semester

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Prepared by Office of Institutional Studies and Planning
Texas A&M University

- oisp.tamu.edu/cognos8
- Nov 17, 2016
## Five Year Degree Profile
### Department Summary

**Ethnicity: American Indian Only (NEW)**

<table>
<thead>
<tr>
<th>Sex, Ethnic Origin CB</th>
<th>Female</th>
<th>Male</th>
<th>American Indian Only (NEW) Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Degree College</th>
<th>Female</th>
<th>Male</th>
<th>Total Degree Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science</td>
<td></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Degree Level</th>
<th>2015-16</th>
<th>2011-12</th>
<th>2015-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baccalaureate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Masters</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>First Generation Student</th>
<th>2015-16</th>
<th>2011-12</th>
<th>2015-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not First Generation</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age Group</th>
<th>2015-16</th>
<th>2011-12</th>
<th>2015-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>22-25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31-39</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Honors at Graduation</th>
<th>2015-16</th>
<th>2011-12</th>
<th>2015-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magna Cum Laude</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Honors</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Entry Type</th>
<th>2015-16</th>
<th>2011-12</th>
<th>2015-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduate</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Degree Semester</th>
<th>2015-16</th>
<th>2011-12</th>
<th>2015-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Prepared by Office of Institutional Studies and Planning
Texas A&M University

- 11 -

eisp.tamu.edu/cognos8
Nov 17, 2016
### Five Year Degree Profile
#### Department Summary

**Ethnicity: 2 or more/excluding Black (NEW)**

![Degree Count Graph]

<table>
<thead>
<tr>
<th>Degree Count</th>
<th>Female</th>
<th>Male</th>
<th>Total Degree Count</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2011-12</strong></td>
<td>1</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td><strong>2012-13</strong></td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td><strong>2013-14</strong></td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td><strong>2014-15</strong></td>
<td>1</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td><strong>2015-16</strong></td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

**Degree College**

<table>
<thead>
<tr>
<th>Degree Level</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science</td>
<td>1</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Bachelorate</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Doctoral</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Masters</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

**First Generation Student**

<table>
<thead>
<tr>
<th>First Generation</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not First Generation</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Unknown</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

**Age Group**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>22-25</td>
<td>1</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>26-30</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>31-39</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

**Honors at Graduation**

<table>
<thead>
<tr>
<th>Magna Cum Laude</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Honors</td>
<td>1</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

**Entry Type**

<table>
<thead>
<tr>
<th>Freshman</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Transfer</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

**Degree Semester**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Summer</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

---

*Prepared by Office of Institutional Studies and Planning
Texas A&M University*
# Five Year Degree Profile
Department Summary
Ethnicity: Native Hawaiian Only (NEW)

## Sex, Ethnic Origin CB
- Female
- Native Hawaiian Only (NEW)
- 5-Year Mean

### 2013-14 Academic Year

<table>
<thead>
<tr>
<th>Degree Count</th>
<th>Female</th>
<th>Total Degree Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Native Hawaiian Only (NEW) Total</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

### Degree College

<table>
<thead>
<tr>
<th>Degree Level</th>
<th>Science</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

### Degree Level

<table>
<thead>
<tr>
<th>Degree Level</th>
<th>Baccaurate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

### First Generation Student

<table>
<thead>
<tr>
<th>Not First Generation</th>
<th>1</th>
</tr>
</thead>
</table>

### Age Group

| 22-25 | 1 |

### Honors at Graduation

| Not Honors | 1 |

### Entry Type

<table>
<thead>
<tr>
<th>Not Freshman</th>
<th>1</th>
</tr>
</thead>
</table>

### Degree Semester

| Spring | 1 |

Prepared by Office of Institutional Studies and Planning
Texas A&M University

Nov 17, 2016  

cisp.tamu.edu/cognos8

---

Prepared by Office of Institutional Studies and Planning
Texas A&M University
### Five Year Degree Profile
#### Department Summary

**Ethnicity: Unknown or Not Reported**

<table>
<thead>
<tr>
<th>Degree Count</th>
<th>Female</th>
<th>Male</th>
<th>Total Degree Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unknown or Not Reported Total</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Degree College

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Science</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Degree Level

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Masters</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

#### First Generation Student

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>First Generation Unknown</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Not First Generation</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Age Group

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>22-25</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>26-30</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>31-39</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>40+</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Honors at Graduation

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Honors</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Entry Type

<table>
<thead>
<tr>
<th>Entry Type</th>
<th>2011-12</th>
<th>2012-13</th>
<th>2013-14</th>
<th>2014-15</th>
<th>2015-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Graduate</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Transfer</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Degree Semester

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Spring</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Summer</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
## Five Year Degree Profile
### Department Summary
#### Ethnicity: White Only (NEW)

![Graph showing degree count by year for white only students]

<table>
<thead>
<tr>
<th>Degree Count</th>
<th>Female</th>
<th>Male</th>
<th>Total Degree Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011-12</td>
<td>32</td>
<td>32</td>
<td>64</td>
</tr>
<tr>
<td>2012-13</td>
<td>34</td>
<td>34</td>
<td>68</td>
</tr>
<tr>
<td>2013-14</td>
<td>37</td>
<td>32</td>
<td>69</td>
</tr>
<tr>
<td>2014-15</td>
<td>50</td>
<td>53</td>
<td>103</td>
</tr>
<tr>
<td>2015-16</td>
<td>53</td>
<td>53</td>
<td>106</td>
</tr>
</tbody>
</table>

#### Degree College
- Science: 32, 34, 37, 50, 53
- Total: 64, 92, 73, 82, 90

#### Degree Level
- Bachelor: 28, 30, 36, 36, 40
- Doctoral: 2, 3, 4, 4, 7
- Master's: 6, 8, 9, 5, 13

#### First Generation Student
- First Generation: 4, 7, 5, 9, 7
- Not First Generation: 25, 25, 23, 18, 12
- Unknown: 2, 2, 2, 2, 2

#### Age Group
- 18-21: 26, 23, 25, 59, 64
- 22-25: 32, 30, 40, 40, 40
- 26-30: 1, 3, 2, 1, 1
- 31-35: 4, 3, 2, 1, 1
- 40+: 2, 2, 2, 1, 1

#### Honors at Graduation
- Summa Cum Laude: 3, 3, 3, 4
- Magna Cum Laude: 4, 5, 5, 5
- Cum Laude: 3, 3, 3, 3
- Not Honors: 22, 22, 22, 22

#### Entry Type
- (Unknown): 1, 1, 1, 1
- Freshman: 23, 25, 25, 28
- Graduate: 5, 10, 10, 10
- Transfer: 3, 4, 4, 4

#### Degree Semester
- Fall: 4, 11, 7, 8, 41
- Spring: 24, 25, 26, 26, 26
- Summer: 4, 6, 5, 5, 5

---

Prepared by Office of Institutional Studies and Planning
Texas A&M University

Nov 17, 2016

oisp.tamu.edu/cognos8
### Five Year Degree Profile

#### Science Department Summary

<table>
<thead>
<tr>
<th>Degree Count</th>
<th>Female</th>
<th>Male</th>
<th>Total Degree Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science Total</td>
<td>46</td>
<td>38</td>
<td>84</td>
</tr>
</tbody>
</table>

### Degree Level

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Baccalaureate</td>
<td>34</td>
<td>31</td>
<td>36</td>
<td>20</td>
</tr>
<tr>
<td>Masters</td>
<td>7</td>
<td>11</td>
<td>12</td>
<td>19</td>
</tr>
<tr>
<td>Doctoral</td>
<td>5</td>
<td>11</td>
<td>11</td>
<td>11</td>
</tr>
</tbody>
</table>

### Ethnic Origin CB

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian Only (NEW)</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Black only + 2 or more/2 Black (NEW)</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Hispanic or Latino of any Race (NEW)</td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>International</td>
<td>6</td>
<td>2</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>American Indian Only (NEW)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2 or more/excluding Black (NEW)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Native Hawaiian Only (NEW)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Unknown or Not Reported</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>White Only (NEW)</td>
<td>32</td>
<td>44</td>
<td>34</td>
<td>34</td>
</tr>
</tbody>
</table>

### First Generation Student

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>First Generation</td>
<td>9</td>
<td>5</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>Not First Generation</td>
<td>35</td>
<td>49</td>
<td>36</td>
<td>36</td>
</tr>
<tr>
<td>Unknown</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

### Age Group

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>18-21</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>22-25</td>
<td>33</td>
<td>43</td>
<td>43</td>
<td>39</td>
</tr>
<tr>
<td>26-30</td>
<td>6</td>
<td>5</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>31-39</td>
<td>5</td>
<td>8</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>40+</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

### Honors at Graduation

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Summa Cum Laude</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Magna Cum Laude</td>
<td>4</td>
<td>3</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Cum Laude</td>
<td>5</td>
<td>4</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>

### Entry Type

<table>
<thead>
<tr>
<th>Type</th>
<th>2012-13</th>
<th>2013-14</th>
<th>2014-15</th>
<th>2015-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Unknown)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Freshman</td>
<td>28</td>
<td>40</td>
<td>38</td>
<td>33</td>
</tr>
<tr>
<td>Graduate</td>
<td>11</td>
<td>12</td>
<td>12</td>
<td>18</td>
</tr>
<tr>
<td>Re-Admit</td>
<td>6</td>
<td>6</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

### Degree Semester

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>7</td>
<td>14</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>Spring</td>
<td>31</td>
<td>36</td>
<td>34</td>
<td>35</td>
</tr>
<tr>
<td>Summer</td>
<td>8</td>
<td>8</td>
<td>12</td>
<td>9</td>
</tr>
</tbody>
</table>

### Degree Program

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>APMS Applied Mathematical Sciences</td>
<td>13</td>
<td>12</td>
<td>15</td>
<td>17</td>
</tr>
<tr>
<td>BA Mathematics</td>
<td>14</td>
<td>21</td>
<td>22</td>
<td>11</td>
</tr>
<tr>
<td>MS Mathematics</td>
<td>7</td>
<td>7</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>PhD</td>
<td>8</td>
<td>3</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>

Prepared by Data and Research Services
Texas A&M University

olsp.tamu.edu/ibm cognos
Nov 17, 2016
## Five Year Degree Profile

### Science

**Degree Level: Baccalaureate**

<table>
<thead>
<tr>
<th>Degree Count</th>
<th>Female</th>
<th>Male</th>
<th>Total Degree Count</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Baccalaureate Total</strong></td>
<td>34</td>
<td>46</td>
<td>80</td>
</tr>
<tr>
<td><strong>Ethnic Origin CB</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian Only (NEW)</td>
<td>3</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Black only + 2 or more/1 Black (NEW)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Hispanic or Latino of any Race (NEW)</td>
<td>6</td>
<td>12</td>
<td>18</td>
</tr>
<tr>
<td>American Indian Only (NEW)</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>2 or more/excluding Black (NEW)</td>
<td>1</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Native Hawaiian Only (NEW)</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Unknown or Not Reported</td>
<td></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

| **First Generation Student** | | | |
| Not First Generation | 26 | 32 | 58 |
| First Generation | 58 | 70 | 128 |
| Unknown | | | 1 |

| **Age Group** | | | |
| 18-21 | 11 | 12 | 23 |
| 22-25 | 30 | 44 | 74 |
| 26-30 | 2 | 1 | 3 |
| 31-39 | 3 | 6 | 9 |
| 40+ | 2 | 1 | 3 |

| **Honors at Graduation** | | | |
| Summa Cum Laude | 3 | 4 | 7 |
| Magna Cum Laude | 4 | 3 | 7 |
| Cum Laude | 5 | 4 | 9 |
| Not Honors | 22 | 45 | 67 |

| **Entry Type** | | | |
| (Unknown) | 1 | | 1 |
| Freshman | 27 | 40 | 67 |
| Re-Admit | 6 | 6 | 12 |
| Transfer | | | 1 |

| **Degree Semester** | | | |
| Fall | 6 | 10 | 16 |
| Spring | 35 | 33 | 68 |
| Summer | 3 | 3 | 6 |

---

Prepared by Office of Institutional Studies and Planning
Texas A&M University

osp.tamu.edu/cognos8
Nov 17, 2016
## Five Year Degree Profile
**Science**
**Degree Level: Masters**

<table>
<thead>
<tr>
<th>Degree Count</th>
<th>Female</th>
<th>Male</th>
<th>Total Degree Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masters Total</td>
<td>7</td>
<td>9</td>
<td>12</td>
</tr>
</tbody>
</table>

### Ethnic Origin CB
- Black only + a or more of Black (NEW): 1
- Hispanic or Latino of any Race (NEW): 1
- International: 1
- American Indian Only (NEW): 1
- 2 or more/excluding Black (NEW): 1
- Unknown or Not Reported: 1

### First Generation Student
- Not First Generation: 4
- Unknown: 2
- First Generation: 1

### Age Group
- 18-21: 3
- 22-25: 2
- 26-30: 2
- 31-39: 2
- 40+: 2

### Honors at Graduation
- Not Honors: 7

### Entry Type
- Freshman: 1
- Graduate: 6

### Degree Semester
- Fall: 3
- Spring: 5
- Summer: 2

Prepared by Office of Institutional Studies and Planning
Texas A&M University

oisp.tamu.edu/cognos8
Nov 17, 2016
Five Year Degree Profile  
Science  
Degree Level: Doctoral

<table>
<thead>
<tr>
<th>Degree Count</th>
<th>Female</th>
<th>Male</th>
<th>Total Degree Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctoral Total</td>
<td>5</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Ethnic Origin CB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian Only (NEW)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Black only + 2 or more/1 Black (NEW)</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>International</td>
<td>5</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>White Only (NEW)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>First Generation Student</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not First Generation</td>
<td>5</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Unknown</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>First Generation</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Age Group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-21</td>
<td>4</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>26-30</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>31-39</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Honors at Graduation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Honors</td>
<td>5</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Entry Type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduate</td>
<td>5</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Degree Semester</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Spring</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Summer</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Prepared by Office of Institutional Studies and Planning  
Texas A&M University  
oisp.tamu.edu/cognos8  
Nov 17, 2016
The History of Honors Programs in Mathematics 2003-Spring Break 2017
Final Edition $-e^{i\pi}$

Sue Geller

March 27, 2017

The following is a description of what happened to get the Honors Programs in Mathematics to where they are today. It does not contain all the jobs I did as Director of Honors Programs in Mathematics as I have that written in another document. Also, many of those jobs are not being passed on to the next director but to others. Some jobs still part of the job of Director may be reassigned in the future. The main job not discussed below, which is an essential part of the Director's job, is talking with students (and others) about the programs either in person or via email.

The beginning - 2003-2005:

In May 2003, I went to our department head, Al Boggess, to tell him that I had had the best 415-416, Modern Algebra I and II, classes in my then 21 years teaching here and had done honors contracts with all but one of the students in 416. It would have been so much easier to simply offer an honors section. I then asked why we had honors classes for our service courses but very few honors classes for our majors and suggested that, not only do we start having honors classes for our majors, but also that we put in a departmental honors program. In September 2003, Al came to me with a charge to create such an honors program and to get it approved through the University with me as the first Director of Honors in Mathematics. I suggested that, as long as I was creating an honors program for our majors, I might as well create one for our minors as well. He and the EC agreed.
In exchange for the extra work, I was given a 10 month contract to start in the 2004-5 academic year, and the title would be in effect as of 1 September 2004.

The job of creating the programs ended up more challenging than we expected, mostly because there were no departmental honors programs at that time, only two at the University level, University Honors and Foundation Honors, plus two college honors programs, one in business and one in engineering. The business honors program was a separate program within the college of business in which the honors students formed a cohort with different emphases. The engineering program consisted of a number of honors courses taken in various colleges, especially the college of science, but the main emphasis was on honors undergraduate research. I decided to model our programs after the University Honors Program in a way in which every course a student took for Math honors would count towards University Honors. I also wanted the program flexible enough to allow for students to enter it at most times in their undergraduate program. Another reason for flexibility is that, at the time, there were eight, now nine, ways to earn a math major, all requiring math 409 but otherwise with different 400 level requirements.

Another consideration was if and how the requirements for the minor and major would differ. I decided that there should be a difference simply because a major is not a minor. I decided that the major should add a capstone of 3 hours of research, internship, REU, or a graduate class to the requirements for the minor. That would not only distinguish between the programs for the major and minor but also have a culminating course for the major which would be pedagogically sound no matter what the student decided to do after graduation.

Thus, I planned the common requirements for both the honors major and honors minor to consist of:

- 3 hours of honors math at the 100 level or higher starting with calculus II,
- 3 hours of honors math at the 200 level or higher,
- 3 hours of honors math at the 300 level or higher,
- 3 hours of honors math at the 400 level or high,
- 6 hours from any honors courses not in mathematics.
In addition, I allowed a maximum of 6 hours for the minor and 7 hours for the major to be earned from AP credit for tests for which the student earned one number higher than the University number required for credit. The criterion for credit was the one set by the University at that time.

While looking at the University Honors requirements, I came up with a long list of questions. So I made an appointment with Ed Funkhouser, the Director of University Honors and Undergraduate Research, and talked with him for a long time. He said that the idea of departmental honors had been brought up in the Honors and Undergraduate Advisory Committee (HURAC), but he wanted to hear my ideas before discussing what they had talked about. A number of my questions as to why some regulation exists, for example, why a maximum of 6 graduate hours could count towards University Honors, was answered with “I don't know; it’s just always been that way.” Then ensued a lively discussion on whether or not the regulation made sense. By the end of the time, Ed agreed to suggest to HURAC all of the changes to regulations that made no sense to us, and I agreed to make the extra 6 hours be outside of math. In particular, we not only now would allow any number of graduate courses to count as honors courses, but also, for the first time, would allow honors courses to be stacked, something I told Ed was essential for our departmental program.

At this point all I could do was \LaTeX{} up the proposal into a .pdf file and create an html file for the web should the program be approved. That December, HURAC approved rules for a departmental honors program exactly as Ed and I had discussed. I sent forward through Al Boggess and Dean Newton our proposals for a math honors major and a math honors minor. These sat on Ed Funkhouser’s desk until the TAMU President signed off on the Faculty Senate recommendation for departmental honors programs. Thus, ours were not only approved but also approved within an hour of the President’s signature, making us the first departmental honors program. We graduated six students with honors in math May 2004, a few weeks after the approval of the program. All of them were in University Honors and had been in my 415 class which started the discussion.

NOTES: 1. Ed Funkhouser and HURAC liked our program so much that it became a template for the next group of departmental honors programs and is still used by some new departmental honors programs today. We are still the ONLY department with an honors minor.
2. Ed liked my ideas so much that he asked me to be on the Goldwater Scholarship Selection Committee in 2004, and I’ve been on it ever since, demonstrating that no good deed goes unpunished.
Getting the program running - 2006-2011:

Since taking honors courses was not part of the math department culture other than for those in the University honors programs, the first challenge was creating an honors culture. The place I started was during new student conferences in 2005. The university rules at the time for entering freshmen to be honors eligible were that the student was in the top 10% of their high school class and had either at least a 1250 English plus math SAT or at least a 28 composite, 27 English, 27 Math on the ACT. Special exceptions could be made for students from high schools with fewer than 50 students. I advised and invited all such entering freshmen for many years. The good news was that many accepted the invitation. The bad news was that this was before the MPE so many had poor math backgrounds and weren’t ready for calculus. Also, some found the honors courses too much.

It got better once the MPE was introduced with a 22 out of 33 as the minimum for taking calculus, but there were still about half the first semester freshmen honors students who did not earn at least a 3.5 in the first term, with honors 171 taking some of the toll. Therefore, I created the positions of honors mentors, older honors students with an A in the honors course they mentored, to run special help sessions five hours a week for 171H, 172H, 220H, 323H (then 222H), 409H, 415H, 416H, 446H and 447H if the 4xxH class had at least 10 students. I quickly learned that young honors students don’t know they need help and don’t go to help sessions, so eliminated the 171H and 172H honors help sessions for many years.

Strangely enough, the fact that students in the honors program could become honors mentors, a job which I carefully made sure paid at least 50 cents more an hour than other departmental undergraduate jobs, encouraged students to persevere in the program. Interestingly, what helped most was a small NSF grant ($15,036 over 3 years, yes, very small) to take to conferences students who were not doing research yet. I started with the Nebraska conference for Undergraduate Women in Math and MathFest. The students returned excited about doing math; some started doing undergraduate research in math years before it became popular, and the perk of being invited to attend a conference at the expense of the department was a great lure. We also paid for students who presented, a lure to do undergraduate research and get to go to more conferences on departmental money.

The big perk for freshmen and sophomores was honors early registration, i.e., they registered at the same time as the athletes and work study students,
but before even the regular seniors. For those students who did not meet the criteria for honors their first semester or chose not to, the honors early registration functioned as a great carrot for students to earn at least a 3.5 their first semester or keep working at it to eventually have at least a 3.5. At that point, many students became part of the math honors program.

An unexpected consequence of our program was that a lot of our students also earned University honors because it was so easy. First, all 21 hours of math honors counted towards University honors. Since they could use up to 12 honors hours from AP credit, that got them to 33 hours if they did not use AP credit as part of the 21 for math honors or at least 28 hours if they used 7 hours towards math honors. Thus, they needed only 3-8 more honors hours, or 1-3 additional honors courses, to finish University honors, which seemed not much to them.

Each semester the honors roster was checked to see if each student still had at least a 3.5 and was taking enough honors courses to graduate with math honors. Students below a 3.5 but high enough to have a 3.5 at the end of one semester were put on probation; the rest were dropped from the program. Anyone could rejoin the honors program if they attained at least a 3.5 and some did.

Double majors were and are another source of our honors students after new student conferences. Mike Stecher designed special degree programs for double majors in physics and has standard substitutions for double majors in engineering, honors or not, and these help us gain honors students.

Another addition to the honors program was to engage students in undergraduate research. The idea started when in the 2007 Michael Anshelevich asked me for an undergraduate with whom to do research paid for from Michael’s NSF grant. This worked out so well that I decided we should encourage undergraduate research in our department, well before it was part of the college’s Quality Enhancement Plan. I asked a number of faculty about working with undergraduates and honors undergraduates about doing research, but was not very successful in generating a lot of interest, especially among the faculty. I did not give up but it did take a lot of my time. Little by little, undergraduate research became more of a part of the departmental culture.

Another perk for those graduating with honors in math is a special patch to put on their stole at graduation so that everyone knows they’ve done something noteworthy. Of course, they also have BS (or BA) in Mathematics with Honors in Mathematics on their transcript as well as on their resume.
Even so, the program was relatively small, 50-60 a semester until 2010, when it grew to over 80 for the first time. In these 6 years we graduated 40 students with honors; four of the years 6, one 3, one 4, and 2009 had 9.

Some honors students had completed all but the capstone requirement, so I created, with the approval of the honors committee, a category of graduating with a major in math with distinction. In reality, this meant being given a certificate saying that they graduated with distinction and nothing else as distinction is not a recognized term for a transcript. Also, a lot of students objected to the two honors courses outside of math and left the program if they did not have such courses by honors AP credit. Wanting to make a change in the rules, I agreed to be the College of Science representative to HURAC starting in 2009.

Changes afoot - 2012-2016

In Fall 2011, Sumana (Suma) Datta took over as Director of Honors and Undergraduate Research, brimming with enthusiasm and new ideas. She decided to retire the two honors programs, University and Foundation, and replace them with a program called University Fellows. It took many meetings to come up with the new program. It resembled University Honors the closest, but required only 30 honors credit hours instead of 36, however the resemblance stopped there. In the new program, freshmen had to live in a special (later two special) honors dorm, meet weekly with a house group, keep an honors portfolio, earn 9 honors hours in the core curriculum (instead of six in Humanities and six in math), at least twelve honors hours in 300 or higher level, and all courses had to be taken at TAMU. HURAC also passed that departmental honors could require all honors courses to be in the department and could set their own criteria for admission. The mathematics honors committee immediately approved leaving the honors minor the same but changing the honors major to:

- 3 hours at the 100 level or higher starting with calculus II,
- 3 hours at the 200 level or higher,
- 3 hours at the 300 level or higher,
- 6 hours at the 400 level or high.
• 3 hours of 482H, 491H, 485H for an internship, or a graduate class other than 601, 695, 696.

As before, 4 hours of credit for 172H could be received by getting a score of 5 on the BC AP calculus exam.

I think it was 2012 that the dean’s office put out an RFP for money to help our educational programs. Emil was newly department head so handed the RFP to me and asked me to write something up that would fit the proposal and help our programs. The main item in my proposal was for travel money for undergraduate students to go to conferences and for faculty members to accompany them. Not only was it funded every year with my changing the date each year and Emil signing, but in 2015-6 academic year, the money was gold plated. Tim Scott told me he was tired of reading the same proposal every year knowing he would fund it, so got it set so that Math just gets the money. I also have received money through our representative to the college diversity committee to cover the cost of sending women to the Nebraska conference mentioned above.

All of the efforts before 2012 plus the change in honors requirements caused the math honors program to blossom. For example, from Fall 2012 on, the number of fall honors majors ranged from a low of 79 to a high of 111 and spring numbers 51, then 54 in 2012 and 2013, but then over 80 with one exception. The program had become too large for me to do all the work and all the advising. Therefore, I requested help from Emil Straube, the department head, and suggested Michael Anshelevich be named Associate Director of Honors Programs in Mathematics with duties to advise students and to take over the undergraduate research program. Michael discovered that there was more undergraduate research going on than I knew about and that some of students were not in honors. He did so well at building the undergraduate research program that in September 2013 his title was changed to Director of Undergraduate Research, a job he is still doing superbly. He also remains an honors advisor.

With honors growing so much, Zoran Sunik became an honors advisor in 2013. He was replaced by Gregory Berkolaiko in 2014 with Riad Masri added in 2015. The idea was to have enough honors advisors that no one would have more than 20 students, and that a student would have the same advisor from when they enter the program until they graduate or leave the honors program.
These changes worked in that in the 5 years 2012-2016 we graduated 56 students with honors in math, 13, 11, 9, 13, 11, respectively. We will graduate at least 11 in May 2017 and more in August and December. Each of these five years we were the department with the largest percentage of honors students graduating in May.

However, I was worried about the almost 50% attrition of freshmen each fall. The first change was to raise the SAT/ACT requirements to at least 700 math SAT/30 Math ACT with any class rank or 650 math SAT/28 math ACT and top 10%. That helped but didn’t resolve the problem. So I did a study and discovered that students with an MPE of under 28 were much less likely to succeed and that the top 10% did not make up for having under a 700 math SAT/28 Math ACT. So last spring the honors committee approved my recommendation that we offer honors only to incoming students with at least a 700 math SAT/28 Math ACT and an MPE of at least 28. The result was that instead of about 50 freshmen honors students with roughly 1/3 dropped and 1/6 on probation at the end of first semester, i.e., about 1/2 with less than a 3.5, we had 30 freshmen with 1/10 dropped (3) and 4/15=27% (8) on probation, i.e., a bit over 1/3 under a 3.5. More importantly, of those under 3.5 more than twice as many are on probation than those dropped instead of twice as many dropped than on probation. This is a big improvement.

Another big change is in the honors mentors program. In the last few years, the honors mentors’ help sessions were used less and less and math majors, especially non-honors math majors, were complaining that the people running the regular calculus I and II help sessions knew 151 and 152 but could not help with the proofs and other special items in 171 and 172. So in fall 2016 I had two honors mentors offering 10 hours a week for all 171 students, one for five hours a week for all 172 students, 1 for 5 hours a week for all 220 students, and 1 for 5 hours a week for all 415 students, for all students whether in honors or not. These honors mentors help session hours are in addition to the regular ones run by the department.

At the end of the semester, I was told that almost no one came to the 415 sessions, and that most upper division students are used to working together or using the internet, not face to face other than possibly with their professors in office hours. Both Math 171 and 172 help sessions run by honors mentors were used some near tests, but not a lot considering how many students were in the classes. Math 220 was the only help session used regularly but not by a lot of different people. Thus, in spring 2017, there are 10 hours a week of help sessions run by honors mentors for 171, 172, and 221 plus 5 hours a
week for 220 and 323, again for all students, honors or not, in addition to the regular departmental help sessions. It is too soon to know the usage numbers but early indications are that the 171, 172, 221 sessions are again used only near tests and by fewer than 10 people a time. I leave it to Matt to decide if continuing the Honors Mentors program is a good use of our honors money.

In Spring 2016, the honors committee redid the honors web pages to be more inviting, something I had wanted to do but didn’t have time. They also decided that, for the minor, the 6 hours beyond the 12 hours of required honors math hours should be taken in the colleges of science or engineering and that 3 hours of calculus III could be used towards those other 6 hours.

---

**The end of my time as Director - 2016-2017**

Despite the help with advising, I found the program had grown to the point that it was overloading me, causing me to work 60-80 hours a week with too many of the weeks at least 70. It got to the point that a 60 hour week felt like a vacation. I repeatedly asked for staff help so that I didn’t have to spend so much time on Howdy but was told there wasn’t any. In 2015 I asked Emil to find someone for me to transfer some of my jobs, preferably someone to take over as Director of Honors. My request bore fruit in summer of 2016. At Emil’s request, I typed up all the jobs I do, ending up with 8 pages for the honors program and almost 3 pages for other jobs. He quickly realized I wasn’t idly complaining but was truly overloaded. I also convinced him that I had been Director of Honors Programs in Math long enough and that the program needed fresh ideas, but that my 8 pages of jobs could not be dumped on one person. The upshot is that Matt Papanikolas is in his heavy learning year and 7 other people have taken over many of my honors jobs so he won’t be so overloaded, or at least that is the hope.

As a result of having staff help and having others do some of the jobs I had done, last fall I finally got to put in place the last of the ideas I had for the program, recruiting good applicants to TAMU so that we would have a bigger number of excellent incoming majors. Kudos to Rhonda Faust who figured out a way to automate sending out the emails of information/invitation in a personalized way.

In early March 2017, Matt called a meeting of the honors committee at which it was decided not to allow AP credit for the honors major. I reported that requiring the hours “outside” of math to be from only two
colleges made it almost impossible for minors in colleges other than science and engineering to earn math minor honors, especially people in economics or the neuroscience degree option in psychology. The committee decided to undo last year’s decision and go back to any six hours outside of mathematics. In addition, due to the change in the number required on various AP exams being lowered due to state law, we decided that the maximum of 6 hours of AP credit which could be used for the honors minor would be allowed only for AP tests on which the student earned a 5.

As I write this in March 2017, I know the program is in many sets of good hands but especially Matt’s. My time as Director of Honors Programs in math, currently a title shared with Matt, will no longer be mine as of 1 September 2017. I will continue as an honors advisor and continue to be available to answer questions. I am grateful to the people who have accepted the new jobs, the honors advisors who are continuing, and the support of the department. I am convinced that the honors programs in math will not only flourish but grow and change as needed.
Graduate Program Data

Applicant Demographics

<table>
<thead>
<tr>
<th></th>
<th>Applied</th>
<th>Admitted</th>
<th>Enrolled</th>
<th>Applied</th>
<th>Admitted</th>
<th>Enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Totals</td>
<td></td>
<td></td>
<td>Females</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>Master's</td>
<td>62</td>
<td>36</td>
<td>39</td>
<td>20</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Ph.D</td>
<td>122</td>
<td>39</td>
<td>39</td>
<td>23</td>
<td>17</td>
</tr>
<tr>
<td>2010</td>
<td>Master's</td>
<td>53</td>
<td>24</td>
<td>48</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Ph.D</td>
<td>96</td>
<td>39</td>
<td>39</td>
<td>18</td>
<td>15</td>
</tr>
<tr>
<td>2011</td>
<td>Master's</td>
<td>70</td>
<td>27</td>
<td>60</td>
<td>16</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>Ph.D</td>
<td>100</td>
<td>37</td>
<td>63</td>
<td>31</td>
<td>26</td>
</tr>
<tr>
<td>2012</td>
<td>Master's</td>
<td>32</td>
<td>23</td>
<td>44</td>
<td>16</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Ph.D</td>
<td>78</td>
<td>38</td>
<td>40</td>
<td>18</td>
<td>15</td>
</tr>
<tr>
<td>2013</td>
<td>Master's</td>
<td>61</td>
<td>29</td>
<td>52</td>
<td>17</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>Ph.D</td>
<td>144</td>
<td>56</td>
<td>58</td>
<td>22</td>
<td>31</td>
</tr>
<tr>
<td>2014</td>
<td>Master's</td>
<td>59</td>
<td>35</td>
<td>55</td>
<td>22</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>Ph.D</td>
<td>95</td>
<td>40</td>
<td>55</td>
<td>25</td>
<td>20</td>
</tr>
<tr>
<td>2015</td>
<td>Master's</td>
<td>47</td>
<td>32</td>
<td>62</td>
<td>24</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Ph.D</td>
<td>141</td>
<td>52</td>
<td>89</td>
<td>20</td>
<td>31</td>
</tr>
<tr>
<td>2016</td>
<td>Master's</td>
<td>51</td>
<td>35</td>
<td>46</td>
<td>24</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Ph.D</td>
<td>160</td>
<td>46</td>
<td>114</td>
<td>25</td>
<td>48</td>
</tr>
</tbody>
</table>

Average GRE Scores for Admitted Students

<table>
<thead>
<tr>
<th></th>
<th>verbal</th>
<th>quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2012 Master's Ph.D</td>
<td>158</td>
<td>148</td>
</tr>
<tr>
<td></td>
<td></td>
<td>164</td>
</tr>
<tr>
<td>Fall 2013 Master's Ph.D</td>
<td>155</td>
<td>156</td>
</tr>
<tr>
<td></td>
<td></td>
<td>162</td>
</tr>
<tr>
<td>Fall 2014 Master's Ph.D</td>
<td>158</td>
<td>156</td>
</tr>
<tr>
<td></td>
<td></td>
<td>163</td>
</tr>
<tr>
<td>Fall 2015 Master's Ph.D</td>
<td>155</td>
<td>157</td>
</tr>
<tr>
<td></td>
<td></td>
<td>164</td>
</tr>
<tr>
<td>Fall 2016 Master's Ph.D</td>
<td>154</td>
<td>157</td>
</tr>
<tr>
<td></td>
<td></td>
<td>165</td>
</tr>
</tbody>
</table>

Program Demographics
<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Domestic</th>
<th>Female</th>
<th>URM</th>
<th>Total full time</th>
<th>% full time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2011</td>
<td>60</td>
<td>50</td>
<td>27</td>
<td>2</td>
<td>14</td>
<td>23%</td>
</tr>
<tr>
<td></td>
<td>119</td>
<td>45</td>
<td>36</td>
<td>5</td>
<td>114</td>
<td>96%</td>
</tr>
<tr>
<td>Fall 2012</td>
<td>61</td>
<td>49</td>
<td>27</td>
<td>2</td>
<td>12</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>118</td>
<td>42</td>
<td>35</td>
<td>5</td>
<td>109</td>
<td>92%</td>
</tr>
<tr>
<td>Fall 2013</td>
<td>53</td>
<td>45</td>
<td>26</td>
<td>6</td>
<td>13</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>120</td>
<td>45</td>
<td>36</td>
<td>7</td>
<td>117</td>
<td>98%</td>
</tr>
<tr>
<td>Fall 2014</td>
<td>60</td>
<td>56</td>
<td>20</td>
<td>9</td>
<td>16</td>
<td>27%</td>
</tr>
<tr>
<td></td>
<td>124</td>
<td>52</td>
<td>32</td>
<td>8</td>
<td>124</td>
<td>100%</td>
</tr>
<tr>
<td>Fall 2015</td>
<td>64</td>
<td>51</td>
<td>28</td>
<td>7</td>
<td>21</td>
<td>33%</td>
</tr>
<tr>
<td></td>
<td>121</td>
<td>48</td>
<td>30</td>
<td>8</td>
<td>118</td>
<td>98%</td>
</tr>
<tr>
<td>Fall 2016</td>
<td>71</td>
<td>55</td>
<td>31</td>
<td>8</td>
<td>28</td>
<td>39%</td>
</tr>
<tr>
<td></td>
<td>118</td>
<td>51</td>
<td>27</td>
<td>6</td>
<td>114</td>
<td>97%</td>
</tr>
</tbody>
</table>

Support for PhD Students

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>GANT</th>
<th>GAR</th>
<th>Other</th>
<th>None</th>
<th>Total Full-time</th>
<th>% full time supported by dept</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012 Spring</td>
<td>116</td>
<td>76</td>
<td>31</td>
<td>2</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Summer</td>
<td>111</td>
<td>66</td>
<td>42</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fall</td>
<td>118</td>
<td>85</td>
<td>19</td>
<td>4</td>
<td>10</td>
<td>109</td>
<td>95%</td>
</tr>
<tr>
<td>2013 Spring</td>
<td>110</td>
<td>75</td>
<td>24</td>
<td>4</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Summer</td>
<td>110</td>
<td>64</td>
<td>33</td>
<td>3</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fall</td>
<td>119</td>
<td>94</td>
<td>14</td>
<td>5</td>
<td>6</td>
<td>117</td>
<td>92%</td>
</tr>
<tr>
<td>2014 Spring</td>
<td>115</td>
<td>92</td>
<td>16</td>
<td>5</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Summer</td>
<td>113</td>
<td>66</td>
<td>40</td>
<td>4</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fall</td>
<td>125</td>
<td>102</td>
<td>16</td>
<td>6</td>
<td>1</td>
<td>124</td>
<td>95%</td>
</tr>
<tr>
<td>2015 Spring</td>
<td>123</td>
<td>104</td>
<td>14</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Summer</td>
<td>118</td>
<td>66</td>
<td>45</td>
<td>5</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fall</td>
<td>124</td>
<td>90</td>
<td>24</td>
<td>3</td>
<td>7</td>
<td>118</td>
<td>97%</td>
</tr>
<tr>
<td>2016 Spring</td>
<td>121</td>
<td>94</td>
<td>17</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Summer</td>
<td>117</td>
<td>41</td>
<td>30</td>
<td>0</td>
<td>38</td>
<td>0</td>
<td>New dean, summer funding cut</td>
</tr>
<tr>
<td>Fall</td>
<td>119</td>
<td>97</td>
<td>14</td>
<td>6</td>
<td>2</td>
<td>114</td>
<td>96%</td>
</tr>
<tr>
<td>2017 Spring</td>
<td>113</td>
<td>93</td>
<td>13</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Summer</td>
<td>112</td>
<td>59</td>
<td>29</td>
<td>4</td>
<td>20</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fall</td>
<td>118</td>
<td>100</td>
<td>8</td>
<td>6</td>
<td>4</td>
<td>113</td>
<td>96%</td>
</tr>
</tbody>
</table>

MS Retention & Graduation Rates

<table>
<thead>
<tr>
<th>Cohort year</th>
<th>Initial Count</th>
<th>1-yr % retention</th>
<th>3-yr % graduation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>13</td>
<td>92%</td>
<td>69%</td>
</tr>
<tr>
<td>2009</td>
<td>21</td>
<td>71%</td>
<td>57%</td>
</tr>
</tbody>
</table>
### PhD Retention & Graduation Rates

<table>
<thead>
<tr>
<th>Cohort year</th>
<th>Initial Count</th>
<th>1-yr % retention</th>
<th>7-yr % graduation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>18</td>
<td>83%</td>
<td>61%</td>
</tr>
<tr>
<td>2006</td>
<td>13</td>
<td>100%</td>
<td>69%</td>
</tr>
<tr>
<td>2007</td>
<td>14</td>
<td>100%</td>
<td>92%</td>
</tr>
<tr>
<td>2008</td>
<td>21</td>
<td>85%</td>
<td>57%</td>
</tr>
<tr>
<td>2009</td>
<td>27</td>
<td>88%</td>
<td>55%</td>
</tr>
</tbody>
</table>

### Number of graduates

<table>
<thead>
<tr>
<th>Term</th>
<th>Spring</th>
<th>Summer</th>
<th>Fall</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>5</td>
<td>3</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>6</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>10</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>2011</td>
<td>5</td>
<td>3</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>6</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>10</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>2012</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>5</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>9</td>
<td>4</td>
<td>18</td>
</tr>
<tr>
<td>2013</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>5</td>
<td>5</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>10</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>2014</td>
<td>5</td>
<td>0</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>5</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>11</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>2015</td>
<td>9</td>
<td>4</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>2</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>11</td>
<td>5</td>
<td>21</td>
</tr>
<tr>
<td>2016</td>
<td>13</td>
<td>3</td>
<td>1</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>2</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>16</td>
<td>4</td>
<td>24</td>
</tr>
<tr>
<td>2017</td>
<td>14</td>
<td>4</td>
<td>1</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>7</td>
<td>3</td>
<td>15</td>
</tr>
</tbody>
</table>
MS and PhD Time to Degree

Time to degree is given for students graduating in the indicated years.

<table>
<thead>
<tr>
<th>Year</th>
<th>Master's</th>
<th>PhD</th>
<th>Degree Count</th>
<th>Time to Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011-12</td>
<td>Master's</td>
<td>17</td>
<td>17</td>
<td>2.88</td>
</tr>
<tr>
<td></td>
<td>Ph.D</td>
<td></td>
<td></td>
<td>5.53</td>
</tr>
<tr>
<td>2012-13</td>
<td>Master's</td>
<td>25</td>
<td>14</td>
<td>3.34</td>
</tr>
<tr>
<td></td>
<td>Ph.D</td>
<td></td>
<td></td>
<td>6.21</td>
</tr>
<tr>
<td>2013-14</td>
<td>Master's</td>
<td>24</td>
<td>15</td>
<td>2.66</td>
</tr>
<tr>
<td></td>
<td>Ph.D</td>
<td></td>
<td></td>
<td>5.67</td>
</tr>
<tr>
<td>2014-15</td>
<td>Master's</td>
<td>24</td>
<td>16</td>
<td>2.9</td>
</tr>
<tr>
<td></td>
<td>Ph.D</td>
<td></td>
<td></td>
<td>5.88</td>
</tr>
<tr>
<td>2015-16</td>
<td>Master's</td>
<td>32</td>
<td>25</td>
<td>2.64</td>
</tr>
<tr>
<td></td>
<td>Ph.D</td>
<td></td>
<td></td>
<td>5.62</td>
</tr>
</tbody>
</table>

PhD Student Publications & Presentations

Students in the Master's program don't generally publish papers or travel to conferences, so publication and presentation information is not collected for them. Data for PhD students is collected at the time of graduation.

<table>
<thead>
<tr>
<th>Graduation Period</th>
<th># graduating</th>
<th># publications</th>
<th># presentations</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 2012 - May 2013</td>
<td>13</td>
<td>17</td>
<td>40</td>
</tr>
<tr>
<td>August 2013 - May 2014</td>
<td>14</td>
<td>24</td>
<td>69</td>
</tr>
<tr>
<td>August 2014 - May 2015</td>
<td>16</td>
<td>17</td>
<td>71</td>
</tr>
<tr>
<td>August 2015 - May 2016</td>
<td>20</td>
<td>34</td>
<td>28</td>
</tr>
<tr>
<td>August 2016 - May 2017</td>
<td>21</td>
<td>41</td>
<td>45</td>
</tr>
</tbody>
</table>

Campus MS Jobs Reported at Graduation

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>PhD/maths</th>
<th>PhD/Other</th>
<th>TT/Teaching</th>
<th>NTT/Teaching</th>
<th>K-12/Teaching</th>
<th>Industry</th>
<th>Government</th>
<th>Other</th>
<th>Unreported</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Summer</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Fall</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Summer</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Fall</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Year</td>
<td>Spring Summer Fall</td>
<td>Total</td>
<td>PhD/math</td>
<td>PhD/Other</td>
<td>TT/Teaching</td>
<td>NTT/Teaching</td>
<td>K-12/Teaching</td>
<td>Industry</td>
<td>Government</td>
<td>Other</td>
</tr>
<tr>
<td>------</td>
<td>--------------------</td>
<td>-------</td>
<td>---------</td>
<td>----------</td>
<td>-------------</td>
<td>--------------</td>
<td>--------------</td>
<td>----------</td>
<td>------------</td>
<td>------</td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spring</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Summer</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fall</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spring</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Summer</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fall</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spring</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Summer</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fall</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spring</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Summer</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fall</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spring</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Summer</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fall</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spring</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Summer</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fall</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td></td>
<td>77</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>2</td>
<td>10</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Year</td>
<td>Student</td>
<td>Citizenship</td>
<td>Gender</td>
<td>BCC. Inst</td>
<td>Thesis Advisor</td>
<td>Research Area</td>
<td>Years to Degree</td>
<td>1st Job GANT/GAR</td>
<td>Current Position</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
<td>-------------</td>
<td>--------</td>
<td>-----------</td>
<td>---------------</td>
<td>---------------</td>
<td>-----------------</td>
<td>-----------------</td>
<td>-----------------</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>Roberto Barrera</td>
<td>US</td>
<td>M</td>
<td>Texas State Univ</td>
<td>L. Matusevich</td>
<td>Combinatorics</td>
<td>8</td>
<td>18/2</td>
<td>Lecturer, Texas State University</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yeong Chyuan Chung</td>
<td>Singapore</td>
<td>M</td>
<td>Nanyang Technological Univ Singapore</td>
<td>G. Yu</td>
<td>Non-Com. Geometry</td>
<td>5.5</td>
<td>12/3</td>
<td>Assoc Prof, IMECA, Warsaw, Poland</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seseev Dutta</td>
<td>India</td>
<td>M</td>
<td>IIT</td>
<td>P. Dasgupta</td>
<td>Applied Math</td>
<td>7</td>
<td>15/5</td>
<td>Postdoc, US Army ERDC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shubin Fu</td>
<td>China</td>
<td>M</td>
<td>Sichuan Univ</td>
<td>Y. Efendiev</td>
<td>Computational Math</td>
<td>7</td>
<td>6/12</td>
<td>Financial quantitative analyst, Shanghai Chanyu Invest</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fabio Gesmundo</td>
<td>Italy</td>
<td>M</td>
<td>Lecco Classico Michelangelo</td>
<td>J. M. Landsberg</td>
<td>Alg Geom</td>
<td>4.5</td>
<td>12/1</td>
<td>Postdoc, Univ Copenhagen</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Monika Ras</td>
<td>Vietnam</td>
<td>M</td>
<td>Vietnam National University</td>
<td>P. Kuchment</td>
<td>Analysis</td>
<td>6</td>
<td>12/6</td>
<td>Postdoc, University Arizona</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wing Tat Leung</td>
<td>China</td>
<td>M</td>
<td>Chinese Unv Hong Kong</td>
<td>Y. Efendiev</td>
<td>Numerical Anal.</td>
<td>4</td>
<td>3/9</td>
<td>Postdoc, ICES UT Austin</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spencer Paity</td>
<td>US</td>
<td>M</td>
<td>Brigham Young Univ</td>
<td>A. Bonito</td>
<td>Numerical Anal.</td>
<td>6</td>
<td>12/4</td>
<td>Software Engineer, Intel Corp</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sam Schoen</td>
<td>US</td>
<td>M</td>
<td>Univ Wisconsin - Madison</td>
<td>D. Larson</td>
<td>Functional Anal.</td>
<td>6</td>
<td>17/1</td>
<td>Visiting Assistant Prof, Univ Wisconsin Eau Claire</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Guochao Zeng</td>
<td>China</td>
<td>M</td>
<td>Peking University</td>
<td>M. Popa</td>
<td>Number Theory</td>
<td>5</td>
<td>10/6</td>
<td>Researcher, TAMUQ</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Zhidong Zhang</td>
<td>China</td>
<td>M</td>
<td>USTC</td>
<td>W. Randell</td>
<td>Inverse Problems</td>
<td>5</td>
<td>12/3</td>
<td>Postdoc, University Helsinki</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>Manal Alqadi</td>
<td>Saudi Arabia</td>
<td>F</td>
<td>Taif University</td>
<td>Y. Efendiev</td>
<td>Numerical Anal.</td>
<td>5.5</td>
<td>5/2</td>
<td>Assoc Prof, Taif Univ, Saudi Arabia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adrian Barquero Sanchez</td>
<td>Costa Rica</td>
<td>M</td>
<td>Universidad de Costa Rica</td>
<td>M. Masi</td>
<td>Number Theory</td>
<td>5.5</td>
<td>15/2</td>
<td>Assist Prof, University of Costa Rica</td>
<td></td>
</tr>
<tr>
<td></td>
<td>March Boedihardjo</td>
<td>Japan</td>
<td>M</td>
<td>Hong Kong Baptist Univ W. Johnson/D. Kerr</td>
<td>T. Wei</td>
<td>Functional Anal.</td>
<td>3.5</td>
<td>3/6</td>
<td>Assoc Prof, UCLA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>David Carroll</td>
<td>US</td>
<td>M</td>
<td>University of Rochester</td>
<td>Z. Semki</td>
<td>Groups &amp; Dynamics</td>
<td>5</td>
<td>15</td>
<td>Assistant Prof, Saint Mary's College</td>
<td></td>
</tr>
</tbody>
</table>

**Ph.D's 2010-2017**
<table>
<thead>
<tr>
<th>Name</th>
<th>Country</th>
<th>Gender</th>
<th>Degree</th>
<th>Institution</th>
<th>Field</th>
<th>Grade</th>
<th>Position/Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daniel Castanon Quiroz</td>
<td>Mexico</td>
<td>M</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, BCAM-Bilbao, Spain</td>
</tr>
<tr>
<td>Ngoc Do</td>
<td>Vietnam</td>
<td>F</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, University Arizona</td>
</tr>
<tr>
<td>Alperen Ergun</td>
<td>Turkey</td>
<td>M</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, North Carolina State University</td>
</tr>
<tr>
<td>Cameron Fannworth</td>
<td>US</td>
<td>M</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, Cornell University</td>
</tr>
<tr>
<td>Gracine Graliski</td>
<td>US</td>
<td>F</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, Cornell University</td>
</tr>
<tr>
<td>Yongshui Guan</td>
<td>China</td>
<td>M</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, Texas A&amp;M University</td>
</tr>
<tr>
<td>Dibber Kocak</td>
<td>Turkey</td>
<td>F</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, Middle East Tech U, Ankara Turkey</td>
</tr>
<tr>
<td>Chak Shing Lee</td>
<td>China</td>
<td>M</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, Lawrence Livermore Lab</td>
</tr>
<tr>
<td>Wen Liu</td>
<td>China</td>
<td>F</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, Texas A&amp;M University</td>
</tr>
<tr>
<td>Katelyn Phillipson</td>
<td>US</td>
<td>F</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, St. Edwards University</td>
</tr>
<tr>
<td>Curtis Porter</td>
<td>US</td>
<td>M</td>
<td></td>
<td>TAMU</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, North Carolina State University</td>
</tr>
<tr>
<td>Anastasiya Potseov</td>
<td>US</td>
<td>F</td>
<td></td>
<td>TAMU</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, North Carolina State University</td>
</tr>
<tr>
<td>Manuel Quezada de Luna</td>
<td>Mexico</td>
<td>M</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, US Army ERDC, Vicksburg MS</td>
</tr>
<tr>
<td>B. Shankara Nayyar Rao</td>
<td>India</td>
<td>F</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Adjunct Instructor, Worcester Polytech Inst.</td>
</tr>
<tr>
<td>Jing Tian</td>
<td>China</td>
<td>F</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, University South Florida</td>
</tr>
<tr>
<td>Yanfang Yang</td>
<td>China</td>
<td>F</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, Tuson State Univ, Maryland</td>
</tr>
<tr>
<td>Yong Yang</td>
<td>China</td>
<td>M</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, Penn State</td>
</tr>
<tr>
<td>Shuai Ye</td>
<td>China</td>
<td>M</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, TAMU</td>
</tr>
<tr>
<td>Bingzheng Zhang</td>
<td>China</td>
<td>M</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, TAMU</td>
</tr>
<tr>
<td>Sheng Zhang</td>
<td>China</td>
<td>M</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, TAMU</td>
</tr>
<tr>
<td>2013 Fahad Alrasheed</td>
<td>Saudi</td>
<td>M</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Computational Modeling Scientist, Dhahran</td>
</tr>
<tr>
<td>Wei-Kai Chen</td>
<td>Japan</td>
<td>M</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Math Lecturer, Math Dep. TAMU</td>
</tr>
<tr>
<td>Craig Gao</td>
<td>US</td>
<td>M</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Technician, Epic Systems</td>
</tr>
<tr>
<td>Aaron Goldsmith</td>
<td>US</td>
<td>M</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, TAMU</td>
</tr>
<tr>
<td>Cong Gu</td>
<td>China</td>
<td>M</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, TAMU</td>
</tr>
<tr>
<td>Keaton Haun</td>
<td>US</td>
<td>M</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, Vanderbilt Univ</td>
</tr>
<tr>
<td>Maya Johnson</td>
<td>US</td>
<td>F</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, ELEN/STAMU</td>
</tr>
<tr>
<td>Guangjian Li</td>
<td>China</td>
<td>F</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, University of Bonn</td>
</tr>
<tr>
<td>Jiaxin Liu</td>
<td>China</td>
<td>M</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, TAMU</td>
</tr>
<tr>
<td>Tina Miao</td>
<td>Vietnam</td>
<td>F</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, University of Danang, Vietnam</td>
</tr>
<tr>
<td>Mian Mean</td>
<td>Korea</td>
<td>M</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Assistant Professor, Korea Military Academy</td>
</tr>
<tr>
<td>Malika Muddanalliappa</td>
<td>India</td>
<td>M</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, Wroclaw Polytechnic Institute</td>
</tr>
<tr>
<td>Andrew Penland</td>
<td>US</td>
<td>M</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Visiting Assistant Prof, SUNY Oswego</td>
</tr>
<tr>
<td>Mitchell Phillips</td>
<td>US</td>
<td>M</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Visiting Assistant Prof, SUNY Oswego</td>
</tr>
<tr>
<td>Timothy Rainone</td>
<td>Canada</td>
<td>M</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, University of Waterloo</td>
</tr>
<tr>
<td>Jun Ren</td>
<td>China</td>
<td>M</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Researcher, Biogen RTP, NC</td>
</tr>
<tr>
<td>Stephen Rowe</td>
<td>US</td>
<td>M</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Computer Scientist, Sandia Natl Labs</td>
</tr>
<tr>
<td>Rashika Rupam</td>
<td>India</td>
<td>F</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, University de Lille Science/Tech, France</td>
</tr>
<tr>
<td>Xiaoli Tan</td>
<td>China</td>
<td>F</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Researcher, PENS, TAMU</td>
</tr>
<tr>
<td>Yi-Ching Wang</td>
<td>Taiwan</td>
<td>F</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Aerodynamics Engineer, Trane Corp.</td>
</tr>
<tr>
<td>Zhi Zhou</td>
<td>China</td>
<td>M</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, Columbia Univ</td>
</tr>
<tr>
<td>2014 Mustafa Ayyuru</td>
<td>Turkey</td>
<td>M</td>
<td></td>
<td>University</td>
<td>Math Sciences</td>
<td></td>
<td>Postdoc, USC Instructor, Miami Univ</td>
</tr>
<tr>
<td>Name</td>
<td>Country</td>
<td>University</td>
<td>Department</td>
<td>Year</td>
<td>Status</td>
<td>Location</td>
<td></td>
</tr>
<tr>
<td>-----------------------</td>
<td>---------</td>
<td>------------------------------------------</td>
<td>---------------------------</td>
<td>------</td>
<td>-------------------------------</td>
<td>--------------------------------</td>
<td></td>
</tr>
<tr>
<td>Zekiye Eser</td>
<td>Turkey</td>
<td>Bogazici Univ</td>
<td>Algebraic Geom</td>
<td>6</td>
<td>15/3 Assistant Prof.</td>
<td>Zirve University, Turkey</td>
<td></td>
</tr>
<tr>
<td>Kang Hyun Lee</td>
<td>Korea</td>
<td>Soyang Univ</td>
<td>Numerical Anal</td>
<td>3</td>
<td>14/4 Postdoc</td>
<td>ICES, Austin TX</td>
<td></td>
</tr>
<tr>
<td>Yousi Miao</td>
<td>China</td>
<td>Sichuan Univ</td>
<td>Numerical Anal</td>
<td>5</td>
<td>11/3 PhD GEOL, TAMU</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Van Nguyen</td>
<td>US</td>
<td>University of Washington</td>
<td>Algebra</td>
<td>5</td>
<td>12/3 Postdoc, Northeastern</td>
<td>Univ.</td>
<td></td>
</tr>
<tr>
<td>Sofia Ortega Castillo</td>
<td>Mexico</td>
<td>Univ De Guanajuato</td>
<td>Functional Anal</td>
<td>6</td>
<td>7/11 Postdoc, CIMAT, TAMU</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dechat Santar</td>
<td>Thailand</td>
<td>Chulalongkorn Univ</td>
<td>Number Theory</td>
<td>5</td>
<td>6/8 Postdoc, Univ.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vladimir Tomov</td>
<td>Bulgaria</td>
<td>University of Sofia</td>
<td>Numerical Anal</td>
<td>4.5</td>
<td>11/1 Postdoc, Lawrence</td>
<td>Livermore Lab</td>
<td></td>
</tr>
<tr>
<td>Fang Wang</td>
<td>China</td>
<td>Nanhai Univ</td>
<td>Numerical Anal</td>
<td>7</td>
<td>17/3 Postdoc, University Corp.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kailan Wang</td>
<td>China</td>
<td>Sichuan Univ</td>
<td>Numerical Anal</td>
<td>6.5</td>
<td>15/4 Postdoc, ICES-UT-Austin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tracy Weyand</td>
<td>US</td>
<td>Univ Florida</td>
<td>PDE's</td>
<td>6</td>
<td>11/6 Postdoc, Baylor, TX</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yue Zhang</td>
<td>China</td>
<td>Peking Univ</td>
<td>Partial Complex Var</td>
<td>6</td>
<td>12/6 Visiting Asst. Prof.</td>
<td>Univ of Arkansas</td>
<td></td>
</tr>
<tr>
<td>2013 Mustafa Benli</td>
<td>Turkey</td>
<td>Middle East Tech Univ</td>
<td>Group Theory</td>
<td>5.5</td>
<td>15/3 Visiting Asst. Prof.</td>
<td>MATH, TAMU</td>
<td></td>
</tr>
<tr>
<td>Paul Bruttard</td>
<td>U.S.</td>
<td>Univ New Hampshire</td>
<td>Functional Anal</td>
<td>5.5</td>
<td>6/1 Postdoc, Math</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aditi Ghosh</td>
<td>India</td>
<td>Calcutta University</td>
<td>Fluid Dynamics</td>
<td>5</td>
<td>14/1 Postdoc, MATH, TAMU</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nicholas Hoj</td>
<td>U.S.</td>
<td>Univ Kansas</td>
<td>Algebra Geom</td>
<td>7.5</td>
<td>12/8 Asst. Prof.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sung-Hwan Moon</td>
<td>Korea</td>
<td>Dongguk University</td>
<td>Algebra Geom</td>
<td>4.5</td>
<td>7/6 Postdoc, U. K. National</td>
<td>Inst. Sci. &amp; Tech, Korea</td>
<td></td>
</tr>
<tr>
<td>Hau Thi Ph Nguyen</td>
<td>Vietnam</td>
<td>Univ Hanoi</td>
<td>PDE's</td>
<td>7</td>
<td>6/6 Visiting Asst. Prof.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yang Qi</td>
<td>China</td>
<td>DNU Beijing Univ Tech</td>
<td>Algebraic Geom</td>
<td>6.5</td>
<td>18 Postdoc, Univ of Grenoble</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Koropeniuk</td>
<td>U.S.</td>
<td>Middle-Queue State Univ</td>
<td>Comp. Alg</td>
<td>7.5</td>
<td>6/12 Senior IOS developer, A</td>
<td>Place for Rover</td>
<td></td>
</tr>
<tr>
<td>Travis Thompson</td>
<td>U.S.</td>
<td>UT Dallas</td>
<td>Numerical Anal</td>
<td>6</td>
<td>11/6 Research Assoc., Oak</td>
<td>Ridge Nat Lab</td>
<td></td>
</tr>
<tr>
<td>Jennifer Webster</td>
<td>U.S.</td>
<td>UC San Diego</td>
<td>Algebra</td>
<td>6.5</td>
<td>14/9 Visiting Asst. Prof.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yaping Yang</td>
<td>China</td>
<td>BU China</td>
<td>Probability</td>
<td>3</td>
<td>21/7 Postdoc, PhD. STAT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lina Sun</td>
<td>China</td>
<td>Nanjing Univ Sci Tech</td>
<td>PDE's</td>
<td>5</td>
<td>7/7 Postdoc, FETE, TAMU</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012 Donald Brown</td>
<td>U.S.</td>
<td>Univ Cincinnati</td>
<td>Functional Anal</td>
<td>6</td>
<td>7/11 Postdoc, King Abdulhamid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Javier Chavez Dominguez</td>
<td>Mexico</td>
<td>Univ de Guanajuato</td>
<td>Probability</td>
<td>5.5</td>
<td>1/13 Postdoc, UT Austin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lauren Ferguson</td>
<td>U.S.</td>
<td>Texas Tech</td>
<td>Applied Anal</td>
<td>6.5</td>
<td>4/14 Postdoc, AFR. Force</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kon Gou</td>
<td>China</td>
<td>Xi'an Univ</td>
<td>Applied Anal</td>
<td>6.5</td>
<td>19/1 Tenure Track Prof.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corey Irving</td>
<td>U.S.</td>
<td>Univ Miami-Florida</td>
<td>Algebraic Geom</td>
<td>6.5</td>
<td>7/11 Postdoc, Santa Clara</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Robert Jacobson</td>
<td>U.S.</td>
<td>Univ Southern Adventist</td>
<td>Applied Anal</td>
<td>6.5</td>
<td>17/1 Asst. Prof.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samul Jochi</td>
<td>Nepal</td>
<td>Randolph-Macon Coll</td>
<td>Applied Anal</td>
<td>5</td>
<td>9/6 Postdoc, Temple Univ.</td>
<td>TX</td>
<td></td>
</tr>
<tr>
<td>Orhan Memmoto</td>
<td>Turkey</td>
<td>Bilbun Univ</td>
<td>Numerical Anal</td>
<td>5</td>
<td>5/9 MS, Courant Institute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daniel Radekmez</td>
<td>Canada</td>
<td>Univ. Waterloo</td>
<td>Functional Anal</td>
<td>5.5</td>
<td>7/4 Morgan Stanley &amp; Co, NY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jeannette Shakalli-Tang</td>
<td>Panama</td>
<td>Univ. Notre Dame</td>
<td>Algebra</td>
<td>4.5</td>
<td>10/4 Advisor, Nat. Secretary</td>
<td>Science, Panama</td>
<td></td>
</tr>
<tr>
<td>Pirup Sairri</td>
<td>India</td>
<td>IIT Delhi</td>
<td>Homological</td>
<td>5</td>
<td>10/5 Lecturer, Texas State</td>
<td>Univ-San Marcos</td>
<td></td>
</tr>
<tr>
<td>Francesco Torres-Aylla</td>
<td>Mexico</td>
<td>Univ. Nat. Autonoma de F. Dykema</td>
<td>Operator Alg</td>
<td>5.5</td>
<td>17/2 Postdoc, Univ. Nat.</td>
<td>Autonoma de MX, Mexico</td>
<td></td>
</tr>
<tr>
<td>Changchun Wang</td>
<td>China</td>
<td>Shanghai Univ</td>
<td>Applied Anal</td>
<td>6.5</td>
<td>17/1 Oill Service Company,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jia Wei</td>
<td>China</td>
<td>Yunnan Univ</td>
<td>Applied Anal</td>
<td>6.5</td>
<td>11/6 CGG Veritas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ming Yang</td>
<td>China</td>
<td>Jilin Univ</td>
<td>Algebraic Geom</td>
<td>5</td>
<td>14/1 CGG Veritas Petroleum</td>
<td>Geo-Services, Houston, TX</td>
<td></td>
</tr>
<tr>
<td>Ke Ye</td>
<td>China</td>
<td>Sichuan Univ</td>
<td>Algebraic Geom</td>
<td>5</td>
<td>14/1 Postdoc, Univ Chicago</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011 Moritz Allnazar</td>
<td>Germany</td>
<td>Technical Univ Muenchen</td>
<td>Numerical Anal</td>
<td>5.5</td>
<td>3/13 Postdoc, Math, TAMU</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aaron Bailey</td>
<td>U.S.</td>
<td>Texas Tech Univ</td>
<td>Approximation</td>
<td>6</td>
<td>17/1 Postdoc, Univ. Connect</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kate Lukendenko</td>
<td>Ukraine</td>
<td>Nat. T. Shevchenko Univ</td>
<td>Operator Thy</td>
<td>3.5</td>
<td>2/7 Postdoc, EPFL, Switzerland</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jeffery Patalo</td>
<td>U.S.</td>
<td>Wheaton College</td>
<td>Combinatorics</td>
<td>6.5</td>
<td>14 Engineer, MIT, Lincoln</td>
<td>Laboratory</td>
<td></td>
</tr>
<tr>
<td>Weronika Bukczynska</td>
<td>Poland</td>
<td>Warsaw University</td>
<td>Algebraic</td>
<td>1.5</td>
<td>1/4 Postdoc, Mitsag-Leffler</td>
<td>Inst., Sweden</td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Gender</td>
<td>Nationality</td>
<td>Institution 1</td>
<td>Institution 2</td>
<td>Field</td>
<td>Year</td>
<td>Position</td>
</tr>
<tr>
<td>-----------------------</td>
<td>--------</td>
<td>-------------</td>
<td>-------------------</td>
<td>-------------------</td>
<td>-----------------</td>
<td>------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>Yulia Geogieva-Hristova</td>
<td>Female</td>
<td>Bulgaria</td>
<td>Univ Sofia</td>
<td>P. Kuchment</td>
<td>Geometry</td>
<td>6</td>
<td>Postdoc, IMA</td>
</tr>
<tr>
<td>James Hitchcock</td>
<td>Male</td>
<td>U.S.</td>
<td>Texas Lutheran UU</td>
<td>D. Kerr</td>
<td>Applied Anal.</td>
<td>7</td>
<td>Industry?</td>
</tr>
<tr>
<td>Rostyslav Kraschenko</td>
<td>Male</td>
<td>Ukraine</td>
<td>Kiev Taras Shevchenko U</td>
<td>G. Feier</td>
<td>Dynamical Systems</td>
<td>5.5</td>
<td>Postdoc, University of Paris</td>
</tr>
<tr>
<td>Brad Lutes</td>
<td>Male</td>
<td>U.S.</td>
<td>Stephen F. Austin Univ</td>
<td>M. Papasikolas</td>
<td>Number theory</td>
<td>6</td>
<td>Instructor, Univ Arkansas</td>
</tr>
<tr>
<td>Mihalko Milinkoski</td>
<td>Male</td>
<td>Macedonia</td>
<td>Univ Skopje</td>
<td>A. Polocanski</td>
<td>Function theory</td>
<td>5</td>
<td>Postdoc, Georgias Tech</td>
</tr>
<tr>
<td>Lish Nguyen</td>
<td>Male</td>
<td>Vietnam</td>
<td>Univ Natural Sciences</td>
<td>P. Kuchment</td>
<td>PDEs</td>
<td>4</td>
<td>Postdoc, MSRI</td>
</tr>
<tr>
<td>Svetlana Ponomarev</td>
<td>Female</td>
<td>Macedonia</td>
<td>Univ Skopje</td>
<td>C. Yan</td>
<td>Combinatorics</td>
<td>6</td>
<td>Postdoc, Georgia Institute of Tech</td>
</tr>
<tr>
<td>Ahmer SalgadoGonzalez</td>
<td>Male</td>
<td>Guatemala</td>
<td>St. Petersburg Sate Tech</td>
<td>J. Guermond</td>
<td>Numerical Anal.</td>
<td>4</td>
<td>Postdoc, University of Maryland</td>
</tr>
<tr>
<td>Indrani SenGupta</td>
<td>Female</td>
<td>India</td>
<td>Bengal Engr College</td>
<td>G. Chen</td>
<td>Control theory</td>
<td>4</td>
<td>Postdoc, UT-El Paso</td>
</tr>
<tr>
<td>John Ward</td>
<td>Male</td>
<td>U.S.</td>
<td>Univ Georgia</td>
<td>F. Narcowich/J. Ward</td>
<td>Approximation</td>
<td>5</td>
<td>Postdoc, Math, TAMU</td>
</tr>
</tbody>
</table>
Computing Support

The Department of Mathematics computing infrastructure is oriented around the Linux operating system, which serves approximately 350 departmental workstations for faculty, staff, and students. These systems support a wide variety of applications ranging from office productivity suites, web browsing and development, to sophisticated typesetting and numerical programming. There is also a Windows Remote Desktop server which can be accessed for Microsoft applications. Our department replaces workstations on a three to four year cycle with the University providing 3/4 of the funds for replacements and the department providing the remaining 1/4. The cost of servers and their maintenance and upgrades is borne by the departmental operations budget. This program ended in 2016, so the Department will need to replace desktop system through other funding channels in the future.

The Department also operates the Calclab systems, consisting of 247 Linux workstations, and four Linux servers, to support undergraduate and graduate instruction using symbolic and numerical software packages, including Matlab and Maple. The labs are set in six rooms on the first floor of the Blocker Building, with a seventh room on the sixth floor for use by upper division classes and our Summer REU programs. Over 4,000 students pass through the Calclabs each semester, using the computing systems and software for classes such as Calculus I, II, and III, Differential Equations, Numerical Analysis (undergraduate and graduate), Linear Algebra, Iterative Techniques, and Special Topics (undergraduate and graduate). In the past, the equipment and their maintenance was funded by course fees charged to the students who enroll in calculus and differential equations courses. During off-hours the systems are available for batch processing by local users as well as by Open Science Grid users in the SURAgirid Virtual Organization. Going forward, the rooms will be converted to Bring-Your-Own-Device labs, as the College of Engineering has required its students to own a laptop and install licensed software on it, including Matlab.

The numerical analysis group has acquired 13 development servers through various grants, along with their own dedicated fileserver and visualization server. Faculty members, Ron DeVore and Andrea Bonito have recently acquired 20 compute nodes based on the latest Intel Skylake processors and 100Gbps EDR InfiniBand to be added to the Brazos Cluster on campus.

Departmental Computing Hardware
Below is a summary of the workstations and servers that comprise the department's computing infrastructure, including the Calclab systems.

- Approximately 600 desktop systems ranging from 2 to 7 years old
- 5 Virtualization servers - Dell PowerEdge R815 - providing web, mail, print, authentication, configuration management, remote login, batch job management, and Open Science Grid services
- File servers - Supermicro X10SRI 80TB (dept), Dell PowerEdge R715 1.5TB (labs), Supermicro X9DRD 32TB (numerical analysis)
- Backup Servers - 2 Dell PowerEdge R715
- Computational servers of Numerical Analysis group - various servers, 680 total cores
The following staff members manage our computing infrastructure:

- Steve Johnson, Sr. IT Professional II
- Chris Ward, Systems Administrator II
- David Hines, IT Professional II

**The Calclab Systems**

These are the instructional servers and desktops for the Blocker labs. They are supported through the Instructional Equipment Enhancement Fee (IEEF), which is assessed separately from tuition. Access is restricted to students in the appropriate sections, TA's, and instructors. There are five general purpose laboratories which house a total of 200 workstations linked to eight Dell servers. These are primarily used for students in Calculus and Differential Equations courses. The department also manages a sixth laboratory with 12 workstations linked to the Dell servers. This laboratory is used primarily by graduate students and advanced undergraduates.

**Other Computing Infrastructure at Texas A&M**

- Institute for Scientific Computation. The Institute for Scientific Computation (ISC) is an interdisciplinary research center devoted to the applications of digital computing in mathematics, engineering and applied science. The ISC operates the University's Immersive Visualization Center, a state of the art graphics facility.
- Academy for Advanced Telecommunication and Learning Technologies. The Academy was established to recognize, help develop and coordinate the various telecommunications and information technology efforts and expertise at TAMU. The Academy operates a 3,584 core cluster, Brazos, that serves a set of stakeholders as well as the university in general.
- Texas A&M University Division of Information Technology TAMUIT provides core services, the Open Access Labs, and networking. High Performance Research Computing. Operating under the Office of the Vice President for Research, the HPRC access to 26,454 cores across 3 clusters to the Texas A&M community. Stakeholders receive priority access to HPRC's resources.
January 2, 2017

TO: External Program Reviewers and Program Accreditors

FROM: Michael T. Stephenson
Associate Provost for Academic Affairs and SACSCOC Accreditation Liaison

RE: Information required for USDOE Accrediting Bodies

Texas A&M University is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award baccalaureate, master's, and doctoral degrees. Consistent with comprehensive standard 3.13.1, the following provides the institution's official position on its purpose, governance, programs, degrees, diplomas, certificates, personnel, finances, and constituencies and is published in official university documents as noted.

Purpose

Classified by the Carnegie Foundation as a Research Doctoral University (Highest Research Activity), Texas A&M embraces its mission of the advancement of knowledge and human achievement in all its dimensions. The research mission is a key to advancing economic development in both public and private sectors. Integration of research with teaching prepares students to compete in a knowledge-based society and to continue developing their own creativity, learning, and skills beyond graduation.

The institution's official mission statement, published both on the institution's web page as well as in its annual university catalog, is:

Texas A&M University (Texas A&M) is dedicated to the discovery, development, communication and application of knowledge in a wide range of academic and professional fields. Its mission of providing the highest quality undergraduate and graduate programs is inseparable from its mission of developing new understandings through research and creativity. It prepares students to assume roles in leadership, responsibility and service to society. Texas A&M assumes as its historic trust the maintenance of freedom of inquiry and an intellectual environment nurturing the human mind and spirit. It welcomes and seeks to serve persons of all racial, ethnic and geographic groups, women and men alike, as it addresses the needs of an increasingly diverse population and a global economy. In the twenty-first century, Texas A&M University seeks to assume a place of preeminence among public universities while respecting its history and traditions.

Governance

The governance of the institution was described in the 2012 certification of compliance submitted to SACSCOC.

Jack K. Williams Administration Building, Suite 100
1248 TAMU
College Station, TX 77843-1248 USA

Tel. +1 979.845.4016 Fax. +1 979.845.6694
http://provost.tamu.edu/
Texas A&M University at College Station, the flagship institution of the Texas A&M University System, has branch campuses located in Galveston, Texas and Doha, Qatar. A ten-member Board of Regents, appointed by the Governor, directs the Texas A&M System. The appointment of each Regent follows Texas Education Code (TEC, Chapter 85, Section 21).

TEC outlines the duties and responsibilities of the Board of Regents. These responsibilities are also defined in System Policy 02.01 Board of Regents and TEC 51.352. The Board elects two officers: Chair and Vice Chair. There are four standing committees: Audit, Academic & Student Affairs, Finance, and Buildings & Physical Plant. Special committees may be appointed by the Chair with Board approval.

At Texas A&M University the President is the chief executive officer; the President is not the presiding officer of the Board of Regents. The President reports to the state-appointed Board of Regents through the Chancellor of the Texas A&M University System. System Policy 2.05 Presidents of System Member Universities defines the duties of the President. The appointment of the President follows conditions set forth in System Policy 01.03 Appointing Power and Terms and Conditions of Employment, section 2.2.

**Personnel**

The institution is led by the President and members of his cabinet:

- Michael K. Young, President
- Carol A. Fierke, Provost and Executive Vice President
- Jerry R. Strawser, Executive Vice President for Finance and Administration and CFO
- Michael Benedik, Vice Provost
- M. Dee Childs, Vice President for Information Technology and CIO
- Michael G. O'Quinn, Vice President for Government Relations
- Col Michael E. Fossum, Vice President and COO, TAMU-Galveston
- Barbara A. Abercrombie, Vice President for HR & Organizational Effectiveness
- Christine Stanley, Vice President and Associate Provost for Diversity
- Amy B. Smith, Senior Vice President and Chief Marketing & Communications Officer
- Karen L. Butler-Purry, Interim Vice President for Research
- Carrie L. Byington, Senior Vice President TAMU Health Science Center, Dean of the College of Medicine, and Vice Chancellor for Health Services
- Daniel J. Pugh, Sr., Vice President for Student Affairs
- Joseph P. Pettibon, II, Vice President of Enrollment and Academic Services
- Gen Joe E. Ramirez, Jr. Commandant, Corps of Cadets
- Amy B. Smith, Senior Vice President and Chief Marketing and Communications Officer
- Scott Woodward, Director of Athletics

**Programs, Degrees, Diplomas, and Certificates**

See the Institutional Summary submitted to SACSCOC

**Finances**

See the Financial Profile 2016 submitted to SACSCOC
GENERAL INFORMATION

Name of Institution  Texas A&M University

Name, Title, Phone number, and email address of Accreditation Liaison
Michael T. Stephenson
Associate Provost for Academic Affairs and SACSCOC Accreditation Liaison
979.845.4016
mstephenson@tamu.edu

Name, Title, Phone number, and email address of Technical Support person for the Compliance Certification
Alicia M. Dorsey
Assistant Provost for Institutional Effectiveness
979.862.2918
amdorsey@tamu.edu

IMPORTANT:

Accreditation Activity (check one):

☒ Submitted at the time of Reaffirmation Orientation
☐ Submitted with Compliance Certification for Reaffirmation
☐ Submitted with Materials for an On-Site Reaffirmation Review
☐ Submitted with Compliance Certification for Fifth-Year Interim Report
☐ Submitted with Compliance Certification for Initial Candidacy/Accreditation Review
☐ Submitted with Merger/Consolidations/Acquisitions
☐ Submitted with Application for Level Change

Submission date of this completed document:  September 29, 2015
EDUCATIONAL PROGRAMS

1. Level of offerings (Check all that apply)
   - Diploma or certificate program(s) requiring less than one year beyond Grade 12
   - Diploma or certificate program(s) of at least two but fewer than four years of work beyond Grade 12
   - Associate degree program(s) requiring a minimum of 60 semester hours or the equivalent designed for transfer to a baccalaureate institution
   - Associate degree program(s) requiring a minimum of 60 semester hours or the equivalent not designed for transfer
   - Four or five-year baccalaureate degree program(s) requiring a minimum of 120 semester hours or the equivalent
   - Professional degree program(s)
   - Master's degree program(s)
   - Work beyond the master's level but not at the doctoral level (such as Specialist in Education)
   - Doctoral degree program(s)
   - Other (Specify) __

2. Types of Undergraduate Programs (Check all that apply)
   - Occupational certificate or diploma program(s)
   - Occupational degree program(s)
   - Two-year programs designed for transfer to a baccalaureate institution
   - Liberal Arts and General
   - Teacher Preparatory
   - Professional
   - Other (Specify) __

GOVERNANCE CONTROL

Check the appropriate governance control for the institution:
   - Private (check one)
     - Independent, not-for-profit
       Name of corporation OR
       Name of religious affiliation and control: ____
     - Independent, for-profit *
       If publicly traded, name of parent company: ____
Public state *(check one)

- [ ] Not part of a state system, institution has own independent board
- [x] Part of a state system, system board serves as governing board
- [ ] Part of a state system, system board is super governing board, local governing board has delegated authority
- [ ] Part of a state system, institution has own independent board

* If an institution is part of a state system or a corporate structure, a description of the system operation must be submitted as part of the Compliance Certification for the decennial review. See Commission policy “Reaffirmation of Accreditation and Subsequent Reports” for additional direction.

INSTITUTIONAL INFORMATION FOR REVIEWERS

Directions:
Please address the following and attach the information to this form.

1. History and Characteristics
Provide a brief history of the institution, a description of its current mission, an indication of its geographic service area, and a description of the composition of the student population. Include a description of any unusual or distinctive features of the institution and a description of the admissions policies (open, selective, etc.). If appropriate, indicate those institutions that are considered peers. Please limit this section to one-half page.

2. List of Degrees
List all degrees currently offered (A.S., B.A., B.S., M.A., Ph.D., for examples) and the majors or concentrations within those degrees, as well as all certificates and diplomas. For each credential offered, indicate the number of graduates in the academic year previous to submitting this report. Indicate term dates.

3. Off-Campus Instructional Locations and Branch Campuses
List all locations where 50% or more credit hours toward a degree, diploma, or certificate can be obtained primarily through traditional classroom instruction. Report those locations in accord with the Commission’s definitions and the directions as specified below.

**Off-campus instructional sites**—a site located geographically apart from the main campus at which the institution offers **50% or more** of its credit hours for a diploma, certificate, or degree. This includes high schools where courses are offered as part of dual enrollment. For each site, provide the information below. **The list should include only those sites reported and approved by SACSCOC.** Listing unapproved sites below does not constitute reporting them to SACSCOC. In such cases when an institution has initiated an off-campus instructional site as described above without prior approval by SACSCOC, a prospectus for approval should be submitted immediately to SACSCOC.
### Institutions with off-campus instructional sites

Institutions with off-campus instructional sites at which the institution offers 25-49% credit hours for a diploma, certificate, or degree—including high schools where courses are offered as dual enrollment—are required to notify SACSCOC in advance of initiating the site. For each site, provide the information below.

<table>
<thead>
<tr>
<th>Name of Site</th>
<th>Physical Address (street, city, state, country) Do not include PO Boxes.</th>
<th>Date Notified SACSCOC</th>
<th>Date Implemented by the institution</th>
<th>Educational programs offered (specific degrees, certificates, diplomas) with 25-49% credit hours offered at each site</th>
<th>Is the site currently active? (At any time during the past 5 years, have students been enrolled and courses offered? If not, indicate the date of most recent activity.)</th>
</tr>
</thead>
</table>

### Branch campus

Branch campus—an instructional site located geographically apart and independent of the main campus of the institution. A location is independent of the main campus if the location is (1) permanent in nature, (2) offers courses in educational programs leading to a degree, certificate, or other recognized educational credential, (3) has its own faculty and administrative or supervisory organization, and (4) has its own budgetary and hiring authority. **The list should include only those branch campuses reported and approved by SACSCOC.** Listing unapproved branch campuses below does not constitute reporting them to SACSCOC. A prospectus for an unapproved branch campuses should be submitted immediately to SACSCOC.

<table>
<thead>
<tr>
<th>Name of Branch Campus</th>
<th>Physical Address (street, city, state, country) Do not include PO Boxes.</th>
<th>Date Approved by SACSCOC</th>
<th>Date Implemented by the institution</th>
<th>Educational programs (specific degrees, certificates, diplomas) with 50% or more credits hours offered at the branch campus</th>
<th>Is the campus currently active? (At any time during the past 5 years, have students been enrolled and courses offered? If not, indicate the date of most recent activity.)</th>
</tr>
</thead>
</table>

### 4. Distance and Correspondence Education

6
Provide an initial date of approval for your institution to offer distance education. Provide a list of credit-bearing educational programs (degrees, certificates, and diplomas) where 50% or more of the credit hours are delivered through distance education modes. For each educational program, indicate whether the program is delivered using synchronous or asynchronous technology, or both. For each educational program that uses distance education technology to deliver the program at a specific site (e.g., a synchronous program using interactive videoconferencing), indicate the program offered at each location where students receive the transmitted program. Please limit this description to one page, if possible.

5. Accreditation

(1) List all agencies that currently accredit the institution and any of its programs and indicate the date of the last review by each.

(2) If SACS Commission on Colleges is not your primary accreditor for access to USDOE Title IV funding, identify which accrediting agency serves that purpose.

(3) List any USDOE recognized agency (national and programmatic) that has terminated the institution’s accreditation (include the date, reason, and copy of the letter of termination) or list any agency from which the institution has voluntarily withdrawn (include copy of letter to agency from institution).

(4) Describe any sanctions applied or negative actions taken by any USDOE-recognized accrediting agency (national, programmatic, SACSCOC) during the two years previous to the submission of this report. Include a copy of the letter from the USDOE to the institution.

6. Relationship to the U.S. Department of Education

Indicate any limitations, suspensions, or termination by the U.S. Department of Education in regard to student financial aid or other financial aid programs during the previous three years. Report if on reimbursement or any other exceptional status in regard to federal or state financial aid.

Document History
Adopted: September 2004
Revised: March 2011
Revised: January 2014
1. History and Characteristics

Provide a brief history of the institution, a description of its current mission, an indication of its geographic service area, and a description of the composition of the student population. Include a description of any unusual or distinctive features of the institution and a description of the admissions policies (open, selective, etc.). If appropriate, indicate those institutions that are considered peers. Please limit this section to one-half page.

History. Texas A&M University was established in 1871 as the state's first public institution of higher education and opened for classes in 1876. We are now one of a select few institutions in the nation to hold land grant, sea grant (1971) and space grant (1989) designations. We are also one of few universities to host a presidential library; the George Bush Presidential Library and Museum opened in 1997. A mandatory military component was a part of the land grant designation until 1965 and today we are one of only three institutions with a full-time corps of cadets, leading to commissions in all branches of service. We have two branch campuses, one in Galveston, Texas, (established in 1962, officially merged with Texas A&M in 1991) and one in Doha, Qatar (established in 2003). In 2001 we were admitted to the Association of American Universities (AAU) and in 2004 to Phi Beta Kappa. We are classified by the Carnegie Foundation as a Research University (very high research activity).

Mission. Texas A&M University is dedicated to the discovery, development, communication, and application of knowledge in a wide range of academic and professional fields. Its mission of providing the highest quality undergraduate and graduate programs is inseparable from its mission of developing new understandings through research and creativity. It prepares students to assume roles in leadership, responsibility and service to society. Texas A&M assumes as its historic trust the maintenance of freedom of inquiry and an intellectual environment nurturing the human mind and spirit. It welcomes and seeks to serve persons of all racial, ethnic and geographic groups as it addresses the needs of an increasingly diverse population and a global economy. In the 21st century, Texas A&M University seeks to assume a place of preeminence among public universities while respecting its history and traditions.

Enrollment Profile.
77.42% Undergraduate, 18.41% Graduate, 4.02% Professional, and 0.14% Post-Doc Certificate

Undergraduate Students:
93.58% Texas Residents, 3.96% non-Texas Residents, 2.46% non-Texas, non-US Residents; 62.41% White, 3.11% Black, 22.33% Hispanic, 6.21% Asian

Graduate Students:
45.09% Texas Residents, 16.57% non-Texas Residents, 38.34% non-Texas, non-US Residents Admissions Process. Selective. Automatic admission for Texas resident applicants in the top 10% of their high school graduating class; automatic admission for applicants who rank in the top 25% of their high school graduating class and achieve a combined (old) SAT math and SAT critical reading score of at least 1300 with a test score of at least 600 in each component, or combined (newly redesigned) SAT math and SAT evidence based reading and writing (EBRW) score of at least 1360 with a test score of at least 620 in Math and 660 in EBRW, or 30 composite on the ACT with a 27 in the math and English components; review of all other applicants based on academic potential, distinguishing characteristics, exceptional circumstances and personal achievements.

Peer Institutions. Georgia Institute of Technology, Ohio State University, Pennsylvania State University, Purdue University, University of California-Berkeley, Davis, Los Angeles, San Diego, University of Florida, University of Illinois-Champaign/Urbana, University of Michigan, University of Minnesota, University of North Carolina-Chapel Hill, University of Texas-Austin, and University of Wisconsin-Madison.
2. List of Degrees

List all degrees currently offered (A. S., B. A., B. S., M. A., Ph. D., for examples) and the majors or concentrations within those degrees, as well as all certificates and diplomas. For each credential offered, indicate the number of graduates in the academic year previous to submitting this report. Indicate term dates.

<table>
<thead>
<tr>
<th>College</th>
<th>Degree Program</th>
<th>Number of Graduates</th>
<th>Degree</th>
<th>Fall 2015</th>
<th>Spring 2016</th>
<th>Summer 2016</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>AGRICULTURAL COMMUNICATION &amp; JOURNALISM</td>
<td>BS</td>
<td></td>
<td>35</td>
<td>45</td>
<td>18</td>
<td>98</td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>AGRICULTURAL DEVELOPMENT</td>
<td>MAGR</td>
<td></td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>AGRICULTURAL ECONOMICS</td>
<td>BS</td>
<td></td>
<td>45</td>
<td>90</td>
<td>15</td>
<td>150</td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>AGRICULTURAL ECONOMICS</td>
<td>MS</td>
<td></td>
<td>8</td>
<td>10</td>
<td>7</td>
<td>25</td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>AGRICULTURAL ECONOMICS</td>
<td>PHD</td>
<td></td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>AGRICULTURAL EDUCATION</td>
<td>EDD</td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>AGRICULTURAL LEADERSHIP &amp; DEVELOPMENT</td>
<td>BS</td>
<td></td>
<td>66</td>
<td>102</td>
<td>20</td>
<td>188</td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>AGRICULTURAL LEADERSHIP EDUCATION &amp; COMMUNICATION</td>
<td>MED</td>
<td></td>
<td>5</td>
<td>6</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>AGRICULTURAL LEADERSHIP EDUCATION &amp; COMMUNICATION</td>
<td>MS</td>
<td></td>
<td>6</td>
<td>9</td>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>AGRICULTURAL LEADERSHIP EDUCATION &amp; COMMUNICATION</td>
<td>PHD</td>
<td></td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>AGRICULTURAL SCIENCE</td>
<td>BS</td>
<td></td>
<td>16</td>
<td>33</td>
<td>1</td>
<td>50</td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>AGRICULTURAL SYSTEMS MANAGEMENT</td>
<td>BS</td>
<td></td>
<td>9</td>
<td>23</td>
<td>5</td>
<td>37</td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>AGRICULTURAL SYSTEMS MANAGEMENT</td>
<td>MS</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>AGRONOMY</td>
<td>MS</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>AGRONOMY</td>
<td>PHD</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>ANIMAL BREEDING</td>
<td>MS</td>
<td></td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>College</td>
<td>Degree Program</td>
<td>Number of Graduates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------------------------------------------------</td>
<td>---------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fall</td>
<td>Spring</td>
<td>Summer</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>SCIENCES</td>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ANIMAL SCIENCE</td>
<td>BS</td>
<td>34</td>
<td>77</td>
<td>12</td>
<td>123</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ANIMAL SCIENCE</td>
<td>MAGR</td>
<td>6</td>
<td>4</td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ANIMAL SCIENCE</td>
<td>MS</td>
<td>6</td>
<td>1</td>
<td>5</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ANIMAL SCIENCE</td>
<td>PHD</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ANIMAL SCIENCE-PRODUCTION/INDUSTRY</td>
<td>BS</td>
<td>45</td>
<td>64</td>
<td>22</td>
<td>131</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BIOCHEMISTRY</td>
<td>BS</td>
<td>9</td>
<td>29</td>
<td>4</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BIOCHEMISTRY</td>
<td>MS</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BIOCHEMISTRY</td>
<td>PHD</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BIOENVIRONMENTAL SCIENCES</td>
<td>BS</td>
<td>31</td>
<td>44</td>
<td>14</td>
<td>89</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BIOLOGICAL AND AGRICULTURAL ENGINEERING</td>
<td>BS</td>
<td>10</td>
<td>34</td>
<td></td>
<td>44</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BIOLOGICAL AND AGRICULTURAL ENGINEERING</td>
<td>MENG</td>
<td>3</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BIOLOGICAL AND AGRICULTURAL ENGINEERING</td>
<td>MS</td>
<td>2</td>
<td>7</td>
<td></td>
<td>9</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BIOLOGICAL AND AGRICULTURAL ENGINEERING</td>
<td>PHD</td>
<td>2</td>
<td>2</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>COMMUNITY DEVELOPMENT</td>
<td>BS</td>
<td>5</td>
<td>2</td>
<td></td>
<td>7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ECOLOGICAL RESTORATION</td>
<td>BS</td>
<td>3</td>
<td>5</td>
<td></td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ecosystem Science &amp; Mgmt</td>
<td>MS</td>
<td>2</td>
<td>5</td>
<td></td>
<td>7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ecosystem Science &amp; Mgmt</td>
<td>PHD</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ENTOMOLOGY</td>
<td>BS</td>
<td>1</td>
<td>9</td>
<td>1</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>College</td>
<td>Degree Program</td>
<td>Number of Graduates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>----------------------------------------</td>
<td>---------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Degree</td>
<td>Fall 2015</td>
<td>Spring 2016</td>
<td>Summer 2016</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>SCIENCES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>ENTOMOLOGY</td>
<td>MS</td>
<td>5</td>
<td>4</td>
<td>1</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>ENTOMOLOGY</td>
<td>PHD</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>FOOD SCI &amp; TCHN-FOOD SCI</td>
<td>BS</td>
<td>5</td>
<td>8</td>
<td></td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>FOOD SCI &amp; TCHN-INDUSTRY</td>
<td>BS</td>
<td>5</td>
<td>20</td>
<td>3</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>FORENSIC &amp; INVESTIGATIVE SCIENCES</td>
<td>BS</td>
<td>1</td>
<td>16</td>
<td>1</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>FORESTRY</td>
<td>BS</td>
<td>4</td>
<td>6</td>
<td>1</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>GENETICS</td>
<td>BS</td>
<td>11</td>
<td>14</td>
<td></td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>HORTICULTURE</td>
<td>BA</td>
<td>7</td>
<td>9</td>
<td>2</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>HORTICULTURE</td>
<td>BS</td>
<td>12</td>
<td>12</td>
<td>3</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>HORTICULTURE</td>
<td>MAGR</td>
<td>1</td>
<td>1</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>HORTICULTURE</td>
<td>MS</td>
<td>1</td>
<td></td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>HORTICULTURE</td>
<td>PHD</td>
<td>2</td>
<td></td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>NATURAL RESOURCES DEVELOPMENT</td>
<td>MNRD</td>
<td>1</td>
<td>2</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>NUTRITIONAL SCIENCE</td>
<td>BS</td>
<td>55</td>
<td>68</td>
<td>18</td>
<td>141</td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>PHYSIOLOGY OF REPRODUCTION</td>
<td>MS</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>PHYSIOLOGY OF REPRODUCTION</td>
<td>PHD</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>PLANT &amp; ENVRNMNTL SOIL SCIENCE</td>
<td>BS</td>
<td>13</td>
<td>15</td>
<td>3</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>PLANT BREEDING</td>
<td>MS</td>
<td>2</td>
<td>5</td>
<td>1</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>College</td>
<td>Degree Program</td>
<td>Number of Graduates</td>
<td>Degree</td>
<td>Fall 2015</td>
<td>Spring 2016</td>
<td>Summer 2016</td>
<td>Total</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-----------------------------------</td>
<td>---------------------</td>
<td>--------</td>
<td>-----------</td>
<td>-------------</td>
<td>-------------</td>
<td>-------</td>
</tr>
<tr>
<td>SCIENCES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE</td>
<td>PLANT BREEDING</td>
<td>PHD</td>
<td></td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>SCIENCES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE</td>
<td>PLANT PATHOLOGY</td>
<td>MS</td>
<td></td>
<td></td>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>SCIENCES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE</td>
<td>PLANT PATHOLOGY</td>
<td>PHD</td>
<td></td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>SCIENCES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE</td>
<td>POULTRY SCIENCE</td>
<td>BS</td>
<td></td>
<td>3</td>
<td>4</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>SCIENCES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE</td>
<td>POULTRY SCIENCE</td>
<td>MAGR</td>
<td></td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>SCIENCES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE</td>
<td>POULTRY SCIENCE</td>
<td>PHD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>SCIENCES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE</td>
<td>POULTRY SCIENCE-INDUSTRY</td>
<td>BS</td>
<td></td>
<td>8</td>
<td>15</td>
<td>4</td>
<td>27</td>
</tr>
<tr>
<td>SCIENCES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE</td>
<td>RANGLND ECL &amp; MGT-</td>
<td>BS</td>
<td></td>
<td>3</td>
<td>9</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>SCIENCES</td>
<td>RANCH MANAGEMENT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE</td>
<td>RANGLND ECL &amp; MGT-</td>
<td>BS</td>
<td></td>
<td>1</td>
<td>2</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>SCIENCES</td>
<td>RANGELAND RESOURCES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE</td>
<td>REC, PARK &amp; TOURISM SCI-COM</td>
<td>BS</td>
<td></td>
<td>4</td>
<td>1</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>SCIENCES</td>
<td>REC &amp; PRKS ADMIN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE</td>
<td>REC, PARK &amp; TOURISM SCI-COM</td>
<td>BS</td>
<td></td>
<td>2</td>
<td>8</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>SCIENCES</td>
<td>REC &amp; PRKS ADMIN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE</td>
<td>REC, PARK &amp; TOURISM SCI-PARKS &amp;</td>
<td>BS</td>
<td></td>
<td>4</td>
<td>3</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>SCIENCES</td>
<td>CONSERVATION</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE</td>
<td>REC, PARK &amp; TOURISM SCI-TOURISM</td>
<td>BS</td>
<td></td>
<td>20</td>
<td>28</td>
<td>11</td>
<td>59</td>
</tr>
<tr>
<td>SCIENCES</td>
<td>MANAGEMENT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE</td>
<td>REC, PARK &amp; TOURISM SCI-YOUTH</td>
<td>BS</td>
<td></td>
<td>16</td>
<td>20</td>
<td>5</td>
<td>41</td>
</tr>
<tr>
<td>SCIENCES</td>
<td>DEVELOPMENT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE</td>
<td>RECREATION, PARK &amp;</td>
<td>MS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>SCIENCES</td>
<td>TOURISM SCI</td>
<td></td>
<td></td>
<td>6</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE</td>
<td>RECREATION, PARK &amp;</td>
<td>PHD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>SCIENCES</td>
<td>TOURISM SCI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE</td>
<td>RENEWABLE NATURAL RESOURCES</td>
<td>BS</td>
<td></td>
<td>11</td>
<td>17</td>
<td></td>
<td>28</td>
</tr>
<tr>
<td>SCIENCES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGRICULTURE AND LIFE</td>
<td>SOIL SCIENCE</td>
<td>MS</td>
<td></td>
<td>3</td>
<td>1</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>College</td>
<td>Degree Program</td>
<td>Number of Graduates</td>
<td>Degree</td>
<td>Fall 2015</td>
<td>Spring 2016</td>
<td>Summer 2016</td>
<td>Total</td>
</tr>
<tr>
<td>------------------------------</td>
<td>---------------------------------------</td>
<td>---------------------</td>
<td>--------</td>
<td>-----------</td>
<td>-------------</td>
<td>-------------</td>
<td>-------</td>
</tr>
<tr>
<td>SCIENCES</td>
<td>AGRI CULTURE AND LIFE SCIENCES</td>
<td>SOIL SCIENCE</td>
<td>PHD</td>
<td>1</td>
<td>1</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>SPATIAL SCIENCES</td>
<td>BS</td>
<td>2</td>
<td>3</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>TURFGRASS SCIENCE</td>
<td>BS</td>
<td>7</td>
<td>3</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>WILDLIFE &amp; FISHERIES SCIENCES</td>
<td>BS</td>
<td>5</td>
<td>3</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>WILDLIFE &amp; FISHERIES SCIENCES</td>
<td>MS</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>WILDLIFE SCIENCE</td>
<td>PHD</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>WILDLIFE SCIENCE</td>
<td>MWSC</td>
<td>3</td>
<td>2</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>WL &amp; FS SCI-VERTEBRATE ZOOLOGY</td>
<td>BS</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>AGRICULTURE AND LIFE SCIENCES</td>
<td>WL &amp; FS SCI-WILDLIFE ECOLOGY &amp; CONSERVATION</td>
<td>BS</td>
<td>32</td>
<td>51</td>
<td>13</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td>ARCHITECTURE</td>
<td>ARCHITECTURE</td>
<td>MARCH</td>
<td>5</td>
<td>38</td>
<td>1</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>ARCHITECTURE</td>
<td>ARCHITECTURE</td>
<td>MS</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>ARCHITECTURE</td>
<td>ARCHITECTURE</td>
<td>PHD</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>ARCHITECTURE</td>
<td>BUILDING CONSTRUCTION</td>
<td>BS</td>
<td>54</td>
<td>116</td>
<td>37</td>
<td>207</td>
</tr>
<tr>
<td></td>
<td>ARCHITECTURE</td>
<td>CONSTRUCTION MANAGEMENT</td>
<td>MS</td>
<td>8</td>
<td>37</td>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>ARCHITECTURE</td>
<td>ENVIRONMENTAL DESIGN ARCHITECTURAL STUDIES</td>
<td>BED</td>
<td>22</td>
<td>62</td>
<td>1</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>ARCHITECTURE</td>
<td>LAND &amp; PROPERTY DEVELOPMENT</td>
<td>MLPD</td>
<td>12</td>
<td>7</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>ARCHITECTURE</td>
<td>LANDSCAPE ARCHITECTURE</td>
<td>BLA</td>
<td>19</td>
<td></td>
<td></td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>ARCHITECTURE</td>
<td>LANDSCAPE ARCHITECTURE</td>
<td>MLA</td>
<td>20</td>
<td></td>
<td></td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>ARCHITECTURE</td>
<td>URBAN &amp; REGIONAL PLANNING</td>
<td>BS</td>
<td>4</td>
<td>12</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>ARCHITECTURE</td>
<td>URBAN &amp; REGIONAL PLANNING</td>
<td>MUP</td>
<td>5</td>
<td>18</td>
<td>6</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>ARCHITECTURE</td>
<td>URBAN &amp; REGIONAL SCIENCE</td>
<td>PHD</td>
<td>3</td>
<td>1</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>ARCHITECTURE</td>
<td>VISUALIZATION</td>
<td>MFA</td>
<td>3</td>
<td>1</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>College</td>
<td>Degree Program</td>
<td>Number of Graduates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>---------------------------------------</td>
<td>---------------------</td>
<td>---------------------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Degree</td>
<td>Fall 2015</td>
<td>Spring 2016</td>
<td>Summer 2016</td>
<td>Total</td>
</tr>
<tr>
<td>ARCHITECTURE</td>
<td>VISUALIZATION</td>
<td>MS</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>ARCHITECTURE</td>
<td>VISUALIZATION</td>
<td>BS</td>
<td>13</td>
<td>38</td>
<td>6</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td>BUSH SCHOOL OF GOVERNMENT &amp; PUBLIC SERVICE</td>
<td>HOMELAND SECURITY CERTIFICATE</td>
<td>CER</td>
<td>1</td>
<td>10</td>
<td></td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>BUSH SCHOOL OF GOVERNMENT &amp; PUBLIC SERVICE</td>
<td>INTERNATIONAL AFFAIRS</td>
<td>MIA</td>
<td>8</td>
<td>81</td>
<td>6</td>
<td>95</td>
<td></td>
</tr>
<tr>
<td>BUSH SCHOOL OF GOVERNMENT &amp; PUBLIC SERVICE</td>
<td>INTERNATIONAL AFFAIRS</td>
<td>CER</td>
<td>10</td>
<td>22</td>
<td>12</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td>BUSH SCHOOL OF GOVERNMENT &amp; PUBLIC SERVICE</td>
<td>NON-PROFIT MANAGEMENT CERTIFICATE</td>
<td>CER</td>
<td>13</td>
<td>20</td>
<td>10</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>BUSH SCHOOL OF GOVERNMENT &amp; PUBLIC SERVICE</td>
<td>PUBLIC SERVICE AND ADMINISTRATION</td>
<td>MPSA</td>
<td>1</td>
<td>64</td>
<td>4</td>
<td>69</td>
<td></td>
</tr>
<tr>
<td>BUSINESS</td>
<td>ACCOUNTING</td>
<td>BBA</td>
<td>37</td>
<td>271</td>
<td>12</td>
<td>320</td>
<td></td>
</tr>
<tr>
<td>BUSINESS</td>
<td>ACCOUNTING</td>
<td>MS</td>
<td>15</td>
<td>115</td>
<td>8</td>
<td>138</td>
<td></td>
</tr>
<tr>
<td>BUSINESS</td>
<td>BUSINESS ADMINISTRATION</td>
<td>MBA</td>
<td>51</td>
<td>3</td>
<td>4</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>BUSINESS</td>
<td>BUSINESS ADMINISTRATION</td>
<td>PHD</td>
<td>1</td>
<td>5</td>
<td>13</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>BUSINESS</td>
<td>BUSINESS HONORS</td>
<td>BBA</td>
<td>6</td>
<td>52</td>
<td>1</td>
<td>59</td>
<td></td>
</tr>
<tr>
<td>BUSINESS</td>
<td>EXECUTIVE MBA</td>
<td>MBA</td>
<td>1</td>
<td>49</td>
<td></td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>BUSINESS</td>
<td>FINANCE</td>
<td>BBA</td>
<td>49</td>
<td>180</td>
<td>13</td>
<td>242</td>
<td></td>
</tr>
<tr>
<td>BUSINESS</td>
<td>FINANCE</td>
<td>MBA</td>
<td>16</td>
<td>95</td>
<td>1</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>BUSINESS</td>
<td>FINANCIAL MANAGEMENT</td>
<td>MFM</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>BUSINESS</td>
<td>LAND ECONOMICS &amp; REAL ESTATE</td>
<td>MRE</td>
<td>14</td>
<td>9</td>
<td>2</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>BUSINESS</td>
<td>MANAGEMENT</td>
<td>BBA</td>
<td>36</td>
<td>131</td>
<td>12</td>
<td>179</td>
<td></td>
</tr>
<tr>
<td>BUSINESS</td>
<td>MANAGEMENT</td>
<td>MS</td>
<td>33</td>
<td>49</td>
<td>2</td>
<td>84</td>
<td></td>
</tr>
<tr>
<td>BUSINESS</td>
<td>MANAGEMENT INFORMATION SYSTEMS</td>
<td>BBA</td>
<td>13</td>
<td>35</td>
<td>3</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td>BUSINESS</td>
<td>MANAGEMENT INFORMATION SYSTEMS</td>
<td>MS</td>
<td>5</td>
<td>149</td>
<td>2</td>
<td>156</td>
<td></td>
</tr>
<tr>
<td>BUSINESS</td>
<td>MARKETING</td>
<td>BBA</td>
<td>47</td>
<td>144</td>
<td>15</td>
<td>206</td>
<td></td>
</tr>
<tr>
<td>BUSINESS</td>
<td>MARKETING</td>
<td>MS</td>
<td>30</td>
<td>8</td>
<td></td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>BUSINESS</td>
<td>PROFESSIONAL MBA</td>
<td>MBA</td>
<td>46</td>
<td></td>
<td></td>
<td>46</td>
<td></td>
</tr>
<tr>
<td>College</td>
<td>Degree Program</td>
<td>Number of Graduates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
<td>------------------------------------------</td>
<td>---------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Degree</td>
<td>Fall 2015</td>
<td>Spring 2016</td>
<td>Summer 2016</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>BUSINESS</td>
<td>SUPPLY CHAIN MANAGEMENT</td>
<td>BBA</td>
<td>36</td>
<td>130</td>
<td>7</td>
<td>173</td>
<td></td>
</tr>
<tr>
<td>DENTISTRY</td>
<td>ADVANCED EDUCATION IN GENERAL DENTISTRY</td>
<td>CER</td>
<td></td>
<td></td>
<td></td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>DENTISTRY</td>
<td>DENTAL HYGIENE</td>
<td>BS</td>
<td></td>
<td>25</td>
<td></td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>DENTISTRY</td>
<td>DENTISTRY</td>
<td>DDS</td>
<td>1</td>
<td>103</td>
<td>1</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>DENTISTRY</td>
<td>ENDODONTICS</td>
<td>CER</td>
<td>3</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>DENTISTRY</td>
<td>MAXILLOFACIAL SURGERY</td>
<td>CER</td>
<td>3</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>DENTISTRY</td>
<td>ORAL AND MAXILLOFACIAL PATHOLOGY</td>
<td>CER</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>DENTISTRY</td>
<td>ORAL BIOLOGY</td>
<td>MS</td>
<td>1</td>
<td>12</td>
<td></td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>DENTISTRY</td>
<td>ORTHODONTICS</td>
<td>CER</td>
<td>6</td>
<td></td>
<td></td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>DENTISTRY</td>
<td>Pediatric Dentistry</td>
<td>CER</td>
<td>11</td>
<td></td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DENTISTRY</td>
<td>PERIODONTICS</td>
<td>CER</td>
<td>3</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>DENTISTRY</td>
<td>PROSTHODONTICS</td>
<td>CER</td>
<td>2</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDUCATION &amp; HUMAN DEVELOPMENT</td>
<td>ATHLETIC TRAINING</td>
<td>MS</td>
<td>14</td>
<td></td>
<td></td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>EDUCATION &amp; HUMAN DEVELOPMENT</td>
<td>BILINGUAL EDUCATION</td>
<td>MED</td>
<td>1</td>
<td>3</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>EDUCATION &amp; HUMAN DEVELOPMENT</td>
<td>COMMUNITY HEALTH</td>
<td>BS</td>
<td>19</td>
<td>60</td>
<td>39</td>
<td>118</td>
<td></td>
</tr>
<tr>
<td>EDUCATION &amp; HUMAN DEVELOPMENT</td>
<td>COUNSELING PSYCHOLOGY</td>
<td>PHD</td>
<td>1</td>
<td>5</td>
<td></td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>EDUCATION &amp; HUMAN DEVELOPMENT</td>
<td>CURRICULUM &amp; INSTRUCTION</td>
<td>EDD</td>
<td>4</td>
<td>4</td>
<td></td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>EDUCATION &amp; HUMAN DEVELOPMENT</td>
<td>CURRICULUM &amp; INSTRUCTION</td>
<td>MED</td>
<td>15</td>
<td>60</td>
<td>50</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>EDUCATION &amp; HUMAN DEVELOPMENT</td>
<td>CURRICULUM &amp; INSTRUCTION</td>
<td>MS</td>
<td>2</td>
<td></td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>EDUCATION &amp; HUMAN DEVELOPMENT</td>
<td>CURRICULUM &amp; INSTRUCTION</td>
<td>PHD</td>
<td>4</td>
<td>9</td>
<td>5</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>EDUCATION &amp; HUMAN DEVELOPMENT</td>
<td>EDUC HUMAN RESOURCE DEVELOPMENT</td>
<td>MS</td>
<td>14</td>
<td>18</td>
<td>7</td>
<td>39</td>
<td></td>
</tr>
<tr>
<td>EDUCATION &amp; HUMAN DEVELOPMENT</td>
<td>EDUC HUMAN RESOURCE DEVELOPMENT</td>
<td>PHD</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDUCATION &amp; HUMAN DEVELOPMENT</td>
<td>EDUCATIONAL ADMINISTRATION</td>
<td>EDD</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDUCATION &amp; HUMAN DEVELOPMENT</td>
<td>EDUCATIONAL</td>
<td>MED</td>
<td>7</td>
<td>13</td>
<td></td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>College</td>
<td>Degree Program</td>
<td>Number of Graduates</td>
<td></td>
<td></td>
<td></td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>----------------------------------</td>
<td>--------------------</td>
<td>---------------------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Degree</td>
<td>Fall</td>
<td>Spring</td>
<td>Summer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HUMAN DEVELOPMENT</td>
<td>ADMINISTRATION</td>
<td>MS</td>
<td>2</td>
<td>20</td>
<td>2</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>EDUCATION &amp; HUMAN DEVELOPMENT</td>
<td>ADMINISTRATION</td>
<td>PHD</td>
<td>7</td>
<td>1</td>
<td>5</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>EDUCATION &amp; HUMAN DEVELOPMENT</td>
<td>EDUCATIONAL</td>
<td>MED</td>
<td>12</td>
<td>30</td>
<td>3</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ADMINISTRATION</td>
<td>MED</td>
<td>4</td>
<td>10</td>
<td>4</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>EDUCATION &amp; HUMAN DEVELOPMENT</td>
<td>HEALTH</td>
<td>BS</td>
<td>115</td>
<td>187</td>
<td>38</td>
<td>340</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HEALTH EDUCATION</td>
<td>MS</td>
<td>8</td>
<td>10</td>
<td>5</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HEALTH EDUCATION</td>
<td>PHD</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HUMAN RESOURCES</td>
<td>BS</td>
<td>23</td>
<td>52</td>
<td>36</td>
<td>111</td>
<td></td>
</tr>
<tr>
<td>EDUCATION &amp; HUMAN DEVELOPMENT</td>
<td>DEVELOPMENT</td>
<td>BS</td>
<td>157</td>
<td>243</td>
<td>2</td>
<td>402</td>
<td></td>
</tr>
<tr>
<td></td>
<td>INTERDISCIPLINARY</td>
<td>BS</td>
<td>73</td>
<td>106</td>
<td>42</td>
<td>221</td>
<td></td>
</tr>
<tr>
<td></td>
<td>KINESIOLOGY</td>
<td>MS</td>
<td>4</td>
<td>13</td>
<td>3</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>KINESIOLOGY</td>
<td>PHD</td>
<td>6</td>
<td>5</td>
<td>7</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SCHOOL PSYCHOLOGY</td>
<td>PHD</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SPECIAL EDUCATION</td>
<td>MED</td>
<td>24</td>
<td>5</td>
<td>5</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SPORTS MANAGEMENT</td>
<td>BS</td>
<td>42</td>
<td>60</td>
<td>34</td>
<td>136</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SPORTS MANAGEMENT</td>
<td>MS</td>
<td>15</td>
<td>16</td>
<td>15</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td>College</td>
<td>Degree Program</td>
<td>Number of Graduates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>------------------------------</td>
<td>---------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Degree</td>
<td>Fall 2015</td>
<td>Spring 2016</td>
<td>Summer 2016</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>BS</td>
<td>21</td>
<td>33</td>
<td>7</td>
<td>61</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MENG R</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MS</td>
<td>1</td>
<td>3</td>
<td>7</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PHD</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>BS</td>
<td>7</td>
<td>63</td>
<td>1</td>
<td>71</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MENG R</td>
<td>3</td>
<td>1</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MS</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PHD</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>BS</td>
<td>47</td>
<td>74</td>
<td>10</td>
<td>131</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MENG R</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MS</td>
<td>2</td>
<td>10</td>
<td>14</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PHD</td>
<td>6</td>
<td>10</td>
<td>4</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>BS</td>
<td>91</td>
<td>93</td>
<td>5</td>
<td>189</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MENG R</td>
<td>54</td>
<td>52</td>
<td>16</td>
<td>122</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MS</td>
<td>11</td>
<td>9</td>
<td>7</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PHD</td>
<td>14</td>
<td>8</td>
<td>11</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MENG R</td>
<td>27</td>
<td>40</td>
<td>4</td>
<td>71</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MS</td>
<td>7</td>
<td>5</td>
<td>6</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PHD</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>BS</td>
<td>24</td>
<td>36</td>
<td>3</td>
<td>63</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MS</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PHD</td>
<td>4</td>
<td>1</td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>BS</td>
<td>11</td>
<td>21</td>
<td></td>
<td>32</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MENG R</td>
<td>3</td>
<td>5</td>
<td></td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>BS</td>
<td>48</td>
<td>63</td>
<td>9</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MCS</td>
<td>17</td>
<td>24</td>
<td>2</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MS</td>
<td>6</td>
<td>9</td>
<td>6</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PHD</td>
<td>7</td>
<td>8</td>
<td>8</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>BS</td>
<td>90</td>
<td>115</td>
<td>10</td>
<td>215</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>MENG R</td>
<td>21</td>
<td>54</td>
<td>7</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>College</td>
<td>Degree Program</td>
<td>Number of Graduates</td>
<td>Degree</td>
<td>Fall 2015</td>
<td>Spring 2016</td>
<td>Summer 2016</td>
<td>Total</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------------------------------------</td>
<td>---------------------</td>
<td>--------</td>
<td>-----------</td>
<td>-------------</td>
<td>-------------</td>
<td>-------</td>
</tr>
<tr>
<td>ENGINEERING</td>
<td>ELECTRICAL ENGINEERING</td>
<td></td>
<td>MS</td>
<td>11</td>
<td>14</td>
<td>11</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>ELECTRICAL ENGINEERING</td>
<td></td>
<td>PHD</td>
<td>11</td>
<td>18</td>
<td>13</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>ELECTRONIC SYSTEMS ENGINEERING TECHNOLOGY</td>
<td></td>
<td>BS</td>
<td>19</td>
<td>26</td>
<td>4</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>ENGINEERING</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>ENGINEERING SYSTEMS MANAGEMENT</td>
<td></td>
<td>MS</td>
<td>3</td>
<td>18</td>
<td>1</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>ENGR TCHN-MANUFACTURING &amp; MCHNCL ENGR</td>
<td></td>
<td>BS</td>
<td>41</td>
<td>49</td>
<td>2</td>
<td>92</td>
</tr>
<tr>
<td></td>
<td>HEALTH PHYSICS</td>
<td></td>
<td>MS</td>
<td>2</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>INDUSTRIAL DISTRIBUTION</td>
<td></td>
<td>MID</td>
<td>1</td>
<td>66</td>
<td></td>
<td>67</td>
</tr>
<tr>
<td></td>
<td>INDUSTRIAL DISTRIBUTION</td>
<td></td>
<td>BS</td>
<td>76</td>
<td>84</td>
<td>9</td>
<td>169</td>
</tr>
<tr>
<td></td>
<td>INDUSTRIAL ENGINEERING</td>
<td></td>
<td>BS</td>
<td>83</td>
<td>87</td>
<td>6</td>
<td>176</td>
</tr>
<tr>
<td></td>
<td>INDUSTRIAL ENGINEERING</td>
<td></td>
<td>MENG</td>
<td>10</td>
<td>29</td>
<td>12</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>INDUSTRIAL ENGINEERING</td>
<td></td>
<td>MS</td>
<td>2</td>
<td>19</td>
<td>3</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>INDUSTRIAL ENGINEERING</td>
<td></td>
<td>PHD</td>
<td>5</td>
<td>1</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>INTERDISCIPLINARY ENGINEERING</td>
<td></td>
<td>PHD</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>MATERIALS SCIENCE &amp; ENGINEERING</td>
<td></td>
<td>MENG</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MATERIALS SCIENCE &amp; ENGINEERING</td>
<td></td>
<td>MS</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>MATERIALS SCIENCE &amp; ENGINEERING</td>
<td></td>
<td>PHD</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>MECHANICAL ENGINEERING</td>
<td></td>
<td>BS</td>
<td>92</td>
<td>151</td>
<td>33</td>
<td>276</td>
</tr>
<tr>
<td></td>
<td>MECHANICAL ENGINEERING</td>
<td></td>
<td>MENG</td>
<td>8</td>
<td>12</td>
<td>4</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>MECHANICAL ENGINEERING</td>
<td></td>
<td>MS</td>
<td>21</td>
<td>13</td>
<td>20</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>MECHANICAL ENGINEERING</td>
<td></td>
<td>PHD</td>
<td>9</td>
<td>9</td>
<td>15</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>NUCLEAR ENGINEERING</td>
<td></td>
<td>BS</td>
<td>6</td>
<td>19</td>
<td>1</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>NUCLEAR ENGINEERING</td>
<td></td>
<td>MENG</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>NUCLEAR ENGINEERING</td>
<td></td>
<td>MS</td>
<td>6</td>
<td>9</td>
<td>6</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>NUCLEAR ENGINEERING</td>
<td></td>
<td>PHD</td>
<td>5</td>
<td>7</td>
<td>9</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>OCEAN ENGINEERING</td>
<td></td>
<td>BS</td>
<td>9</td>
<td>25</td>
<td>1</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>OCEAN ENGINEERING</td>
<td></td>
<td>MENG</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>OCEAN ENGINEERING</td>
<td></td>
<td>MS</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>College</td>
<td>Degree Program</td>
<td>Number of Graduates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------------------------</td>
<td>---------------------</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Degree</td>
<td>Fall 2015</td>
<td>Spring 2016</td>
<td>Summer 2016</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>ENGINEERING</td>
<td>OCEAN ENGINEERING</td>
<td>PHD</td>
<td>1</td>
<td>2</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ENGINEERING</td>
<td>PETROLEUM ENGINEERING</td>
<td>BS</td>
<td>45</td>
<td>114</td>
<td>5</td>
<td>164</td>
<td></td>
</tr>
<tr>
<td>ENGINEERING</td>
<td>PETROLEUM ENGINEERING</td>
<td>MENG</td>
<td>10</td>
<td>16</td>
<td>9</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>ENGINEERING</td>
<td>PETROLEUM ENGINEERING</td>
<td>MS</td>
<td>22</td>
<td>15</td>
<td>28</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>ENGINEERING</td>
<td>PETROLEUM ENGINEERING</td>
<td>PHD</td>
<td>3</td>
<td>6</td>
<td>5</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>ENGINEERING</td>
<td>RADIATIONAL HEALTH ENGINEERING</td>
<td>BS</td>
<td>4</td>
<td>15</td>
<td></td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>ENGINEERING</td>
<td>SAFETY ENGINEERING</td>
<td>MS</td>
<td>7</td>
<td>2</td>
<td>1</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>GEOSCIENCES</td>
<td>ATMOSPHERIC SCIENCE</td>
<td>BS</td>
<td>4</td>
<td>7</td>
<td>2</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>GEOSCIENCES</td>
<td>ATMOSPHERIC SCIENCE</td>
<td>BS</td>
<td>3</td>
<td>12</td>
<td>2</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>GEOSCIENCES</td>
<td>GEOGRAPHY</td>
<td>BS</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>GEOSCIENCES</td>
<td>GEOGRAPHY</td>
<td>MS</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>GEOSCIENCES</td>
<td>GEOLOGY</td>
<td>BA</td>
<td>3</td>
<td>4</td>
<td></td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>GEOSCIENCES</td>
<td>GEOLOGY</td>
<td>BS</td>
<td>19</td>
<td>31</td>
<td>25</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>GEOSCIENCES</td>
<td>GEOLOGY</td>
<td>MS</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>GEOSCIENCES</td>
<td>GEOLOGY</td>
<td>PHD</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>GEOSCIENCES</td>
<td>GEOPHYSICS</td>
<td>BS</td>
<td>11</td>
<td>21</td>
<td>2</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>GEOSCIENCES</td>
<td>GEOPHYSICS</td>
<td>MS</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>GEOSCIENCES</td>
<td>GEOPHYSICS</td>
<td>PHD</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>GEOSCIENCES</td>
<td>GEOSCIENCES</td>
<td>MGSC</td>
<td>1</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>GEOSCIENCES</td>
<td>METEOROLOGY</td>
<td>BS</td>
<td>4</td>
<td>14</td>
<td>1</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>GEOSCIENCES</td>
<td>OCEANOGRAPHY</td>
<td>MS</td>
<td>1</td>
<td>4</td>
<td>5</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>GEOSCIENCES</td>
<td>OCEANOGRAPHY</td>
<td>PHD</td>
<td>3</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>GEOSCIENCES</td>
<td>SPATIAL SCIENCES</td>
<td>BS</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>ANTHROPOLOGY</td>
<td>BA</td>
<td>15</td>
<td>31</td>
<td>4</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>ANTHROPOLOGY</td>
<td>MA</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>ANTHROPOLOGY</td>
<td>PHD</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>CLASSICS</td>
<td>BA</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>CLINICAL PSYCHOLOGY</td>
<td>PHD</td>
<td>2</td>
<td></td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>COMMUNICATION</td>
<td>BA</td>
<td>88</td>
<td>147</td>
<td>36</td>
<td>271</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>COMMUNICATION</td>
<td>MA</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>COMMUNICATION</td>
<td>PHD</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>ECONOMICS</td>
<td>BA</td>
<td>5</td>
<td>13</td>
<td>5</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>ECONOMICS</td>
<td>BS</td>
<td>68</td>
<td>95</td>
<td>36</td>
<td>199</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>ECONOMICS</td>
<td>MS</td>
<td>30</td>
<td>55</td>
<td></td>
<td>85</td>
<td></td>
</tr>
<tr>
<td>College</td>
<td>Degree Program</td>
<td>Number of Graduates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td>---------------------------------</td>
<td>---------------------</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Degree</td>
<td>Fall 2015</td>
<td>Spring 2016</td>
<td>Summer 2016</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>ECONOMICS</td>
<td>PHD</td>
<td>8</td>
<td>4</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>ENGLISH</td>
<td>BA</td>
<td>55</td>
<td>92</td>
<td>17</td>
<td>164</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>ENGLISH</td>
<td>MA</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>ENGLISH</td>
<td>PHD</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>HISPANIC STUDIES</td>
<td>PHD</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>HISTORY</td>
<td>BA</td>
<td>48</td>
<td>99</td>
<td>18</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>HISTORY</td>
<td>MA</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td></td>
<td>PHD</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY</td>
<td>PHD</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>INTERNATIONAL STUDIES</td>
<td>BA</td>
<td>53</td>
<td>81</td>
<td>13</td>
<td>147</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>MODERN LANGUAGES</td>
<td>BA</td>
<td>1</td>
<td>3</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>MUSIC</td>
<td>BA</td>
<td>2</td>
<td>8</td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>PERFORMANCE STUDIES</td>
<td>MA</td>
<td>7</td>
<td>1</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>PHILOSOPHY</td>
<td>BA</td>
<td>9</td>
<td>12</td>
<td>5</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>PHILOSOPHY</td>
<td>MA</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>PHILOSOPHY</td>
<td>PHD</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>POLITICAL SCIENCE</td>
<td>BA</td>
<td>38</td>
<td>90</td>
<td>31</td>
<td>159</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>POLITICAL SCIENCE</td>
<td>BS</td>
<td>21</td>
<td>48</td>
<td>7</td>
<td>76</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>POLITICAL SCIENCE</td>
<td>MA</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>POLITICAL SCIENCE</td>
<td>PHD</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>PSYCHOLOGY</td>
<td>BA</td>
<td>29</td>
<td>55</td>
<td>9</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>PSYCHOLOGY</td>
<td>BS</td>
<td>83</td>
<td>166</td>
<td>27</td>
<td>276</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>PSYCHOLOGY</td>
<td>MS</td>
<td>3</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>PSYCHOLOGY</td>
<td>PHD</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>SOCIOLOGY</td>
<td>BA</td>
<td>16</td>
<td>30</td>
<td>11</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>SOCIOLOGY</td>
<td>BS</td>
<td>25</td>
<td>66</td>
<td>22</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>SOCIOLOGY</td>
<td>MS</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>SOCIOLOGY</td>
<td>PHD</td>
<td>3</td>
<td>6</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>SPANISH</td>
<td>BA</td>
<td>11</td>
<td>18</td>
<td>7</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>TELECOMMUNICATION MEDIA STUDIES</td>
<td>BA</td>
<td>21</td>
<td>24</td>
<td>5</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>TELECOMMUNICATION MEDIA STUDIES</td>
<td>BS</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>THEATER ARTS</td>
<td>BA</td>
<td>3</td>
<td>9</td>
<td>2</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>LIBERAL ARTS</td>
<td>WOMEN'S AND GENDER STUDIES</td>
<td>BA</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEDICINE</td>
<td>EDUCATION FOR HEALTHCARE PROFESSIONALS</td>
<td>MS</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>MEDICINE</td>
<td>MEDICAL SCIENCES</td>
<td>MS</td>
<td>3</td>
<td>3</td>
<td></td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>MEDICINE</td>
<td>MEDICAL SCIENCES</td>
<td>PHD</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>MEDICINE</td>
<td>MEDICINE</td>
<td>MD</td>
<td>9</td>
<td>185</td>
<td></td>
<td>194</td>
<td></td>
</tr>
<tr>
<td>College</td>
<td>Degree Program</td>
<td>Number of Graduates</td>
<td>Degree</td>
<td>Fall 2015</td>
<td>Spring 2016</td>
<td>Summer 2016</td>
<td>Total</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------------------------------------------------</td>
<td>---------------------</td>
<td>--------</td>
<td>-----------</td>
<td>-------------</td>
<td>-------------</td>
<td>-------</td>
</tr>
<tr>
<td>NURSING</td>
<td>FAMILY NURSE PRACTITIONER</td>
<td>MSN</td>
<td></td>
<td>11</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NURSING</td>
<td>NURSING</td>
<td>BSN</td>
<td></td>
<td>10</td>
<td>122</td>
<td>132</td>
<td></td>
</tr>
<tr>
<td>NURSING</td>
<td>NURSING EDUCATION</td>
<td>MSN</td>
<td></td>
<td>8</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHARMACY</td>
<td>PHARMACY</td>
<td>PHARMY MD</td>
<td></td>
<td>1</td>
<td>77</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>PUBLIC HEALTH</td>
<td>BOIOSTATISTICS</td>
<td>MPH</td>
<td></td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PUBLIC HEALTH</td>
<td>ENVIRONMENTAL HEALTH</td>
<td>MPH</td>
<td></td>
<td>2</td>
<td>17</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>PUBLIC HEALTH</td>
<td>ENVIRONMENTAL HEALTH</td>
<td>MSPH</td>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>PUBLIC HEALTH</td>
<td>EPIDEMIOLOGY</td>
<td>MPH</td>
<td></td>
<td>9</td>
<td>19</td>
<td>24</td>
<td>52</td>
</tr>
<tr>
<td>PUBLIC HEALTH</td>
<td>EPIDEMIOLOGY AND ENVIRONMENTAL HEALTH</td>
<td>DRPH</td>
<td></td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>PUBLIC HEALTH</td>
<td>HEALTH ADMINISTRATION</td>
<td>MHA</td>
<td></td>
<td>1</td>
<td>20</td>
<td></td>
<td>21</td>
</tr>
<tr>
<td>PUBLIC HEALTH</td>
<td>HEALTH POLICY AND MANAGEMENT</td>
<td>MPH</td>
<td></td>
<td>6</td>
<td>21</td>
<td>1</td>
<td>28</td>
</tr>
<tr>
<td>PUBLIC HEALTH</td>
<td>HEALTH PROMOTION AND COMMUNITY HEALTH SCIENCES</td>
<td>DRPH</td>
<td></td>
<td>1</td>
<td>2</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>PUBLIC HEALTH</td>
<td>HEALTH PROMOTION AND COMMUNITY HEALTH SCIENCES</td>
<td>MPH</td>
<td></td>
<td>3</td>
<td>15</td>
<td>9</td>
<td>27</td>
</tr>
<tr>
<td>PUBLIC HEALTH</td>
<td>HEALTH SERVICES RESEARCH</td>
<td>PHD</td>
<td></td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>PUBLIC HEALTH</td>
<td>OCCUPATIONAL SAFETY AND HEALTH</td>
<td>MPH</td>
<td></td>
<td>1</td>
<td>6</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>ANALYTICS</td>
<td>MS</td>
<td></td>
<td>21</td>
<td>1</td>
<td></td>
<td>22</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>APPLIED MATHEMATICAL SCIENCES</td>
<td>BS</td>
<td></td>
<td>18</td>
<td>42</td>
<td>6</td>
<td>66</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>APPLIED PHYSICS</td>
<td>PHD</td>
<td></td>
<td>2</td>
<td>1</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>BIOLOGY</td>
<td>BA</td>
<td></td>
<td>10</td>
<td>22</td>
<td>1</td>
<td>33</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>BIOLOGY</td>
<td>BS</td>
<td></td>
<td>54</td>
<td>133</td>
<td>10</td>
<td>197</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>BIOLOGY</td>
<td>MS</td>
<td></td>
<td>3</td>
<td>1</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>BIOLOGY</td>
<td>PHD</td>
<td></td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>CHEMISTRY</td>
<td>BA</td>
<td></td>
<td>8</td>
<td>18</td>
<td>2</td>
<td>28</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>CHEMISTRY</td>
<td>BS</td>
<td></td>
<td>14</td>
<td>24</td>
<td>1</td>
<td>39</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>CHEMISTRY</td>
<td>MS</td>
<td></td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>CHEMISTRY</td>
<td>PHD</td>
<td></td>
<td>15</td>
<td>8</td>
<td>22</td>
<td>45</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>MATHEMATICS</td>
<td>BA</td>
<td></td>
<td>5</td>
<td>16</td>
<td>2</td>
<td>23</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>MATHEMATICS</td>
<td>BS</td>
<td></td>
<td>2</td>
<td>5</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>MATHEMATICS</td>
<td>MS</td>
<td></td>
<td>6</td>
<td>21</td>
<td>5</td>
<td>32</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>MATHEMATICS</td>
<td>PHD</td>
<td></td>
<td>5</td>
<td>4</td>
<td>16</td>
<td>25</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>MICROBIOLOGY</td>
<td>BS</td>
<td></td>
<td>3</td>
<td>14</td>
<td>1</td>
<td>18</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>MICROBIOLOGY</td>
<td>MS</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>MICROBIOLOGY</td>
<td>PHD</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>MOLECULAR &amp; CELL BIOLOGY</td>
<td>BS</td>
<td></td>
<td>8</td>
<td>12</td>
<td>1</td>
<td>21</td>
</tr>
<tr>
<td>College</td>
<td>Degree Program</td>
<td>Number of Graduates</td>
<td>Degree</td>
<td>Fall 2015</td>
<td>Spring 2016</td>
<td>Summer 2016</td>
<td>Total</td>
</tr>
<tr>
<td>--------------------</td>
<td>----------------------</td>
<td>---------------------</td>
<td>--------</td>
<td>-----------</td>
<td>-------------</td>
<td>-------------</td>
<td>-------</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>PHYSICS</td>
<td>BA</td>
<td></td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>PHYSICS</td>
<td>BS</td>
<td></td>
<td>1</td>
<td>17</td>
<td>1</td>
<td>19</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>PHYSICS</td>
<td>MS</td>
<td></td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>PHYSICS</td>
<td>PHD</td>
<td></td>
<td>7</td>
<td>10</td>
<td>10</td>
<td>27</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>STATISTICS</td>
<td>MS</td>
<td></td>
<td>14</td>
<td>27</td>
<td>17</td>
<td>58</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>STATISTICS</td>
<td>PHD</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>ZOOLOGY</td>
<td>BS</td>
<td></td>
<td>2</td>
<td>8</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>TAMU AT GALVESTON</td>
<td>MARINE BIOLOGY</td>
<td>BS</td>
<td></td>
<td>39</td>
<td>70</td>
<td>6</td>
<td>115</td>
</tr>
<tr>
<td>TAMU AT GALVESTON</td>
<td>MARINE ENGINEERING TECHNOLOGY</td>
<td>BS</td>
<td>4</td>
<td>13</td>
<td>5</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>TAMU AT GALVESTON</td>
<td>MARINE FISHERIES</td>
<td>BS</td>
<td></td>
<td>7</td>
<td>11</td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>TAMU AT GALVESTON</td>
<td>MARINE RESOURCES MANAGEMENT</td>
<td>MMRM</td>
<td>4</td>
<td>7</td>
<td>2</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>TAMU AT GALVESTON</td>
<td>MARINE SCIENCES</td>
<td>BS</td>
<td></td>
<td>3</td>
<td>2</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>TAMU AT GALVESTON</td>
<td>MARINE TRANSPORTATION</td>
<td>BS</td>
<td>41</td>
<td>18</td>
<td>21</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>TAMU AT GALVESTON</td>
<td>MARITIME ADMINISTRATION</td>
<td>BS</td>
<td>42</td>
<td>61</td>
<td>14</td>
<td>117</td>
<td></td>
</tr>
<tr>
<td>TAMU AT GALVESTON</td>
<td>MARITIME ADMINISTRATION &amp; LOGISTICS</td>
<td>MMAL</td>
<td>7</td>
<td>5</td>
<td>2</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>TAMU AT GALVESTON</td>
<td>MARITIME STUDIES</td>
<td>BA</td>
<td></td>
<td>6</td>
<td>6</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>TAMU AT GALVESTON</td>
<td>OCEAN AND COASTAL RESOURCES</td>
<td>BS</td>
<td>6</td>
<td>9</td>
<td>2</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>TAMU AT GALVESTON</td>
<td>OFFSHORE &amp; COASTAL SYSTEMS ENGINEERING</td>
<td>BS</td>
<td>20</td>
<td></td>
<td></td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>TEXAS A&amp;M SCHOOL OF LAW</td>
<td>LAW</td>
<td>JD</td>
<td>41</td>
<td>159</td>
<td>5</td>
<td>205</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITY INTERDISCIPLINARY</td>
<td>AGRIBUSINESS</td>
<td>BS</td>
<td>29</td>
<td>61</td>
<td>2</td>
<td>92</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITY INTERDISCIPLINARY</td>
<td>AGRIBUSINESS</td>
<td>MAB</td>
<td>20</td>
<td>6</td>
<td></td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITY INTERDISCIPLINARY</td>
<td>BIOTECHNOLOGY</td>
<td>MBIOT</td>
<td>7</td>
<td>10</td>
<td>1</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITY INTERDISCIPLINARY</td>
<td>ENVIRONMENTAL STUDIES</td>
<td>BS</td>
<td>24</td>
<td>22</td>
<td>7</td>
<td>53</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITY INTERDISCIPLINARY</td>
<td>FOOD SCIENCE &amp; TECHNOLOGY</td>
<td>MS</td>
<td>2</td>
<td>2</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITY INTERDISCIPLINARY</td>
<td>FOOD SCIENCE &amp; TECHNOLOGY</td>
<td>PHD</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>College</td>
<td>Degree Program</td>
<td>Number of Graduates</td>
<td></td>
<td></td>
<td></td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------------------------------</td>
<td>---------------------</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITY INTERDISCIPLINARY</td>
<td>GENETICS</td>
<td>MS</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITY INTERDISCIPLINARY</td>
<td>GENETICS</td>
<td>PHD</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITY INTERDISCIPLINARY</td>
<td>MARINE BIOLOGY</td>
<td>MS</td>
<td>3</td>
<td>9</td>
<td>1</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITY INTERDISCIPLINARY</td>
<td>MARINE BIOLOGY</td>
<td>PHD</td>
<td>4</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITY INTERDISCIPLINARY</td>
<td>MOLECULAR &amp; ENVIRONMENTAL PLANT</td>
<td>MS</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITY INTERDISCIPLINARY</td>
<td>MOLECULAR &amp; ENVIRONMENTAL PLANT</td>
<td>PHD</td>
<td>1</td>
<td>2</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITY INTERDISCIPLINARY</td>
<td>NEUROSCIENCE</td>
<td>MS</td>
<td>2</td>
<td></td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITY INTERDISCIPLINARY</td>
<td>NEUROSCIENCE</td>
<td>PHD</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITY INTERDISCIPLINARY</td>
<td>NUTRITION</td>
<td>MS</td>
<td>3</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITY INTERDISCIPLINARY</td>
<td>NUTRITION</td>
<td>PHD</td>
<td>2</td>
<td>1</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITY INTERDISCIPLINARY</td>
<td>TOXICOLOGY</td>
<td>MS</td>
<td>2</td>
<td></td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITY INTERDISCIPLINARY</td>
<td>TOXICOLOGY</td>
<td>PHD</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITY INTERDISCIPLINARY</td>
<td>UNIVERSITY STUDIES - AGRICULTURE</td>
<td>BS</td>
<td>31</td>
<td>42</td>
<td>21</td>
<td>94</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITY INTERDISCIPLINARY</td>
<td>UNIVERSITY STUDIES - ARCHITECTURE</td>
<td>BS</td>
<td>15</td>
<td>24</td>
<td>22</td>
<td>61</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITY INTERDISCIPLINARY</td>
<td>UNIVERSITY STUDIES - BUSINESS ADMIN</td>
<td>BS</td>
<td>34</td>
<td>43</td>
<td>14</td>
<td>91</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITY INTERDISCIPLINARY</td>
<td>UNIVERSITY STUDIES - EDUCATION</td>
<td>BS</td>
<td>25</td>
<td>38</td>
<td>23</td>
<td>86</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITY INTERDISCIPLINARY</td>
<td>UNIVERSITY STUDIES - GALVESTON</td>
<td>BS</td>
<td>3</td>
<td>1</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITY INTERDISCIPLINARY</td>
<td>UNIVERSITY STUDIES - GEOSCIENCES</td>
<td>BS</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>College</td>
<td>Degree Program</td>
<td>Number of Graduates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------</td>
<td>-----------------------------------------</td>
<td>---------------------</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Degree</td>
<td>Fall 2015</td>
<td>Spring 2016</td>
<td>Summer 2016</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITY INTERDISCIPLINARY</td>
<td>UNIVERSITY STUDIES - LIBERAL ARTS</td>
<td>BA</td>
<td>1</td>
<td>3</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UNIVERSITY STUDIES - LIBERAL ARTS</td>
<td>BS</td>
<td>5</td>
<td>3</td>
<td>1</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UNIVERSITY STUDIES - SCIENCE</td>
<td>BS</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UNIVERSITY STUDIES - VETERINARY MED</td>
<td>BS</td>
<td>5</td>
<td>9</td>
<td>5</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td></td>
<td>WATER MANAGEMENT AND HYDRO SCI</td>
<td>MS</td>
<td>3</td>
<td>4</td>
<td></td>
<td>7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>WATER MANAGEMENT AND HYDRO SCI</td>
<td>MWM</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>WATER MANAGEMENT AND HYDRO SCI</td>
<td>PHD</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>VETERINARY MEDICINE &amp; BIOMEDICAL SCIENCES</td>
<td>BIOMEDICAL SCIENCES</td>
<td>BS</td>
<td>91</td>
<td>173</td>
<td>37</td>
<td>301</td>
<td></td>
</tr>
<tr>
<td>VETERINARY MEDICINE &amp; BIOMEDICAL SCIENCES</td>
<td>BIOMEDICAL SCIENCES</td>
<td>MS</td>
<td>23</td>
<td>32</td>
<td>16</td>
<td>71</td>
<td></td>
</tr>
<tr>
<td>VETERINARY MEDICINE &amp; BIOMEDICAL SCIENCES</td>
<td>BIOMEDICAL SCIENCES</td>
<td>PHD</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>VETERINARY MEDICINE &amp; BIOMEDICAL SCIENCES</td>
<td>SCIENCE &amp; TECHNOLOGY JOURNALISM</td>
<td>MS</td>
<td>1</td>
<td>4</td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>VETERINARY MEDICINE &amp; BIOMEDICAL SCIENCES</td>
<td>VETERINARY MEDICINE</td>
<td>DVM</td>
<td></td>
<td></td>
<td>129</td>
<td>129</td>
<td></td>
</tr>
<tr>
<td>VETERINARY MEDICINE &amp; BIOMEDICAL SCIENCES</td>
<td>VETERINARY PATHOBIOLOGY</td>
<td>PHD</td>
<td>3</td>
<td>1</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>VETERINARY MEDICINE &amp; BIOMEDICAL SCIENCES</td>
<td>VETERINARY PUBLIC HEALTH - EPIDEMIOLOGY</td>
<td>MS</td>
<td>2</td>
<td></td>
<td></td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>
3. Off-Campus Instructional Locations and Branch Campuses

List all locations where 50% or more credit hours toward a degree, diploma, or certificate can be obtained primarily through traditional classroom instruction. Report those locations in accord with the Commission’s definitions and the directions as specified below.

Off-campus instructional sites—a site located geographically apart from the main campus at which the institution offers 50% or more of its credit hours for a diploma, certificate, or degree. This includes high schools where courses are offered as part of dual enrollment. For each site, provide the information below. The list should include only those sites reported and approved by SACSCOC. Listing unapproved sites below does not constitute reporting them to SACSCOC. In such cases when an institution has initiated an off-campus instructional site as described above without prior approval by SACSCOC, a prospectus for approval should be submitted immediately to SACSCOC.

### Off-Campus Instructional Locations – 50% or more.

<table>
<thead>
<tr>
<th>Name of Site</th>
<th>Physical Address (street, city, state, country)</th>
<th>Date Approved by SACSCOC</th>
<th>Date implemented by the institution</th>
<th>Educational programs offered (specific degrees, certificates, diplomas) with 50% or more credits hours offered at each site</th>
<th>Is the site currently active? (At any time during the past 5 years, have students been enrolled and courses offered? If not, indicate the date of most recent activity.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texas A&amp;M Health Science Center</td>
<td>8441 State Highway 47, Bryan, TX 77807</td>
<td>2000</td>
<td>2000</td>
<td>EDUCATION FOR HEALTHCARE PROFESSIONALS&lt;br&gt;MEDICAL SCIENCES&lt;br&gt;MEDICAL SCIENCES&lt;br&gt;MEDICINE&lt;br&gt;NURSING&lt;br&gt;EDUCATION&lt;br&gt;PHARMACY&lt;br&gt;FAMILY NURSE PRACTITIONER</td>
<td>Yes</td>
</tr>
<tr>
<td>Arabian Society for Human Resource Management</td>
<td>Saudi Aramco – Box 8926, Dhahran 31311 Saudi Arabia</td>
<td>2012</td>
<td>2007</td>
<td>HUMAN RESOURCE MANAGEMENT&lt;br&gt;ANALYTICS&lt;br&gt;BUSINESS ADMINISTRATION</td>
<td>Yes</td>
</tr>
<tr>
<td>City Centre</td>
<td>842 West Sam Houston Parkway North, Suite 200, Houston, Texas 77024-3920</td>
<td>2012</td>
<td>2012</td>
<td>ANALYTICS&lt;br&gt;BUSINESS ADMINISTRATION</td>
<td>Yes</td>
</tr>
<tr>
<td>College of Dentistry</td>
<td>3302 Gaston Ave., Dallas, TX 75246</td>
<td>2001</td>
<td>2000</td>
<td>ADVANCED EDUCATION IN GENERAL DENTISTRY&lt;br&gt;DENTAL HYGIENE&lt;br&gt;DENTAL PUBLIC HEALTH&lt;br&gt;DENTISTRY&lt;br&gt;ENDODONTICS&lt;br&gt;MAXILLOFACIAL SURGERY&lt;br&gt;ORAL AND MAXILLOFACIAL PATHOLOGY&lt;br&gt;ORAL AND MAXILLOFACIAL</td>
<td>Yes</td>
</tr>
<tr>
<td>Name of Site</td>
<td>Physical Address (street, city, state, country) Do not include PO Boxes.</td>
<td>Date Approved by SACSCOC</td>
<td>Date Implemented by the institution</td>
<td>Educational programs offered (specific degrees, certificates, diplomas) with 50% or more credits hours offered at each site</td>
<td>Is the site currently active? (At any time during the past 5 years, have students been enrolled and courses offered? If not, indicate the date of most recent activity.)</td>
</tr>
<tr>
<td>--------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>--------------------------</td>
<td>------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Institute of Biosciences and Technology</td>
<td>2121 W. Holcombe Blvd, Houston, TX 77030</td>
<td>2000</td>
<td>2000</td>
<td>HEALTH ADMINISTRATION</td>
<td>MHA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MEDICINE</td>
<td>MD</td>
</tr>
<tr>
<td>Rangel College of Pharmacy</td>
<td>1010 W. Avenue B, Kingsville, TX 78363</td>
<td>2011</td>
<td>2006</td>
<td>PHARMACY</td>
<td>PHMD</td>
</tr>
<tr>
<td>College of Medicine - Temple</td>
<td>2401 S. 31st Street, Temple, TX 76508</td>
<td>2000</td>
<td>2000</td>
<td>MEDICINE</td>
<td>MD</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MEDICAL SCIENCES</td>
<td>PHD</td>
</tr>
<tr>
<td>Clinical Learning Resource Center</td>
<td>Health Professions Building 3950 North A. W. Gilmes Blvd, Round Rock, TX 78665</td>
<td>2011</td>
<td>2010</td>
<td>MEDICINE</td>
<td>MD</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NURSING</td>
<td>BSN</td>
</tr>
<tr>
<td>Rural Public Health - McAllen Teaching Site</td>
<td>2101 South McColl Road, McAllen, TX 78503</td>
<td>2011</td>
<td>2010</td>
<td>HEALTH POLICY AND MANAGEMENT</td>
<td>MPH</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>HEALTH PROMOTION AND COMMUNITY HEALTH SCIENCES</td>
<td>MPH</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NURSING</td>
<td>BSN</td>
</tr>
<tr>
<td>Texas A&amp;M University School of Law</td>
<td>1615 Commerce St Fort Worth, TX 76102</td>
<td>2013</td>
<td>2013</td>
<td>HEALTH CARE LAW</td>
<td>JM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>INTELLECTUAL PROPERTY</td>
<td>ML</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>INTELLECTUAL PROPERTY</td>
<td>MJ</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>JURISPRUDENCE</td>
<td>MJ</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>LAW</td>
<td>JD</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>LAWS</td>
<td>ML</td>
</tr>
<tr>
<td>Houston Methodist Hospital</td>
<td>6670 Bertner Avenue, R2-216, Houston, TX 77030</td>
<td>2015</td>
<td>2015</td>
<td>MEDICINE</td>
<td>MD</td>
</tr>
<tr>
<td>Baylor University Medical Center</td>
<td>3500 Gaston Avenue, Dallas, TX 75246</td>
<td>2012</td>
<td>2011</td>
<td>MEDICINE</td>
<td>MD</td>
</tr>
</tbody>
</table>
### Off-Campus Instructional Locations – 25%-49%

<table>
<thead>
<tr>
<th>Name of Site (Indicate if site is currently active or inactive. If inactive, date of last course offerings and date of projected reopening)</th>
<th>Physical Address (street, city, state, country) Do not include PO Boxes.</th>
<th>Date Notified SACSCOC</th>
<th>Date Implemented by the institution</th>
<th>Educational programs offered (specific degrees, certificates, diplomas) with 25-49% credit hours offered at each site</th>
<th>Is the site currently active? (At any time during the past 5 years, have students been enrolled and courses offered? If not, indicate the date of most recent activity.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of State Health Services</td>
<td>1100 West 49th Austin, TX 78756</td>
<td>2011</td>
<td>2004</td>
<td>HEALTH POLICY &amp; MANAGEMENT - MPH</td>
<td></td>
</tr>
</tbody>
</table>

### Branch Campuses

<table>
<thead>
<tr>
<th>Name of Branch Campus</th>
<th>Physical Address (street, city, state, country) Do not include PO Boxes.</th>
<th>Date Approved by SACSCOC</th>
<th>Date Implemented by the institution</th>
<th>Educational programs (specific degrees, certificates, diplomas) with 50% or more credit hours offered at the branch campus</th>
<th>Is the campus currently active? (At any time during the past 5 years, have students been enrolled and courses offered? If not, indicate the date of most recent activity.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texas A&amp;M University at Galveston</td>
<td>200 Seawolf Pkwy, Galveston, TX 77553</td>
<td>1992</td>
<td>1991</td>
<td>MARINE BIOLOGY BS, OFFSHORE &amp; COASTAL SYSTEMS ENGINEER BS, MARINE BIOLOGY MS, MARINE BIOLOGY PHD, MARINE ENGINEERING TECHNOLOGY BS, MARINE FISHERIES BS, MARINE RESOURCES MANAGEMENT MMR, MARINE SCIENCES BS, MARINE TRANSPORTATION BS, MARITIME ADMINISTRATION BS, MARITIME ADMINISTRATION &amp; LOGISTICS MML, MARITIME STUDIES BA, OCEAN AND COASTAL RESOURCES BS, OCEAN ENGINEERING BS, UNIVERSITY STUDIES BS</td>
<td>Yes</td>
</tr>
</tbody>
</table>
4. Distance and Correspondence Education

Provide an initial date of approval for your institution to offer distance education. Provide a list of credit-bearing educational programs (degrees, certificates, and diplomas) where 50% or more of the credit hours are delivered through distance education modes. For each educational program, indicate whether the program is delivered using synchronous or asynchronous technology, or both. For each educational program that uses distance education technology to deliver the program at a specific site (e.g., a synchronous program using interactive videoconferencing), indicate the program offered at each location where students receive the transmitted program. Please limit this description to one page, if possible.

**Initial Approval in February 2000**

<table>
<thead>
<tr>
<th>Credit Bearing Degree Programs</th>
<th>Site</th>
<th>Synchronous/Asynchronous/Both</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEROSPACE ENGINEERING</td>
<td>MENGR</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>AGRICULTURAL DEVELOPMENT</td>
<td>MAGR</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>AGRICULTURAL EDUCATION</td>
<td>EDD</td>
<td>Synchronous course offered worldwide via PC or LMS</td>
</tr>
<tr>
<td>AGRICULTURAL SYSTEMS MANAGEMENT</td>
<td>MS</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>ANALYTICS</td>
<td>MS</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>BILINGUAL EDUCATION</td>
<td>MED</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>BILINGUAL EDUCATION</td>
<td>MS</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>BIOLOGICAL AND AGRICULTURAL ENGINEERING</td>
<td>MENGR</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>COMPUTER ENGINEERING</td>
<td>MENGR</td>
<td>Synchronous course offered worldwide via PC or LMS</td>
</tr>
<tr>
<td>CURRICULUM &amp; INSTRUCTION</td>
<td>EDD</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>CURRICULUM &amp; INSTRUCTION</td>
<td>MED</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Program</td>
<td>Degree</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>--------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>EDUC HUMAN RESOURCE DEVELOPMENT</td>
<td>MS</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>EDUCATION FOR HEALTH CARE PROFESSIONALS</td>
<td>MS</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>EDUCATIONAL ADMINISTRATION</td>
<td>MED</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>EDUCATIONAL PSYCHOLOGY</td>
<td>MED</td>
<td>Synchronous course offered worldwide via PC or LMS</td>
</tr>
<tr>
<td>EDUCATIONAL PSYCHOLOGY</td>
<td>MS</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>EDUCATIONAL TECHNOLOGY</td>
<td>MED</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>ELECTRICAL ENGINEERING</td>
<td>MENGR</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>ENERGY</td>
<td>MS</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>ENGINEERING</td>
<td>MENGR</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>ENGINEERING SYSTEMS MANAGEMENT</td>
<td>MS</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>EPIDEMIOLOGY</td>
<td>MPH</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>FAMILY NURSE PRACTITIONER</td>
<td>MSN</td>
<td>Bryan, TX</td>
</tr>
<tr>
<td>HEALTH EDUCATION</td>
<td>MS</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>INDUSTRIAL DISTRIBUTION</td>
<td>MID</td>
<td>College Station, TX</td>
</tr>
<tr>
<td>INDUSTRIAL ENGINEERING</td>
<td>MENGR</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>LAWS</td>
<td>LLM</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>JURISPRUDENCE</td>
<td>MJ</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>MARITIME ADMINISTRATION &amp; LOGISTICS</td>
<td>MMAL</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>MATHEMATICS</td>
<td>MS</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>MECHANICAL ENGINEERING</td>
<td>MENGR</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>NATURAL RESOURCES DEVELOPMENT</td>
<td>MNRD</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>NURSING</td>
<td>BSN</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>NURSING EDUCATION</td>
<td>MSN</td>
<td>Bryan, TX</td>
</tr>
<tr>
<td>PETROLEUM ENGINEERING</td>
<td>MENGR</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>PLANT BREEDING</td>
<td>MS</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>PLANT BREEDING</td>
<td>PHD</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>POULTRY SCIENCE</td>
<td>MAGR</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>PUBLIC SERVICE AND ADMINISTRATION</td>
<td>MPSA</td>
<td>College Station, TX</td>
</tr>
<tr>
<td>RECREATION &amp; RESOURCES DEVELOPMENT</td>
<td>MRRD</td>
<td>College Station, TX</td>
</tr>
<tr>
<td>SAFETY ENGINEERING</td>
<td>MS</td>
<td>Asynchronous</td>
</tr>
<tr>
<td>Course</td>
<td>Type</td>
<td>Delivery Method</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>-------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>SPECIAL EDUCATION MED</td>
<td>Synchronous</td>
<td>Course offered worldwide via PC or LMS</td>
</tr>
<tr>
<td>SPECIAL EDUCATION MS</td>
<td>Synchronous</td>
<td>Course offered worldwide via PC or LMS</td>
</tr>
<tr>
<td>SPORTS MANAGEMENT MS</td>
<td>Asynchronous</td>
<td></td>
</tr>
<tr>
<td>STATISTICS MS</td>
<td>Asynchronous</td>
<td></td>
</tr>
<tr>
<td>WILDLIFE SCIENCE MWSC</td>
<td>Asynchronous</td>
<td></td>
</tr>
<tr>
<td>MILITARY LAND SUSTAINABILITY CERT</td>
<td>Asynchronous</td>
<td></td>
</tr>
<tr>
<td>ADVANCED INTERNATIONAL AFFAIRS CERT</td>
<td>Asynchronous</td>
<td>College Station, TX; Houston, TX</td>
</tr>
<tr>
<td>AGRICULTURE E-LEARNING DEVELOPMENT CERT</td>
<td>Asynchronous</td>
<td></td>
</tr>
<tr>
<td>APPLIED BEHAVIOR ANALYSIS CERT</td>
<td>Asynchronous</td>
<td></td>
</tr>
<tr>
<td>EDUCATION FOR HEALTH CARE PROFESSIONALS CERT</td>
<td>Asynchronous</td>
<td></td>
</tr>
<tr>
<td>ENERGY CERT</td>
<td>Asynchronous</td>
<td></td>
</tr>
<tr>
<td>ENERGY SUSTAINABILITY ENGINEERING CERT</td>
<td>Asynchronous</td>
<td></td>
</tr>
<tr>
<td>FORENSIC HEALTH CARE CERT</td>
<td>Asynchronous</td>
<td></td>
</tr>
<tr>
<td>HOMELAND SECURITY CERT</td>
<td>Asynchronous</td>
<td></td>
</tr>
<tr>
<td>INDUSTRIAL DATA ANALYTICS CERT</td>
<td>Asynchronous</td>
<td></td>
</tr>
<tr>
<td>NATIONAL SECURITY AFFAIRS CERT</td>
<td>Asynchronous</td>
<td>College Station, TX; Livermore, CA; Sandia, NM</td>
</tr>
<tr>
<td>NONPROFIT MANAGEMENT CERT</td>
<td>Asynchronous</td>
<td>McAllen, TX</td>
</tr>
<tr>
<td>PUBLIC HEALTH CERT</td>
<td>Asynchronous</td>
<td>McAllen, TX</td>
</tr>
<tr>
<td>REGULATORY SCIENCE IN FOOD SYSTEMS CERT</td>
<td>Asynchronous</td>
<td></td>
</tr>
<tr>
<td>SAFETY ENGINEERING CERT</td>
<td>Asynchronous</td>
<td></td>
</tr>
<tr>
<td>APPLIED STATISTICS CERT</td>
<td>Asynchronous</td>
<td></td>
</tr>
</tbody>
</table>

5. Accreditation

<table>
<thead>
<tr>
<th>Accreditation Council for Pharmacy Education</th>
<th>The pharmacy professional degree program</th>
<th>Last Review: April 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Council for Construction Education</td>
<td>The B.S. and M.S. curriculum in construction science</td>
<td>Last Review: 2011 (B.S.) and 2012 (M.S.)</td>
</tr>
<tr>
<td>American Psychological</td>
<td>The clinical psychology program</td>
<td>Last Review: April/May 2015</td>
</tr>
<tr>
<td>Association</td>
<td>Program Details</td>
<td>Last Review</td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>American Veterinary Medical Association Council on Education</td>
<td>The veterinary medicine degree program</td>
<td>2013</td>
</tr>
<tr>
<td>Association to Advance Collegiate Schools of Business (AACS)</td>
<td>The business baccalaureate, master’s, and doctoral programs in Mays Business School</td>
<td>Fall 2012</td>
</tr>
<tr>
<td>Commission on Accreditation for Dietetics Education</td>
<td>The dietetic track in the nutritional sciences curriculum and the dietetic internship program</td>
<td>January 2015</td>
</tr>
<tr>
<td>Commission on Accreditation of Athletic Training Education (caATE)</td>
<td>Athletic Training (College of Education)</td>
<td>2013</td>
</tr>
<tr>
<td>Commission on Accreditation of Healthcare Management Education</td>
<td>The Master of Health Administration</td>
<td>Fall 2010</td>
</tr>
<tr>
<td>Commission on Collegiate Nursing Education and the Texas Board of Nursing</td>
<td>The nursing degree programs</td>
<td>July 2013</td>
</tr>
<tr>
<td>Commission on Dental Accreditation. (CODA)</td>
<td>The degree programs in dentistry and dental hygiene and the certificate programs in the ten advanced dental graduate education programs</td>
<td>August 2013</td>
</tr>
<tr>
<td>Commission on English Language Program Accreditation (CEA)</td>
<td>The English Language Institute</td>
<td>2013</td>
</tr>
<tr>
<td>Computing Accreditation Commission of ABET</td>
<td>The computer science program</td>
<td>2010</td>
</tr>
<tr>
<td>Council of the Section of Legal Education and Admissions to the Bar of the American Bar Association</td>
<td>Texas A&amp;M University School of Law</td>
<td>2010</td>
</tr>
<tr>
<td>Council on Education for Public Health</td>
<td>The School of Public Health degree programs</td>
<td>April 2011</td>
</tr>
<tr>
<td>Engineering Accreditation Commission of ABET</td>
<td>Undergraduate programs in aerospace, biological and agricultural, biomedical, chemical, civil, computer, electrical, industrial, mechanical, nuclear, ocean, petroleum and radiological health engineering</td>
<td>2010-2011 (College Station) and 2015 (Qatar)</td>
</tr>
<tr>
<td>Engineering Accreditation Commission of ABET</td>
<td>Maritime systems engineering (Offshore and Coastal Systems Engineering) – TAMU Galveston</td>
<td>2010-11</td>
</tr>
<tr>
<td>Program</td>
<td>Description</td>
<td>Last Review:</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Engineering Technology Accreditation Commission of ABET</td>
<td>The electronic systems engineering technology program, the manufacturing and mechanical engineering technology program,</td>
<td>2013-2014 (College Station) and 2015 (Qatar)</td>
</tr>
<tr>
<td>Engineering Technology Accreditation Commission of ABET</td>
<td>Marine engineering technology – TAMU Galveston</td>
<td>2013-14</td>
</tr>
<tr>
<td>Forensic Science Education Programs Accreditation Commission (FEPAC)</td>
<td>The forensics and investigative sciences program</td>
<td>Last Site Visit: October 2011 Accreditation dates: 1/2012-1/2017</td>
</tr>
<tr>
<td>Institute of Food Technologists</td>
<td>The food science and technology curriculum</td>
<td>Last Review: December 2011</td>
</tr>
<tr>
<td>Landscape Architectural Accreditation Board</td>
<td>The curriculum in landscape architecture</td>
<td>Last Review: July 2015</td>
</tr>
<tr>
<td>Liaison Committee on Medical Education</td>
<td>The medical education degree program</td>
<td>Last Review: August 2012</td>
</tr>
<tr>
<td>National Architectural Accrediting Board</td>
<td>The curriculum in architecture</td>
<td>Last Review: March 2013</td>
</tr>
<tr>
<td>Network of Schools of Public Policy, Affairs, and Administration</td>
<td>The Master of Public Service and Administration degree in the Bush School of Government and Public Service</td>
<td>Last review: April 2014</td>
</tr>
<tr>
<td>National Recreation and Park Association</td>
<td>The curriculum in recreation, park and tourism sciences</td>
<td>Last Review: June 2010</td>
</tr>
<tr>
<td>Planning Accreditation Board</td>
<td>The Master of Urban Planning curriculum</td>
<td>Last Review: 2013</td>
</tr>
<tr>
<td>Society for Range Management</td>
<td>The curriculum in rangeland ecology and management</td>
<td>Last Review: 2006</td>
</tr>
<tr>
<td>Society of American Foresters</td>
<td>The curriculum in forestry</td>
<td>Last Review: 2013</td>
</tr>
<tr>
<td>State Board of Educator Certification</td>
<td>Programs in professional education and degrees conferred by Texas A&amp;M University</td>
<td>Last review 2011</td>
</tr>
</tbody>
</table>

(2) If SACS Commission on Colleges is not your primary accreditor for access to USDOE Title IV funding, identify which accrediting agency serves that purpose.

Not applicable.

(3) List any USDOE recognized agency (national and programmatic) that has terminated the institution's accreditation (include the date, reason, and copy of the letter of termination) or list any agency from which the institution has voluntarily withdrawn (include copy of letter to agency from institution).

None.
(4) Describe any sanctions applied or negative actions taken by any USDOE-recognized accrediting agency (national, programmatic, SACSCOC) during the two years previous to the submission of this report. Include a copy of the letter from the USDOE to the institution.

None.

6. Relationship to the U.S. Department of Education.

Texas A&M University does not have any limitations or suspensions, nor have we been terminated by the U.S. Department of Education in regard to student financial aid or other financial aid programs during the previous three years. We are not on reimbursement nor do we have any other exceptional status in regard to federal or state financial aid.
Appendix - Faculty Profiles

A one page faculty vita is available by clicking on the faculty member’s name.

- Tenured and Tenure-Track Faculty
- Postdocs
- Instructional Associate Professors
- Instructional Assistant Professors
- Senior Lecturers
- Lecturers

### Tenured and Tenure-Track Faculty

<table>
<thead>
<tr>
<th>Name</th>
<th>Name</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michael Anshelevich</td>
<td>William Johnson</td>
<td>William Rundell</td>
</tr>
<tr>
<td>Dean Baskin</td>
<td>Junehyuk Jung</td>
<td>Vince Schielack</td>
</tr>
<tr>
<td>Guy Battle</td>
<td>David Kerr</td>
<td>Thomas Schlumprecht</td>
</tr>
<tr>
<td>Gregory Berkolaiko</td>
<td>Peter Kuchment</td>
<td>Anne Shiu</td>
</tr>
<tr>
<td>Harold Boas</td>
<td>Joseph Landsberg</td>
<td>John Slattery</td>
</tr>
<tr>
<td>Andrea Bonito</td>
<td>David Larson</td>
<td>N. Sivakumar</td>
</tr>
<tr>
<td>Itshak Borosh</td>
<td>Raytcho Lazarov</td>
<td>Roger Smith</td>
</tr>
<tr>
<td>Michael Brannan</td>
<td>Paulo Lima-Filho</td>
<td>Frank Sottile</td>
</tr>
<tr>
<td>Goong Chen</td>
<td>Riad Masri</td>
<td>Peter Stiller</td>
</tr>
<tr>
<td>Andrew Comech</td>
<td>Laura Matusevich</td>
<td>Emil Straube</td>
</tr>
<tr>
<td>Prabir Daripa</td>
<td>Francis Narcowich</td>
<td>Zoran Sunik</td>
</tr>
<tr>
<td>Alan Demlow</td>
<td>Volodymyr Nekrashevych</td>
<td>Steven Taliaferro</td>
</tr>
<tr>
<td>Ronald DeVore</td>
<td>Lee Panetta</td>
<td>Edriss Titi</td>
</tr>
<tr>
<td>Ronald Douglas</td>
<td>Grigoris Paouris</td>
<td>Paula Tretkoff</td>
</tr>
<tr>
<td>Ken Dykema</td>
<td>Matthew Papanikolas</td>
<td>Robin Tucker-Drob</td>
</tr>
<tr>
<td>Yalchin Efendiev</td>
<td>Joseph Pasciak</td>
<td>Yaroslav Vorobets</td>
</tr>
<tr>
<td>Tamas Erdelyi</td>
<td>Gregory Pearlstein</td>
<td>Joseph Ward</td>
</tr>
<tr>
<td>Simon Foucart</td>
<td>Guergana Petrova</td>
<td>Sarah Witherspoon</td>
</tr>
<tr>
<td>Stephen Fulling</td>
<td>Gilles Pisier</td>
<td>Zhizhang Xie</td>
</tr>
<tr>
<td>Susan Geller</td>
<td>Jon Pitts</td>
<td>Catherine Yan</td>
</tr>
<tr>
<td>Rostislav Grigorchuk</td>
<td>Alexei Poltoratski</td>
<td>Tian Yang</td>
</tr>
<tr>
<td>Jean-Luc Guermond</td>
<td>Bojan Popov</td>
<td>Philip Yasskin</td>
</tr>
</tbody>
</table>
Robert Gustafson
Boris Hanin
Douglas Hensley
Peter Howard
Roger Howe
Eviatar Procaccia
Kumbakonam Rajagopal
J.N. Reddy
Maurice Rojas
Eric Rowell
Matthew Young
Guoliang Yu
Igor Zelenko
Jianxin Zhou

Postdoctoral Faculty
Yue Cai
Souvik Goswami
Diane Guignard
Isaac Harris
Peter Jantsch
Benben Liao
Richard Lynch
Pavlos Motakis
Julia Plavnik
Robert Rahm
Xiaoxian Tang
Ignacio Tomas
Emanuele Ventura
Shilin Yu
Yuan Zhang
Zheng Zhang

Instructional Associate Professors
Janice Epstein
Yvette Hester
Oksana Shatalov

Instructional Assistant Professors
Angela Allen
Benjamin Aurispa
Amy Austin
Florent Baudier
Art Belmonte
Kathryn Bollinger
Andrew Bridy
Tamara Carter
Joe Kahlig
Kendra Kilmer
JD Kim
Greg Klein
Glenn Lahodny
David Manuel
Mila Mogilevsky
Constantin Onica
Heather Ramsey
Kamran Reihani
Mariya Vorobets
Jennifer Whitfield

Senior Lecturers
Sinjini Sengupta
Jennifer Lewis
### Lecturers

<table>
<thead>
<tr>
<th>Erin Fry</th>
<th>Sang Rae Lee</th>
<th>Rosanna Pearlstein</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maya Johnson</td>
<td>Benjamin Lynch</td>
<td>Marco Roque-Sol</td>
</tr>
<tr>
<td>Minsu Kim</td>
<td>Patrick Orchard</td>
<td>Todd Schrader</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kun Wang</td>
</tr>
</tbody>
</table>
Michael Anshelevich
Professor

Education

- Ph.D. in Mathematics, University of California, Berkeley, 2000
- M.A. in Statistics, University of California, Berkeley, 1997
- B.S. with honors in Mathematics, California Institute of Technology, 1994

In the Profession

- 2014-present, Professor of Mathematics, Texas A&M University
- 2012-present, Director of Undergraduate Research in Mathematics, Texas A&M University
- 2009-2014, Associate Professor of Mathematics, Texas A&M University
- 2005-2009, Assistant Professor of Mathematics, Texas A&M University
- 2002-2005, Assistant Professor of Mathematics, University of California, Riverside
- 2000-2002, NSF postdoctoral fellow, University of California, Berkeley
- spring 2001, Professor of Mathematics, Mathematical Sciences Research Institute

Research or Scholarly Interests


Major Awards

- 2011, Department of Mathematics outstanding teaching award

Notable Recent Grants

- Simons Foundation Collaboration Grant for Mathematicians 527486 "Topics in Free Probability" (PI), 2017-2022; NSF grants DMS-1160849 "Free Probability, Polynomial Families, and Applications" (PI), 2012-2016, DMS-0900935 "Applications of Polynomial Families and Free Probability" (PI), 2009-2013

Five Selected Publications or Scholarly Works

- Michael Anshelevich, "Free Meixner states", Communications in Mathematical Physics 276 (2007) 863-899
Recent Synergistic Activities

- Director of Undergraduate Research in Mathematics
- Undergraduate honors advisor
- Undergraduate research project supervisor (3 recent groups of students).

Recent Graduate Students and/or Postdocs

- Stephen Avsec, Postdoc (VAP), 2012-2015
- John Williams, Postdoc (VAP), 2011-2014
- David Buzinski, Ph.D. student, current
- Zhichao Wang, M.S. student, current
- Ryan Hotovy, M.S. student, 2013
- Member of numerous current and past Ph.D. and M.S. committees, in Mathematics, Statistics, Electrical & Computer Engineering, and Teaching, Learning, & Culture
Dean R. Baskin
Assistant Professor

Education
- Ph.D. in Mathematics, Stanford University, 2010
- B.A. in Mathematics, University of Chicago, 2005

In the Profession
- 2014-present, Assistant Professor of Mathematics, Texas A&M
- 2011-2014, NSF Postdoctoral Fellow, Northwestern University
- 2010-2014, Boas Assistant Professor, Northwestern University
- etc.

Research or Scholarly Interests
I work in the fields of microlocal analysis, partial differential equations, and differential geometry. More precisely, I am interested in the behavior of waves on singular spaces.

Major Awards
- 2017, Departmental teaching award
- 2014, AHP Birkhäuser prize

Notable Recent Grants
- NSF Grant DMS-1654056, CAREER: Wave evolution on singular spacetimes, PI, 2017-2022
- NSF Grant DMS-1500646, Scattering theory on singular spaces, PI, 2015-2018

Five Selected Publications or Scholarly Works
- D. Baskin, E. Spence, and J. Wunsch, Sharp high-frequency estimates for the Helmholtz equation and applications to boundary integral equations, SIAM Journal of Mathematical Analysis, 2016
- D. Baskin and F. Wang, Radiation fields on Schwarzschild spacetime, Communications in Mathematical Physics, 2014
- D. Baskin and A. Sá Barreto, Radiation fields for semilinear wave equations, Transactions of the American Mathematical Society, 2015

Recent Synergistic Activities
- SEE-Math Volunteer
- Math circle volunteer
- Co-organized 4 conferences
- Referee service
Recent Graduate Students and/or Postdocs

- Mengxuan Yang, Master's graduate, 2017
Guy Battle
Professor

Education

- Ph.D. in Mathematics, Duke University, 1977
- M.S. in Physics, Murray State University, 1973
- B.S. in Mathematics, Indiana University, 1970

In the Profession

- 1991-present, Professor, Texas A&M University
- 1986-1991, Associate Professor of Mathematics, Texas A&M University
- 1979-1986, Assistant Professor of Mathematics, Texas A&M University
- etc.

Research or Scholarly Interests

I have explored the mathematical connection between renormalization group analysis and the theory of wavelets. My current focus is on the application of wavelets to quantum field theory. I am also interested in the science education of those non-science majors who have to learn a certain amount of mathematics anyway.

Major Awards

Notable Recent Grants

- NSF Grant DMS-0204663, "Osiris wavelets and quantum entanglement," (PI), July 1, 2002-June 30, 2005

Five Selected Publications or Scholarly Works

- G. Battle, A gradient-projective basis of compactly supported wavelets in dimension n>1, Central European J. Math., 2013

Recent Synergistic Activities

- 2013-present, Faculty Senator
- 2013-2017, Academic Affairs Committee
- 2013-2016, Committee on Academic Freedom, Responsibility, and Tenure
- April-November 2016, Task Force on Closed Captioning
- Editorial Board of Applied and Computational Harmonic Analysis

http://www.math.tamu.edu/0ae1a4cc37f2c5e541cbfB809db6548/deptselfstudy/battle.html[3/29/18, 4:01:44 PM]
CV for Guy Battle

Recent Graduate Students and/or Postdocs
Gregory Berkolaiko
Professor

Education

- Ph.D. in Mathematics, University of Bristol, UK, 2001
- M.Phil. in Mathematics, University of Strathclyde, UK, 1997
- B.Sc. in Mathematics, Voronezh State University, Russia, 1996

In the Profession

- 2014-present, Professor of Mathematics, Texas A&M
- 2009-2014, Associate Professor of Mathematics, Texas A&M
- 2004-2009, Assistant Professor of Mathematics, Texas A&M
- 2002-2003, Lecturer in Mathematics, University of Strathclyde, UK
- 2000-2001, Postdoctoral Fellow, Weizmann Institute of Science, Israel

Research or Scholarly Interests

Spectral problems in mathematical physics, in particular those arising on network models, and their applications. Combinatorial problems arising in mathematical physics.

Notable Recent Grants

- BSF (US-Israel Binational Science Foundation) Grant 2016281 "Spectral analysis of Schroedinger operators on metric graphs", one of the two PIs, Sep 2017 - 2021
- NSF Grant DMS-1410657, "Nodal count, magnetic potentials and Dirac cones: exploring the connections", sole PI, June 2014 - June 2017

Five Selected Publications or Scholarly Works


Recent Synergistic Activities

- Organizing scientific meetings: "Inverse Problems and Spectral Theory", Texas A&M University, Oct 17-19, 2014; "Quantum Chaos: Routes to RMT and beyond", Banff, Canada, Feb 24 -- Feb 29, 2008; "Quantum Graphs and Their Applications", Snowbird, UT, June 18 -- June 24, 2005; editing the
Proceedings.

- Involving high school students in mathematical activities: "On pies and noodles" (about Buffon's Needle problem), "How not to lose your money gambling", "Paths on Graphs and Computer Games", presentations for middle and high school students at SmartCamp 2011, Aggieland Saturday 2012, Math Fair 2007 and 2004 (all at Texas A&M University).


- Teaching graduate Special Topics courses: "Random Matrix Theory I", "Random Matrix Theory II".

Recent Graduate Students and/or Postdocs

- Mahmood Ettehad, PhD student, 2016-present
- Laura Booton, PhD student, 2014-present
- Wen Liu, PhD student, 2010-2016
- Tracy Weyand, PhD student, 2009-2014
- member of 8 PhD and 1 MSc committees in the last 3 years
Harold P. Boas
Full Professor

Education

- Ph.D. in Mathematics, Massachusetts Institute of Technology, 1980
- S.M. in Applied Mathematics, Harvard University, 1976
- A.B. in Applied Mathematics, Harvard University, 1976

In the Profession

- 1992–present, Professor of Mathematics, Texas A&M University
- 1987–1992, Associate Professor of Mathematics, Texas A&M University
- 1984–1987, Assistant Professor of Mathematics, Texas A&M University
- 1980–1984, J. F. Ritt Assistant Professor of Mathematics, Columbia University

Research or Scholarly Interests

My main research area is finite-dimensional complex analysis, especially function-theoretic aspects. I am interested too in the effective communication of mathematics: both written exposition and innovative pedagogy.

Major Awards

- 2017, Paul R. Halmos – Lester R. Ford Award, Mathematical Association of America
- 2014, Regents Professor (a cash award and a perpetual title conferred by the Regents of the Texas A&M University System)
- 2013, Fellow of the American Mathematical Society (inaugural class)
- 2013, Distinguished Teaching Award, Texas Section of the Mathematical Association of America
- 2012, Presidential Professor for Teaching Excellence (a cash award and a perpetual title conferred by the President of Texas A&M University)
- 2010, Distinguished Achievement Award in Teaching — University Level, Texas A&M Association of Former Students
- 2009, Distinguished Achievement Award in Teaching — College Level, Texas A&M Association of Former Students
- 2009, Chauvenet Prize, Mathematical Association of America
- 2009, Student Led Award for Teaching Excellence (SLATE), Texas A&M University
- 2007, Lester R. Ford Award, Mathematical Association of America
- 1996, Distinguished Achievement Award in Research, Texas A&M Association of Former Students
- 1995, Stefan Bergman Prize (joint with Emil J. Straube), administered by the American Mathematical Society

Notable Recent Grants

- none since 2005

Five Selected Publications or Scholarly Works

• Harold P. Boas and Emil J. Straube, Sobolev estimates for the $\overline{\partial}$-Neumann operator on domains in $\mathbb{C}^n$ admitting a defining function that is plurisubharmonic on the boundary, *Math. Z.* 206 (1991), no. 1, 81–88

**Recent Synergistic Activities**

• Moderator for the Complex Variables section of the arXiv since 1998
• Presentations to Texas A&M Math Club, 2017, 2015
• Panelist, Pedagogy Project Lunch Forum, Texas A&M University, 2016
• Supervised undergraduate research, 2016
• Presentation on “Fair Division” to Nauset Rotary Club, Orleans, Massachusetts, 2015
• Member, Astronaut Scholarship Foundation Committee, Texas A&M University, 2015, 2013
• Teaching Excellence Awards Address, Texas Section MAA Meeting, 2014
• *Letter to the editor* of The Economist, 8 February 2014
• Presentation to Texas A&M Faculty Teaching Academy, 2013
• Texas A&M Graduate Teaching Academy mentor to three students, 2012–2013
• Member, University Scholar Selection Committee, Texas A&M University, 2012

**Recent Graduate Students and/or Postdocs**

• Blake Boudreaux, current Ph.D. student
• Joseph Torres, current Ph.D. student
• Zachary Mitchell, current Ph.D. student
• Jennifer Rich, current Ph.D. student
• Robert Jacobson, Ph.D. graduate, 2012
• Chaired 5 Master’s student committees last 5 years

http://www.math.tamu.edu/0ae1a4cc37f2c54e541cbf8809db6548/deptselfstudy/boas.html[3/29/18, 3:45:05 PM]
Andrea Bonito
Professor

Education

- Ph.D. in Mathematics, Ecole Polytechnique Fédérale de Lausanne, 2006
- M.S. in Mathematics, Ecole Polytechnique Fédérale de Lausanne, 2002
- B.S. in Mathematics, Ecole Polytechnique Fédérale de Lausanne, 2002

In the Profession

- 2015-present, Professor of Mathematics, Texas A&M
- 2013-2015, Associate Professor of Mathematics, Texas A&M
- 2008-2013, Assistant Professor of Mathematics, Texas A&M
- 2006-2008, Postdoctoral fellow, University of Maryland

Research or Scholarly Interests

Convergence and optimality of adaptive finite element methods; Approximation of geometric partial differential equation; Approximation of high dimensional problems.

Major Awards

- 2013-2018, NSF-CAREER Award
- 2006-2007, Postdoctoral fellowship from the Swiss national research foundation

Notable Recent Grants

- Office of Naval Research / DURIP grant N00014-17-1-2908, High Performance Computational Structure for Parameter Estimations of Parametric Partial Differential Equations, Co-PI, 2017
- Oak Ridge National Laboratory / DARPA grant, Foundation of Rigorous Mathematics for Uncertainty Quantification in Large Systems at Extreme Scale, co-PI, 2015-2017
- Air force office of scientific research grant FA9551-14-1-0234, Multi-field Compliant Mechanisms of Adaptive Foldable Structures, co-PI, 2014-2017
- National Science Foundation grant DMS-0914977, Space and Time Adaptivity for Moving and Free Boundary Problems, PI, 2009-2013

Five Selected Publications or Scholarly Works

- Bonito, A. and Guermond, J.-L., Approximation of the Eigenvalue Problem for Time Harmonic
Maxwell System by Continuous Lagrange Finite Elements, Math. Comp., 2011

Recent Synergistic Activities

• Member of the Award (2017-present), IT Security (2016-present), Undergraduate (2015-2017), Executive (2013-2015) committees in the mathematics department and in the College of Science IT task force (2016-present)
• Member of the Texas A&M faculty senate (2009-2010 and 2012-2013)
• Workshops and mini-symposiums organization (last 5 years): Winter school on Geometric PDEs and Their Approximations, organizer and lecturer, Texas A&M University, Jan 10-16 2016; Computational Fluid Dynamics, co-organizer, April 8-10 2015, Texas A&M University; Maxwell and Magneto-Hydrodynamics, co-organizer, mini-symposium part of ENUMATH, August 26-30 2013, EPFL; Geometric Partial Differential Equations, co-organizer, mini-symposium part of ENUMAT, August 26-30 2013, EPFL; Numerical Approximation of PDEs: Adaptivity, Error Control and Convergence, co-organizer, March 20-22 2013, Palazzo Feltrinelli in Italy; Numerical Methods for PDEs, co-organizer, January 25-26 2013, Texas A&M University.
• Editorial Board Member of Journal of Numerical Mathematics (2014-present)

Recent Graduate Students and/or Postdocs

• Diane Guignard, Postdoc (VAP) 2017-present
• Spencer Patty, Ph.D. graduate, 2017
• Sanghyun Lee, Ph.D. graduate, 2014
• Peng Wei, Ph.D. candidate
• Jiuhua Hu, Ph.D. candidate
• Chaired 2 master student committee during last 5 years
Itshak Borosh
Professor

Education

- Ph.D. in Mathematics, Weizmann Institute of Science, 1966
- M.Sc. in Mathematics, Hebrew University Jerusalem, Israel 1961

In the Profession

- 1982-present, Professor, Texas A&M University
- Fall 1992, Visiting Professor, DIMACS
- Spring 1988, Visiting Professor, Temple University
- 9/1976-1982, Associate Professor, Texas A&M University
- 9/1974-8/1976, Assistant Professor, Texas A&M University
- 9/1970-8/1972, Visiting Lecturer, Univ. of Illinois, Urbana
- 10/1966-7/1970, Lecturer, Bar-Ilan University, Israel
Michael Brannan
Assistant Professor

Education

- Ph.D. in Mathematics, Queen's University at Kingston, 2012
- M. Mathematics, University of Waterloo, 2008
- B.Sc. Engineering, Queen's University at Kingston, 2006

In the Profession

- 2015-present, Assistant Professor of Mathematics, Texas A&M
- June 2016, Invited Visiting Professor, University of Caen, France
- 2012-2015, J.L. Doob Research Assistant Professor, University of Illinois at Urbana-Champaign
- 2012-2014, NSERC Postdoctoral Fellow, University of Illinois at Urbana-Champaign

Research or Scholarly Interests

I am interested in functional analysis, operator algebras, and quantum algebra. Particularly quantum groups, free probability, non-commutative harmonic analysis, structural and approximation properties for operator algebras, and applications to geometric questions in quantum information theory.

Major Awards

- 2015-2017, NSERC Banting Fellowship (Declined for TT position at TAMU)
- 2012-2014, NSERC Postdoctoral Fellowship
- 2008-2010, NSERC Canada Graduate Scholarship (Doctoral)
- 2006-2008, NSERC Canada Graduate Scholarship (Master's)

Notable Recent Grants


Five Selected Publications or Scholarly Works

- M. Brannan and D. Kerr, "Quantum groups, property (T), and weak mixing", Communications in Mathematical Physics, 20 pages. To appear.
- M. Brannan and B. Collins, "Highly entangled, non-random subspaces of tensor products from quantum groups", Communications in Mathematical Physics, 18 pages. To appear.

Recent Synergistic Activities

http://www.math.tamu.edu/0ae1a4cc37f2c541c8b8809db6548/deptselfstudy/brannan.html[3/29/18, 3:45:18 PM]
CV for Michael Brannan

- Founder and co-organizer of the Brazos Analysis Seminar (a semi-annual regional functional analysis meeting aimed at promoting junior participants and graduate students).
- Reviewer for several mathematics journals, federal granting agencies, and mathematical reviews.

Recent Graduate Students and/or Postdocs

- Currently no graduate students or postdocs.
- Mentored one visiting graduate student (Sang-Gyun Youn, Seoul National University, Korea) Fall 2016.
- Currently supervising one capstone project (Xiaoyu Su)
- Served on two master's committees. One Ph.D. committee.
- Supervised two summer undergraduate research projects (2016, 2017). Seven students in total.
Goong Chen
Professor

Education

- Ph.D. in Mathematics, University Wisconsin, 1977
- B.S., National Tsing-Hua University, 1972

In the Profession

- 2000-present, Member, Institute for Quantum Science and Engineering, Texas A&M
- 1987-present, Professor of Mathematics and Aerospace Engineering, Texas A&M
- 1982-1987, Professor, The Pennsylvania State University
- 1978-1982, Assistant Professor, The Pennsylvania State University
- 1979-1979, Visiting Lecturer, Institut de Recherche, Rocquencourt, France
- 1977-1978, Assistant Professor, Southern Illinois University at Carbondale
- 1977-1977, Research Associate, University of Wisconsin
- 1976-1977, Wisconsin Alumni Research Foundation Fellow, University of Wisconsin
- 1974-1976, Teaching Assistant, University of Wisconsin, Madison

Research or Scholarly Interests


Major Awards

- Qatar National Research Fund (QNRF) 2014 Outstanding Team Research Award, May, 2014, for the exceptional research productivity done by the PIs in QNRF Grant NPRP09-462-1-074.
- Qatar National Research Fund (QNRF) 2015 Outstanding Team Research Award, May 2015 for the QNRF Grant NPRP#4-1162-1-181.
- The article on the missing Malaysia Airlines flight MH370 published as the cover story in the April 2015 issue of the Notices of The American Mathematical Society (AMS) with G. Chen as the lead author is named by the AMS as one in Top Math Stories in the Media - 2015; see http://www.ams.org/news/math-in-the-media/md-top-stories-2015. Our work was reported by approximately 1,000 news outlets over the world in over a dozen languages.

Notable Recent Grants

- QNRF (Qatar National Research Fund) Grant NPRP#8-028-1-101 “Nonlinear Photonics for All-Optical Information Technologies”; total budget awarded: Approx. $820,000, Dr. M. Belic, Lead PI; Dr. G. Chen, Co-PI. G. Chen’s share at TAMU approx. $80,000 (February 1, 2016-January 31, 2019).
• (In negotiation) COMAC (Commercial Aircraft Corporation of China)-America, Contract, Newport Beach, California, estimated to be $80,000 - $90,000 for the first year (May 1, 2018 - April 30, 2019).

**Five Selected Publications or Scholarly Works**


**Recent Synergistic Activities**

- Editor-in-Chief, Chapman & Hall/CRC Press Applied Mathematics and Nonlinear Science Series to help the publisher review manuscripts and recruit authors.
- Serve on the editorial boards of several journals to assist the contributors in refereeing, revising and publishing papers on differential equations, control theory, quantum computing, and nonlinear science.
- Member of Institute for Quantum Studies at TAMU, work closely with physicists on quantum physics and chemistry research.
- Have organized special sessions and conferences on PDEs, dynamical systems, and quantum physics.
- Am currently working with Commercial Aircraft Corporation of China (COMAC)-America in an industrial collaboration to help develop and validate certain aerospace-engineering designs.

**Recent Graduate Students and/or Postdocs**

- Dr. Yi-Ching Wang, advisee
- Dr. Cong Gu, advisee
- Dr. Jing Tian, advisee
- Dr. Alexey Sergeev, postdoc
Andrew Comech  
Associate Professor

Education

- Dr.Habil. in Mathematics, Technical University of Darmstadt, 2009
- Ph.D. in Mathematics, Columbia University, 1997
- M.S. in Mathematics, Moscow Institute for Physics and Technology, 1993

In the Profession

- 2007-present, Associate Professor of Mathematics, Texas A&M
- 2004-2007, Assistant Professor of Mathematics, Texas A&M

Research or Scholarly Interests

Stability of solitary waves, global attractors of dispersive Hamiltonian systems, harmonic analysis, quantum theory.

Notable Recent Grants


Five Selected Publications or Scholarly Works


Recent Synergistic Activities

- 2008-present, Member of the Teaching Committee

Recent Graduate Students and/or Postdocs

- Participated in 1 masters student committee last 5 years

http://www.math.tamu.edu/0ae1a4cc37f2c54e541cbf8809db6548/deptselfstudy/comech.html[3/29/18, 3:59:26 PM]
Prabir Daripa
Associate Professor

Education

- Ph.D. in Applied Mathematics/Engineering, Brown University, 1985
- M.S. in Applied Mathematics, Brown University, 1983
- M.S. in Engineering, Brown University, 1982
- B.Tech. in Engineering, IIT Kharagpur, India, 1978

In the Profession

- 1992-present, Associate Professor of Mathematics, Texas A&M
- 1987-1992, Assistant Professor of Mathematics, Texas A&M
- 1985-1987, Postdoctoral Scholar, Courant Institute, NYU

Research or Scholarly Interests


Notable Recent Grants

- NSF Grant #DMS-1522782, Theory, Modeling and Computation of Chemical Enhanced Oil Recovery, PI, 09/01/2015-08/31/2018

Five Selected Publications or Scholarly Works

- Prabir Daripa and Sourav Dutta, Modeling and Simulation of Surfactant-Polymer Flooding using a New Hybrid Method, J. Comp. Phys., 2017

Recent Graduate Students and/or Postdocs

- Sourav Dutta, Ph.D. graduate, 2017
- Craig Gin, Ph.D. graduate, 2015
- Aditi Ghosh, Ph.D. graduate, 2013
Alan Demlow
Professor

Education

- Ph.D. in Mathematics, Cornell University, 2002
- B.A. in Mathematics and Chemistry, Spring Arbor University, 1996

In the Profession

- 2017-present, Professor of Mathematics, Texas A&M
- 2014-2017, Associate Professor of Mathematics, Texas A&M
- 2011-2014, Associate Professor of Mathematics, University of Kentucky
- 2006-2011, Assistant Professor of Mathematics, University of Kentucky

Research or Scholarly Interests

Alan Demlow's research interests lie in the area of numerical analysis, specifically the mathematical theory of finite element methods for the approximate solution of partial differential equations. Specific areas of expertise include fine properties of finite element methods, surface finite element methods, and adaptivity.

Major Awards

- 1997, NSF Graduate Research Fellowship
- 2003, NSF Mathematical Sciences Postdoctoral Research Fellowship
- 2011, Simons Fellowship in Mathematics

Notable Recent Grants

- NSF Grant DMS-1720369 "Topics in mathematical theory of adaptive finite element methods", PI, 2017-2020

Five Selected Publications or Scholarly Works


Recent Synergistic Activities

- Faculty advisor for teams participating in the Mathematical Contest in Modeling
CV for Alan Demlow

- Associate Editor for SIAM Journal on Numerical Analysis

Recent Graduate Students and/or Postdocs

- Justin Owen, current Ph.D. student
- Fernando Cacho, Ph.D. graduate (University of Kentucky), 2014
Ronald A. DeVore  
The Walter E. Koss Professor and Distinguished Professor of Mathematics

Education

- Ph.D. in Mathematics, Ohio State University, 1967
- B.S. in Mathematics, Eastern Michigan University, 1964

In the Profession

- 2010-present, Distinguished Professor, Texas A&M University
- 2008-present, Walter E. Koss Endowed Professorship, Texas A&M University
- 2005-present, Robert L. Sumwalt Distiguished Professor Emeritus, University of South Carolina
- 1999-2005, Director, Industrial Mathematics Institute, University of South Carolina
- 1986-2005, Robert L. Sumwalt Professor of Mathematics, University of South Carolina
- 1977-1986, Professor, University of South Carolina
- 1974-1977, Professor, Oakland University
- 1970-1974, Associate Professor, Oakland University
- 1968-1970, Assistant Professor, Oakland University

Research or Scholarly Interests

Research interests center on approximation and numerical methods with applications to signal/image/data processing, and to the numerical solution of PDEs. A large emphasis is placed on methods that apply in high dimensions which arise when treating big data, learning with a large number of features, or computational algorithms for parametric PDEs.

Major Awards

- Elected 2017, National Academy of Sciences
- 2011, La Fondation Sciences of Mathematiques de Paris Gold Medal
- Elected 2007, Bulgarian Academy of Sciences
- 2007, SPIE Wavelet Pioneer Award
- 2006, Plenary Lecturer, International Congress of Mathematicians, Madrid
- 2004, Honorary Doctorate Degree, RWTH Aachen
- 2003, ICS Hot Paper Award
- 2002, Alexander von Humboldt Research Prize
- Elected 2001, American Academy of Arts and Sciences Fellow
- 2001, Bulgarian Gold Medal of Science
- 2000, J. Complexity Outstanding Paper Award
- 1975-1976, Alexander von Humboldt Fellowship
- 1964-1967, NDEA Fellow

Notable Recent Grants

CV for Ronald DeVore

- DOD-Office of Naval Research Grant, The Numerical Recovery of High Dimensional Functions, PI: R. DeVore, Total Award: $394,483, Period of Performance: July 1, 2015 - June 30, 2018
- DOD-Office of Naval Research Grant, Data Assimilation and Parameter Estimation for Parametric Partial Differential Equations, PI: R. DeVore, Total Award $231,351, Period of Performance: June 1, 2016 - June 30, 2019

Five Selected Publications or Scholarly Works


Recent Synergistic Activities

- Currently serves as editor in four journals, Constructive Approximation, Journal of Approximation Theory, Pan American Mathematics Journal and CALCOLO.
- Member of the selection committee for the International Congress of Mathematicians.
- Plenary speaker at several major conferences on Numerical Methods.

Recent Graduate Students and/or Postdocs

- Peter Jantsch, Postdoc 2017-current
- Gerrit Welper, Postdoc 2013-2016
- Philipp Lamby, Postdoc, 2010-2013
- Xiaohui Wang, Ph.D. student

http://www.math.tamu.edu/0ae1a4cc37f2c54e541cb8809db6548/deptselfstudy/devore.html[3/29/18, 3:44:39 PM]
Ronald G. Douglas  
Distinguished Professor

Education

• Ph.D. in Mathematics, Louisiana State University, 1962  
• B.S. in Mathematics, Illinois Institute of Technology, 1960

In the Profession

• 1999-present, Distinguished Professor, Texas A&M University  
• 1996-1999, Professor of Mathematics, Texas A&M University  
• 1996-2002, Provost & Executive Vice President, Texas A&M University  
• 1969-1996, Professor of Mathematics, Stony Brook University  
• 1990-1995, Vice Provost for Undergraduate Studies, Stony Brook University  
• 1986-1990, Dean of Physical Sciences, Stony Brook University

Research or Scholarly Interests

Seek to understand the structure of operators on Hilbert space, particularly in the multivariate case using methods and framework from complex and algebraic geometry. Seek to understand exotic index theory using techniques from operator algebras and operator theory.

Major Awards

• Honorary Doctorate, Waterloo University, 2010  
• 1999, Fellow, AAAS  
• 1980-1982, Guggenheim Fellowship  
• 1968-1970, Sloan Fellowship  
• 1965-1966, AFOSR Fellowship

Notable Recent Grants

• EAF -- SRS Ref M1501193, "Implementation and Evaluation of Inquiry Based Learning in Mathematics Instruction Project", PI, October 2014-December 2016  
• NSF #DUE-1544374, "Math:Conference: Active Learning Approaches in Mathematics Instruction: Practice and Assessment Workshop", PI, July 2015-December 2017

Five Selected Publications or Scholarly Works

Recent Synergistic Activities

- Member, Distinguished Professor Selection Committee, College of Science.
- Coordinate Inquiry-Based Learning Centers Initiative Led by Educational Advancement Foundation, Austin.

Recent Graduate Students and/or Postdocs

- Yi Wang, doctoral, 2015-present
- Hyun Kwon, Postdoctoral (Informal) 2009-2016
- Piotr Nowak, Postdoc (Informal) 2008-2010
- Jaydeb Sarkar, Postdoc (NSF Grant) 2006-2009
- Yun-Su Kim, Postdoc (Informal) 2007-2009
- Nikolay Ivanov, Postdoc (Informal) 2005-2006
Kenneth J. Dykema
Professor

Education

- Ph.D. in Mathematics, University of California, Berkeley, 1993
- B.A in Mathematics (first class honors), Oxford University, 1987
- B.S. in Chemistry and Mathematics (summa cum laude), University of Wisconsin - Eau Claire, 1985

In the Profession

- 2003-present, Professor of Mathematics, Texas A&M
- 2001-2003, Associate Professor of Mathematics, Texas A&M
- 1999-2001, Assistant Professor of Mathematics, Texas A&M
- 1999, Lektor (Mathematics and Computer Science Dept.), University of Southern Denmark (formerly named Odense University)
- 1996-1998, Adjunkt (Mathematics and Computer Science Dept.), Odense University

Research or Scholarly Interests

Operator algebras, free probability theory.

Major Awards

Notable Recent Grants

- Simons Foundation Collaboration Grant, Fundamental decomposition results in finite von Neumann algebras, PI, 09/2017 to 08/2022
- NSF Grant DMS-1202660, Research in finite von Neumann algebras, PI, 09/2012 to 08/2016

Five Selected Publications or Scholarly Works


Recent Synergistic Activities

- Reverse chronological order, last 5 years or so
- Cooperating Editor, Journal of Operator Theory, since 2011

http://www.math.tamu.edu/0ae1a4cc37f2c54e541cbf8809db6548/deptselfstudy/dykema.html[3/29/18, 3:45:20 PM]
Recent Graduate Students and/or Postdocs

- Amudhan Krishnaswamy-Usha (current Ph.D. student)
- Wonhee Na (current Ph.D. student)
- Joseph Noles (Ph.D. graduate, 2017(Dec,))
- Paul Skoufranis, (Postdoc, VAP, 2014-2016)
- Steve Avsec (Postdoc, VAP, jointly mentored with Anshelevich and Kerr, 2013-2016)
- John Williams (Postdoc, VAP, 2011-2014)
- Francisco Torres-Ayala (Ph.D. graduate, 2012)
- Daniel Redelmeier (Ph.D. graduate, 2012)
Yalchin Efendiev
Professor and Mobil Chair in Computational Science

Education

- Ph.D. in Applied Mathematics, Caltech, 1999
- B.S. in Applied Mathematics, Moscow State University, 1993

In the Profession

- 2008-present, Professor, Texas A&M
- 2005-2008, Associate Professor, Texas A&M
- 2001-2005, Assistant Professor, Texas A&M University
- 1999-2001, Postdoc, IMA, University of Minnesota

Research or Scholarly Interests

Multiscale mathematics, numerical analysis

Major Awards

- 2017 Class of Fellows of AMS
- 45 minute Invited Talk, International Congress of Mathematicians, South Korea, 2014
- Fraunhofer Bessel Award (Alexander von Humboldt Foundation), 2010

Notable Recent Grants

- Department of Energy, Time-Lapse Seismic Monitoring and Performance Assessment of CO2 Sequestration in Hydrocarbon Reservoirs, 2010-2013
- Department of Energy, Bayesian uncertainty quantification in predictions of flows in highly heterogeneous media and its applications to CO2 sequestration, 2010-2013
- Scalable Multilevel Uncertainty Quantification Concepts for Extreme-Scale Multiscale Problems, 2013-2015 (PI)
- National Science Foundation, Multiscale Methods for Perforated problems, 2016-2019

Five Selected Publications or Scholarly Works

- Y Efendiev, T Hou, W Luo, Preconditioning Markov chain Monte Carlo simulations using coarse-
scale models, SIAM Journal on Scientific Computing 28 (2), 776-803

- Y Efendiev, J Galvis, R Lazarov, J Willems, Robust domain decomposition preconditioners for abstract symmetric positive definite bilinear forms, ESAIM: Mathematical Modelling and Numerical Analysis 46 (5), 1175-1199

- Y Efendiev, J Galvis, TY Hou, Generalized multiscale finite element methods (GMsFEM), Journal of Computational Physics 251, 116-135


Recent Synergistic Activities

- Organized a workshop at TAMU, Data-Driven Model Reduction, April, 2017
- Organized several conferences in Hong Kong, Russia, and China
- Principal Editor, Journal of Computational and Applied Mathematics
- Editorial Boards: SIAM MMS, Journal of Computational Physics, Geomath, ...

Recent Graduate Students and/or Postdocs

- Postdocs or Ph.D. students within last 5 years or so
- Xiaosi Tan, Ph.D. graduate, 2015
- Guanglian Li, graduate, 2015
- Minam Moon, graduate, 2015
- Kai Gao, graduate, 2015 (co-advisor)
- Anirban Mondal, graduate, 2015 (co-advisor)
- Donald Brown, graduate, 2012
- Jia Wei, graduate, 2012
- Seul-ki Kang, graduate, 2012
- Jiang Xie, graduate, 2012 (co-advisor)
- Chak Shing Lee, graduate, 2016 Yanfang Yang, graduate, 2016
- Anastasia Protasov, graduate, 2016
- Jun Ren, graduate, 2015
- Manal Alotoibi, graduate, 2016
Shuai Ye, graduate, 2016

- In many Ph.D. and Ms committees
Tamás Erdélyi
Professor

Education

- 1987-1989, Ph.D. in Mathematics, University of South Carolina
- 1980-1985, M.Sc. in Mathematics, Eötvös L. University, Budapest

In the Profession

- 2004-present, Professor of Mathematics, Texas A&M
- 1997-2004, Associate Professor of Mathematics, Texas A&M
- 1995-1997, Assistant Professor of Mathematics, Texas A&M
- 1996-1997, Postdoctoral Fellow, University of Copenhagen
- 1993-1995, Postdoctoral Fellow, Simon Fraser University
- 1992-1993, Postdoctoral Fellow, Dalhousie University
- 1989-1992, Research Instructor, The Ohio State University
- 1985-1987, Junior Researcher, Mathematics Institute of the Hungarian Academy of Sciences

Research or Scholarly Interests

approximation theory, real and complex analysis, number theory, polynomials and polynomial inequalities, Chebyshev systems, Descartes systems, Müntz spaces, exponential sums, Littlewood polynomials, polynomials with restricted coefficients.

Major Awards

Notable Recent Grants

- 1996-2000, National Science Foundation, No. DMS-9623156
- 2000-2003, National Science Foundation, No. DMS-0070826

Five Selected Publications or Scholarly Works


Recent Synergistic Activities

- Editor of Journal of Approximation Theory
- Editor of Mathematical Inequalities and Applications
- Editor of Analysis Mathematica
Virág for Tamas Erdélyi

- Helping the Editors of the Problem Session of the American Mathematical Monthly

**Recent Graduate Students and/or Postdocs**

- David Benko, Postdoc 2001-2004
Simon Foucart
Associate Professor

Education

- Ph.D. in Mathematics, University of Cambridge, 2006
- Part III of Math Tripos, University of Cambridge, 2001
- Licence de Mathématiques, University of Paris 6, 1999

In the Profession

- 2015-present, Associate Professor of Mathematics, Texas A&M University
- 2013-2015, Assistant Professor of Mathematics, University of Georgia
- 2010-2013, Assistant Professor of Mathematics, Drexel University

Research or Scholarly Interests

Compressive Sensing; Approximation Theory (especially Spline Functions and Minimal Projections); Computational Mathematics; Bioinformatics; Data Science

Major Awards

- 2012, Antelo Devereux Award for Young Faculty, Drexel University
- 2010, Journal of Complexity Best Paper Award

Notable Recent Grants

- NSF Grant #DMS-1622134, CDS&E-MSS: Recovery of high-dimensional structured functions, sole PI, 2016-19, $99,535
- NSF Grant #DMS-1418744, ATD: Improving analysis of microbial mixtures through sparse reconstruction and statistical inference, PI, coPIs: G. Rosen (Drexel Engineering), L. P. Tabb (Drexel Biostatistics), 2011-15, $666,322

Five Selected Publications or Scholarly Works

- D. Koslicki, S. Foucart, G. Rosen, Quikr: a method for rapid reconstruction of bacterial communities via compressive sensing, Bioinformatics, 29/17, 2096-2102, 2013
- S. Foucart, A. Pajor, H. Rauhut, T. Ullrich, The Gelfand widths of $\ell_p$-balls for $0 < p \leq 1$. Journal of Complexity, 26/6, 629-640, 2010

Recent Synergistic Activities

- Short courses on Compressive Sensing delivered for Hong Kong University of Science and Technology (Hong Kong, Dec 2017), Hausdorff Research Institute (Bonn, Jan 2016), University of
South Florida (Tampa, May 2015), CIMPA Research School (Mar del Plata, Aug 2013), Laboratoire Pau Painlevé (Lille, Mar 2013)
- Editor for *Journal of Approximation Theory* (Aug 2017-present)
- Refereeing duties for 28 journals, 7 conference series, 3 publishers, and 4 funding agencies
- Organization of minisymposia for the 21st Meeting of the International Linear Algebra Society (Jul 2017), the 43rd Congrès National d'Analyse Numérique (May 2016), the 14th International Conference on Approximation Theory (Apr 2013)
- Organization of a weekly reading seminar on *Compressive sensing, extensions, and applications* (Sept 2015-present)

**Recent Graduate Students and Postdocs**

- Richard Lynch, Postdoc, Aug 2016-present
- Jean-Luc Bouchot, Postdoc (Drexel), Nov 2012-Aug 2014
- David Koslicki, Postdoc (Drexel), Jan-Sep 2012
- Bolong Ma, PhD student, 2017-present
- Mahmood Ettehad, PhD student, 2016-present
- Srinivas Subramanian, PhD student, 2016-present
- Michael Minner, PhD student (Drexel), Sep 2012-Mar 2016
- Chaired 3 masters student committees over the last 5 years
Stephen A. Fulling
Professor

Education

- Ph.D. in Physics, Princeton University, 1972
- M.A. in Physics, Princeton University, 1969
- A.B.(scl) in Physics, Harvard University, 1967

In the Profession

- 2000-present, Professor of Physics (by courtesy), Texas A&M
- 1984-present, Professor of Mathematics, Texas A&M
- 1979-1984, Associate Professor of Mathematics, Texas A&M
- 1976-1979, Assistant Professor of Mathematics, Texas A&M
- 1974-1976, Research Assistant (postdoc), Mathematics Dept., King's College London
- 1972-1974, Postdoctoral Fellow, Physics Dept., University of Wisconsin–Milwaukee

Research or Scholarly Interests

Quantum field theory and general relativity; spectral and asymptotic analysis of differential operators

Major Awards

- 2015, Undergraduate Research Mentoring Award, TAMU College of Science
- 2013, TAMU Department of Mathematics Outstanding Teaching Award
- 2011, TAMU Department of Mathematics Outstanding Service Award
- 2004, Foreign member, Royal Society of Sciences at Uppsala [Sweden]

Notable Recent Grants


Five Selected Publications or Scholarly Works

- S. A. Fulling, Nonuniqueness of canonical field quantization in Riemannian space-time, Phys. Rev. D 7 (1973) 2850-2862
Recent Synergistic Activities

- Supervisor of numerous undergraduate research projects (e.g., "S. W. Murray et al." above)
- Conversion of Math 467 (Modern Geometry) to a writing-intensive course for mathematics majors
- Innovations in undergraduate mathematics education (for junior and senior engineering and science majors) at TAMU, including introduction of writing assignments and peer review of homework into upper-level courses

Recent Graduate Students and/or Postdocs

- Mentor of Jef Wagner, postdoc (VAP), 2010
- Physics M.S.: Z. H. Liu, 2006; T. A. Zapata, 2007
- Several nonthesis M.S. in the distance program with teaching emphasis
- Nine Undergraduate Research Fellows/Scholars since 1995
Sue Geller
Professor

Education
- Ph.D. in Mathematics, Cornell University, 1975
- M.S. in Mathematics, Cornell University, 1972
- B.S. in Mathematics, Case Institute of Technology, 1970

In the Profession
- 2004-2017, Director of Honors Programs in Mathematics, Texas A&M
- 1994-present, Professor of Veterinary Integrative Biosciences, Texas A&M
- 1989-present, Professor of Mathematics, Texas A&M
- 1981-1989, Associate Professor of Mathematics, Texas A&M
- 1975-1981, Assistant Professor of Mathematics, Purdue University

Research or Scholarly Interests
- Current: A direct proof of a special case of Fermat's Last Theorem using mathematics known by Fermat; Studies on advising and retention of undergraduates
- Past: Biostatistics, Bioinformatics, Math Education, Algebraic K-Theory; Hochschild and Cyclic Homology

Major Awards
- 2015, Texas A&M University Distinguished Service Award in Individual Student Relationships
- 2014, MAA, TX Section, Ron Barnes Distinguished Service to Students Award
- 2014, Texas A& Women's Faculty Network Mentoring Award
- 2012, Texas A&M Honors and Undergraduate Research Director's Award

Notable Recent Grants

Five Selected Publications or Scholarly Works
**Recent Synergistic Activities**

- Departmental Advisor for Masters Degree Program, i.e., advised all MS students as they began their program until they chose a chair 8-12 months later, approximately 40 in the last 5 years.
- University Writing and Communications Committee member, 2012-
- Chair, Graduate Appeals Panel, 2012-
- University Honors Program Advisory Board member 2009-2017
- Director of Honors Programs in Mathematics (for Undergraduates), 2004-2017

**Recent Graduate Students and/or Postdocs**

- Chaired the committees of and graduated 35 masters students in the last 5 years; am chairing 9 more currently
Rostislav Grigorchuk
Distinguished Professor

Education

- Doctor of Science (Habilitation) Steklov Institute of Mathematics, Moscow, 1985
- Ph.D. in Mathematics, Moscow State University of Lomonosov, 1978
- M.S. in Mathematics, Moscow State University of Lomonosov, 1975

In the Profession

- 2008-present, Distinguished Professor of Mathematics, Texas A&M
- 2002-2008, Professor of Mathematics, Texas A&M
- 1986-1995, Professor of Mathematics, The Institute of Railway Transportation, Moscow
- 1983-1986, Associate Professor of Mathematics, The Institute of Railway Transportation, Moscow
- 1978-1983, Assistant Professor of Mathematics, The Institute of Railway Transportation, Moscow

Research or Scholarly Interests

Group Theory: groups of intermediate growth, self-similar groups, groups acting on trees, amenable groups. Dynamical Systems: ergodic theorems for non-commutative group actions, symbolic systems, invariant random subgroups.

Major Awards

- 2015, Leroy P. Steele Prize for Seminal Contribution to Research
- 2015, Bogolyubov Prize of Ukrainian Academy of Science
- 2012, Fellow of American Mathematical Society
- 2009, Association of Former Students Distinguished Achievement Award in Research
- Award of Russian Academy of Science and the MAIK Publishing House for the best publication of scientific paper in 2001
- 1980, Award of Moscow Mathematical Society

Notable Recent Grants

- Simon Foundation Award 527814, Space of marked groups and invariant random subgroups, 2017-2022
- NSF grant DMS 1207699, Groups of intermediate growth, PI, 2012-2015

Five Selected Publications or Scholarly Works


http://www.math.tamu.edu/0ae10a4cc37f2c54e541cbf8809db6548/deptselfstudy/grigorch.html[3/29/18, 3:29:46 PM]
R. Grigorchuk, V. Kaimanovich, T. Nagnibeda, Ergodic properties of boundary actions and Nielsen-Schreier theory, Advances in Mathematics, 2012

Recent Synergistic Activities

- Graduate Committee, 2017-current
- Distinguished Professors Committee, 2008-current
- Editor in Chief of Journal "Groups, Geometry and Dynamics", 2006-current
- Member of Editorial Board of Journal of Modern Dynamics, 2006-current

Recent Graduate Students and/or Postdocs

- Supun Samarakoon, 2017-current
- Roman Kogan, 2015-2017
- Dilber Kocak, 2010-2016
- Mustafa Gokhan Benli, 2007-2013
Jean-Luc Guermond
Professor

Education

- M.S., Theoretical Mechanics, University of Paris VI, France, 1983.

In the Profession

- 2004-present, Professor, Department of Mathematics, Texas A&M.
- 2001-2003, Visiting professor, ICES, UT Austin, TX.
- 1986-1987, Post-Doc, Department of Ocean Engineering, MIT, Boston, MA.

Research or Scholarly Interests


Major Awards

- 2017, Engineering Genesis Award for Multidisciplinary Research.
- 2016, Departmental Award for Service.
- 2012, Exxon Mobile Chair.
- 2001-2003, TICAM fellowship, Austin, TX.

Notable Recent Grants


• AFOSR (FA9550-12-1-0358), High-order approximation techniques for nonlinear hyperbolic PDEs, PI, July 2012-April 2015


Five Selected Publications or Scholarly Works


Recent Synergistic Activities

• Mentor for HSAP/URAP ARO Program, 2016.

• Departmental Advisor for Masters Degree Program.


• Committee P (Promotion), 2014-2016

• Committee of Principal Investigators (TAMU), 2012-2015.

• Faculty-Student IP Agreement Task Force (TAMU), 2014, 2015


Recent Graduate Students and/or Postdocs

http://www.math.tamu.edu/0ae1a4cc37f2c54e541cb809db654b/deptsfstudy/guermond.html[3/29/18, 3:58:47 PM]
CV for Jean-Luc Guermond

- Murtazo Nazarov, Postdoc (VAP) 2011-2014
- Fahad Alrashed, Ph.D. Graduate (Fully supported by ARAMCO), 2011-2015.
- Loic Cappanera, Ph.D. graduate (Paris Sud, France, co-Chair), 2012-2015.
- Daniel Castanon, Ph.D. graduate, 2011-2016.
- Yong Yang, Ph.D. graduate, 2012-2016.
- Manuel Quezada, Ph.D. graduate, 2012-2016.
Robert A. Gustafson
Associate Professor

Education

- Ph.D. in Mathematics, Yale University, 1979
- A.B. in Mathematics, Princeton University, 1975

In the Profession

- 1986-present, Associate Head for Undergraduate Studies, Texas A&M
- 1986-present, Associate Professor of Mathematics, Texas A&M
- 1981-1982, Visiting Asst. Professor, University of California, San Diego
- 1979-1985, Assistant Professor of Mathematics, Texas A&M
Boris Hanin
Assistant Professor

Education

- Ph.D. in Mathematics, Northwestern University, 2014
- B.S. in Mathematics (with honors), Stanford University, 2009

In the Profession

- 2017-present, Assistant Professor, Texas A&M
- 2014-2017, NSF Postdoctoral Fellow and Pure Math Instructor, MIT

Research or Scholarly Interests

I use tools from probability, PDE, and geometry to study asymptotic problems in spectral theory and deep learning. Specifically, in spectral theory, I am interested in the semi-classical behavior of spectral projectors and Wigner functions for Laplacians on compact manifolds and for Schrodinger operators in Euclidean space. These deterministic objects play a key role in analyzing randomized models of eigenfunctions. I also asymptotically the expressivity and training properties of deep neural nets.

Major Awards

- 2014-2017, NSF Postdoctoral Fellowship

Notable Recent Grants

- NSF Grant #DMS-1400822, Gaussian Random Functions in the Semiclassical Limit, Boris Hanin, 2014-2017

Five Selected Publications or Scholarly Works


Recent Synergistic Activities

- Mentor for Texas A&M RetainU Program

Recent Graduate Students and/or Postdocs

http://www.math.tamu.edu/0ae1a4cc37f2c54e541cbf80d9d6548/deptselfstudy/bhanin.html[3/29/18, 3:44:54 PM]
CV for Boris Hanin

- Li Xingchi, Masters Student 2017-present
Doug Hensley
Senior Professor

Education

- Ph.D. in Mathematics, University of Minnesota, Minneapolis, MN 1974
- B.A. in Mathematics, University of Kansas, Lawrence, KS

In the Profession

- 2015-present, Senior Professor, Texas A&M
- 1989-2010, Professor of Mathematics, Texas A&M
- 1983-1989, Associate Professor of Mathematics, Texas A&M
- 1977-1983, Assistant Professor of Mathematics, Texas A&M

Research or Scholarly Interests

Number Theory, continued fractions and related dynamics questions.

Major Awards

Notable Recent Grants

Five Selected Publications or Scholarly Works

- The number of steps in the Euclidean algorithm. J. Number Theory 49 (1994)

Recent Synergistic Activities

- Hosting "Buzz Contest" at the Annual Texas A&M High School Mathematics Contest
- Occasional presentations for the Summer Mathematics Research Training High School Camp and the TAMU Math Circle
- Coach, TAMU contestants in the national undergraduate William Lowell Putnam mathematical competition

Recent Graduate Students and/or Postdocs

http://www.math.tamu.edu/0ae1a4cc37f2c54e541cbf8809db6548/deptselfstudy/hensley.html[3/29/18, 4:02:33 PM]
Peter Howard
Professor and Associate Head for Graduate Studies

Education

- Ph.D. in Mathematics, Indiana, 1998
- M.S. in Mathematics, Indiana University, 1997
- M.S. in Management Science, University of Tennessee, 1993
- B.S. in Physics, Tennessee Technological University, 1991

In the Profession

- 2012-present, Associate Head for Graduate Studies, Texas A&M
- 2012-present, Professor of Mathematics, Texas A&M
- 2007-2012, Associate Professor of Mathematics, Texas A&M
- 2001-2007, Assistant Professor of Mathematics, Texas A&M
- 1999-2001, Postdoctoral Associate, New York University
- 1998-1999, Postdoctoral Associate, Brown University

Research or Scholarly Interests

Stability of nonlinear waves arising in models of fluid dynamics and phase separation. Spectral analysis for ODE and PDE, especially for equations arising when a nonlinear PDE is linearized about a stationary or traveling-wave solution.

Major Awards

- 2014, A&M Association of Former Students Teaching Award - College Level
- 2010, Texas A&M Partners in Learning Award
- 1998-2001, NSF Postdoctoral Fellowship

Notable Recent Grants

- NSF Grant #0906370, Spectral analysis and stability for wave patterns and multidimensional waves, PI, 09/01/09 -- 08/31/12, with no cost extension to 08/31/13

Five Selected Publications or Scholarly Works

Recent Synergistic Activities

- Co-organizer for conference Shock Waves and Beyond, Institut Henri Poincare, June 23-26, 2015
- Panel member, Choosing the right math graduate school, Joint Mathematics Meetings, San Antonio, Texas, Jan. 10-13, 2015
- Organized the mathematics department's Math Fair for K-12 students, 2011

Recent Graduate Students and/or Postdocs

- Cesar Cobos-May, current Ph.D. student, 2017--
- Sandra Truong, Ph.D. graduate (interdisciplinary with genetics), 2017
- Alim Sukhtayev, Postdoc (VAP) 2012-2015
- Bongsuk Kwon, Postdoc (VAP) 2009-2012
- Chaired 11 Master's student committees last 5 years
Roger E. Howe
Professor

Education

- Ph.D: University of California, Berkeley, 1969
- BA: Harvard College, 1966

In the Profession

- Professor, Yale University, 1974 -
- Associate Professor, State University of New York at Stony Brook, 1973-74
- Assistant Professor, State University of New York at Stony Brook, 1969-73

Research or Scholarly Interests

Mathematics Education

Major Awards

- 
- 

Notable Recent Grants

- 
- 

Five Selected Publications or Scholarly Works


Recent Synergistic Activities

- 
- 
- 

Recent Graduate Students and/or Postdocs

- 

http://www.math.tamu.edu/0ae1a4cc37f2c54e541cb8809db6548/deptselfstudy/howe.html[3/29/18, 3:53:45 PM]
William B. Johnson
Distinguished Professor, A. G. & M. E. Owen Chair

Education

- Ph.D. in Mathematics, Iowa State University, 1969
- B.A. in Mathematics, Southern Methodist University, 1966

In the Profession

- 1989-present, Distinguished Professor of Mathematics, Texas A&M
- Autumn 2017, Clay Senior Scholar and Research Member, Mathematical Sciences Research Institute
- Autumn 2011, Clay Senior Scholar and Research Member, Mathematical Sciences Research Institute
- Spring 2011, Visiting Fellow and Overseas Visiting Scholar at St John's College, Isaac Newton Institute for Mathematical Sciences
- Spring 2002, Weston Visiting Fellow, The Weizmann Institute of Science
- Spring, 1996, General Member, Mathematical Sciences Research Institute
- Spring 1994, Michael Visiting Fellow, The Weizmann Institute of Science
- 1984-1989 Professor of Mathematics, Texas A&M
- 1981-1982, Visiting Professor, Texas A&M
- 1976-1977, Senior Fellow, Institute for Advanced Studies of The Hebrew University of Jerusalem
- Autumn 1975, Visiting Professor, University of Texas
- 1975-1984 Professor of Mathematics, Ohio State University
- 1974-1975 Associate Professor of Mathematics, Ohio State University
- 1971-1973 Assistant Professor of Mathematics, Ohio State University
- 1969-1972 Assistant Professor of Mathematics, University of Houston

Research or Scholarly Interests

Geometry Banach spaces, operator theory, probability, theoretical computer science.

Major Awards

- 1991, A&M Association of Former Students Distinguished Achievement Award in Research, University Level
- 2007, Stefan Banach Medal, Polish Academy of Sciences
- 2010 Landau Lectures, The Hebrew University of Jerusalem
- 2011, Clay Senior Scholar Award
- 2012, Inaugural Fellow, American Mathematical Society
- 2017, Clay Senior Scholar Award
- 2018, Invited Analysis Section Address, International Congress of Mathematicians

Notable Recent Grants

- National Science Foundation: Banach Space and Metric Geometry", (W. B. Johnson, Principal Investigator) ($359,304 for 7/1/16 to 7/31/19 including support for graduate students).

http://www.math.tamu.edu/0ae1a4cc37f2c54e541cbf6809db6548/deptselfstudy/johnson.html[3/29/18, 3:45:21 PM]
CV for William B. Johnson

Five Selected Publications or Scholarly Works


Recent Synergistic Activities

- Director, Workshop in Analysis and Probability, Texas A&M University, 1990-2013; Associate Director, 2013
- Positivity, member editorial board, 1996
- Extracta Mathematicae, member editorial board, 2005
- Houston Journal of Mathematics, member editorial board, 2007

Recent Graduate Students and/or Postdocs

- Javier Alejandro Chavez Dominguez, Ph.D. August, 2012 (First Position: Bing Instructor, University of Texas at Austin)
- Sofia Ortega–Castillo, Ph.D. August, 2014 (First position: postdoctoral fellow, Centro de Investigacion en Matematicas, A.C., Guanajuato, Mexico)
- March Boedihardjo, Ph.D. May, 2016 (First position: E. R. Hedrick Assistant Professor, University of California at Los Angeles)
- Sheng Zhang, Ph.D. August 2016 (First position: Assistant Professor, Southwest Jiaotong University, Chengdu, Sichuan, China)
Junehyuk Jung
Assistant Professor

Education

- Ph.D. in Mathematics, Princeton University, 2013
- M.S. in Mathematics, University of Chicago, 2008
- B.A. in Mathematics, University of Chicago, 2008

In the Profession

- 2017-present, Assistant Professor of Mathematics, Texas A&M
- 2013-2016, Researcher, KAIST
- 2014-2015, Member, IAS

Research or Scholarly Interests

The main research area that I am interested in is Arithmetic Quantum Chaos, where one uses analytic number theoretic techniques in order to understand problems that concern quantum chaotic system.

Major Awards

- 2014-2016 Posco TJ Park Science Fellowship

Notable Recent Grants

- None

Five Selected Publications or Scholarly Works

- Junehyuk Jung and Matthew Young, Sign changes of the Eisenstein series on the critical line, IMRN, 2017.
- Junehyuk Jung and Steve Zelditch, Number of nodal domains and singular points of eigenfunctions of negatively curved surfaces with an isometric involution, J. Differential Geom., 2016.

Recent Synergistic Activities

- None

Recent Graduate Students and/or Postdocs

- None
David Kerr
Professor

Education

- Ph.D. in Mathematics, University of Toronto, 2001
- M.Sc. in Mathematics, University of Toronto, 1995
- B.Math., University of Waterloo, 1994

In the Profession

- 2013-present, Professor of Mathematics, Texas A&M University
- 2009-2013, Associate Professor of Mathematics, Texas A&M University
- 2004-2009, Assistant Professor of Mathematics, Texas A&M University
- 2004-2005, JSPS Postdoctoral Fellow, University of Tokyo
- 2003-2004, Alexander von Humboldt Postdoctoral Fellow, University of Münster
- 2001-2003, NSERC Postdoctoral Fellow, University of Tokyo and University of Rome I

Research or Scholarly Interests

Operator algebras and ergodic theory, with a focus on entropy and finite approximation properties

Major Awards

- 2017, Texas A&M Association of Former Students Teaching Award - College Level
- 2001, Doctoral prize of the Canadian Mathematical Society

Notable Recent Grants

- NSF DMS-1700407, “Ergodic Theory and Operator Algebras”, PI, 2017 (conference grant)

Five Selected Publications or Scholarly Works

- David Kerr, “Bernoulli actions of sofic groups have completely positive entropy”, Israel J. Math., 2014

Recent Synergistic Activities

- Coorganizer of 11 conferences during the period 2013-2017
- Managing Editor of the journal Groups, Geometry, and Dynamics, 2014-present
- Coordinator of the math booth at the Physics & Engineering Festival, Texas A&M University, 2014

http://www.math.tamu.edu/0ae1a4cc37/f2:54c541cb8803db6548/deptselfstudy/kerr2.html [3/29/18, 3:45:22 PM]
Delivered several talks in meetings of the Undergraduate Math Club and at the graduate student recruitment weekend at Texas A&M during the period 2008-present

Ran several sessions in the SEE-math summer enrichment program and at the Math Circle at Texas A&M during the period 2006-present

**Recent Graduate Students and/or Postdocs**

- Mehrzad Monzavi, Ph.D. student, 2017-
- Xin Ma, Ph.D. student, 2015
- March Boedihardjo, Ph.D. graduate, 2016
- Timothy Rainone, Ph.D. graduate, 2015
- Chaired 1 masters student committee in the last 5 years
Peter Kuchment
University Distinguished Professor

Education

- D. Sci. in Mathematics, Math. Institute, Ukrainian Acad. Sci., 1983
- Ph.D. in Mathematics, Kharkov State University, Ukraine 1973
- M.S. in Mathematics, Voronezh State University, Russia 1971

In the Profession

- 2011-present, University Distinguished Professor of Mathematics, Texas A&M
- 2001-2011, Professor of Mathematics, Texas A&M
- 1993-2001, Professor of Mathematics, Wichita State University, KS
- 1990-1993, Associate Professor of Mathematics, Wichita State University, KS
- 1987-1989, Chair of Mathematics Department, Voronezh Forestry Institute
- 1985-1989, Professor of Mathematics, Voronezh Forestry Institute

Research or Scholarly Interests

Mathematical Physics, PDEs, Integral Geometry, Geometric Analysis, Quantum Graphs, Medical and Homeland Security Imaging, Photonic Crystals, Novel Materials, Enhancement of K-12 education.

Major Awards

- 2015, Fellow of AAAS
- 2015, Senior Member of IEEE
- 2012, Featured speaker at CBMS-NSF conference
- 2012, Fellow of Amer. Math. Soc (inaugural class)
- 2011, Fellow of Institute of Physics (UK)
- 2008, A&M Association of Former Students Teaching Award - College Level

Notable Recent Grants

- Co-PI, College of Science, Texas A&M University, Novel directional neutron monitor for national security, basic science and industrial applications, 2017 - 2018
- PI, NSF, Spectral problems of mathematical physics with applications to optics and material science, 2015 -2018
- PI, NSF, Collaborative research: Mathematical problems of biomedical and homeland security imaging, 2012 - 2018.
- Co-PI, DOE/DHS, Nuclear Forensics Education Program, 2009-2012

Five Selected Publications or Scholarly Works

http://www.math.tamu.edu/0ae1a4cc37f2c54e541cbf8809db6548/deptselfstudy/kuchment.html[3/29/18, 3:53:46 PM]
P. Kuchment, The Radon Transform and Medical Imaging, SIAM, 2014
- G. Berkolaiko and P. Kuchment, Introduction to Quantum Graphs, AMS, 2013

Recent Synergistic Activities

- Faculty advisor for student SIAM chapter, since 2015
- Chair, SIAM Imaging Sciences Prizes Committee, 2015
- Vice Chair, SIAG (imaging science) group, SIAM, 2014 - 2016.
- Member of the Editorial Boards:
  - Bulletin of the American Math. Soc., AMS, 2006 -
  - Analysis and Mathematical Physics, Birkhauser, 2010 -
  - Fractal Geometry, Springer, 2013 -
  - SIAM J. Imaging, SIAM, 2018 -.
- Co-director of the SmaRT (summer mathematics research training) camp for advanced high school students, since 2008.
- Invited series of lectures for young researchers in Germany (2017), UK (Cambridge, 2015), India (Tata Inst., 2014), France (INRIA, 2013), Mexico (2012), MSRI (2009, 2010), and several before.
- Featured speaker of a CBMS-NSF conference (Arlington, TX 2012)

Recent Graduate Students and/or Postdocs

- Sunghwan Moon, Ph. D. graduate, 2013
- Tracy Weyand, Ph. D. graduate, 2014
- Ngoc T. Do, Ph. D. graduate, 2016
- Minh Kha, Ph. D. graduate, 2017
- Fatma Terzioglu, current Ph. D. student
- Jimmy Corbin, current Ph. D. student
- Weston Baines, current Ph. D. student
- Dustin Steinhauer, Postdoc (VAP) 2011-2014
- Chaired 2 masters student committees in the last 5 years

http://www.math.tamu.edu/˜ae1a4cc37f2c54e541cbf8809db6548/deptselfstudy/kuchment.html[3/29/18, 3:53:46 PM]
Joseph M. Landsberg
Professor

Education

- Habilitation a diriger des recherches, Université Paul Sabatier, Toulouse, 1997
- Ph.D. in Mathematics, Duke University, 1990
- Special honors combined M.S. and B.S in Mathematics, Brown University, 1986

In the Profession

- 2004-present, Professor of Mathematics, Texas A&M
- 2001-2004, Associate Professor of Mathematics, GA Tech.
- 1996-2000, Assistant Professor of Mathematics (Maitre des conferences), Université Paul Sabatier, Toulouse

Research or Scholarly Interests

Algebraic and differential geometry, with an emphasis on applications, especially to theoretical computer science.

Major Awards

- 2014 Chancellor's Professor at Simons Institute for Theoretical Computing/University of California at Berkeley, Berkeley, CA
- 2017 AMS fellow
- 1991 NSF post-doctoral fellow

Notable Recent Grants

- National Science Foundation grant DMS-1405348, sole PI, 7/15 - 7/18

Five Selected Publications or Scholarly Works


Recent Synergistic Activities

http://www.math.tamu.edu/0ae1a4cc37e2c541cbf8809d6548/deptsselfstudy/landsberg.html[3/29/18, 3:34:37 PM]
• Substantial organizing activities bringing together mathematicians and researchers outside of mathematics including, 10 activities since 2013
• 5 PhD students attained degrees in past 5 years (and 4 current Phd students)
• Editor for LAA,DGA,FOCM.

Recent Graduate Students and/or Postdocs

• Postdocs in past 5 years: E. Ventura (8/17-present), K. Efremenko (8/14-12/14), (funded by Simons Inst. Theoretical computing) currently at Ben-Gurion University, C. Ikenmeyer (1/13-5/16), currently at Max Plank Institut, Saarbruchen
• PhD’s in past 5 years: F. Gesmundo, 7/17, currently research post-doctoral fellow at U. Copenhagen, C. Farnsworth, 8/16, currently research post-doctoral fellow at Yonsei University, Seoul, Y. Guan, 8/16, currently Computer Vision Algorithm Scientist at MINIEYE, Shenzhen, China, C. Porter, 8/16, currently a post-doctoral fellow at North Carolina State University, Y. Qi, 8/13. Currently joint U. Grenoble (engineering) U. Chicago (statistics) postdoctoral fellow.

• Masters in past 5 years: B. Liu 5/16, Y. Zheng 5/17
David R. Larson
Professor

Education

- Ph.D. in Mathematics, University of California-Berkeley, 1976
- M.S. in Mathematics, California-Berkeley, 1973
- US Air Force, 1968-72
- B.S. in Mathematics, University of Wisconsin-Superior, 1965

In the Profession

- 1987-present, Professor of Mathematics, Texas A&M
- 1986-fall term, Visiting Professor of Mathematics, University of Pennsylvania
- 1984-1986, Professor of Mathematics, University of Nebraska
- 1981-1983, Associate Professor of Mathematics, University of Nebraska
- 1976-1980, Assistant Professor of Mathematics, University of Nebraska

Research or Scholarly Interests

Selfadjoint and non-selfadjoint operator algebras, and applied harmonic analysis including frame theory and wavelet theory.

Major Awards

- 2005 A&M Association of Former Students Teaching Award - College Level
- 2006 A&M Association of Former Students Teaching Award - University Level

Notable Grants


Five Selected Publications or Scholarly Works

- David Larson, Nest algebras and similarity transformations, Annals of Mathematics (1985), 409-427
- David Larson and Deguang Han, Frames, bases and group representations, Memoirs American Mathematical Society, 2000
- David Larson, Deguang Han, Bei Liu and Rui Liu, Operator-valued measures, dilations, and the theory of frames, Memoirs American Mathematical Society, 2014

Recent Synergistic Activities

- Director of Undergraduate Studies, 2001-2003 and 2006-2011
• Mentor for the TAMU Mathematics REU Program 2001-2012
• About 10 years ago I developed a research seminar course for undergraduates, Math 482, which I've taught every year since.
• Editor or former editor for several mathematics journals including Proceedings of the AMS, Operators and Matrices, and Involve
• Served on several NSF grant selection panels including: the NSF Career grant panel (2008); the AMS Centennial Fellowship panel 2008-2010 (Chair 2010); and a Virtual NSF selection panel (2016)

Recent Graduate Students and/or Postdocs

• Sam Scholze, Ph.D. graduate, 2016
• Ruifang Zhao, Postdoc (funded by a grant from the Chinese government) 2015-16
• Rui Liu, Postdoc (funded by a grant from the Chinese government) 2014-15
Raytcho Lazarov
Professor

Education

- Ph.D. in Mathematics, Moscow State University, Russia, 1972
- M.S. in Mathematics, Wroclaw University, Poland, 1966

In the Profession

- 1992 - present, Professor, Texas A&M
- 1972 - 1985, Associate Professor, Inst. of Mathematics, Bulgarian Academy of Sciences
- 1986 - 2008, Professor, Inst. of Mathematics, Bulgarian Academy of Sciences
- 2008 - present, Professor Emeritus, Inst. of Mathematics, Bulgarian Academy of Sciences

Research or Scholarly Interests

Approximation of partial differential equations and efficient solution techniques for the resulting algebraic problems, numerical simulation and scientific computing

Major Awards

- Medal "Marin Drinov" with ribbon, Bulgarian Academy of Sciences, 2013
- Honorary Doctor (Doctor Honoris Causa), Sofia University, Bulgaria, 2006

Notable Recent Grants

- NSF-DMS: Adaptive Multiscale Simulation Framework for Reduced-Order Modeling in Perforated Domains, July 1, 2016 -- June 30, 2019, $210,000 Co-PI.
- NSF-DMS: Advanced Discretization Techniques and Applications, August 1, 2014 -- August 1, 2015, $35,000, Co-PI. Support for a conference
- GLOBAL RESEARCH PARTNERSHIP, King Abdullah University of Science and Technology Inaugural Global Research Partnership Center Grants: Texas A&M University Institute for Applied Mathematics and Computational Science (IAMCS), May 1, 2008 - May 1, 2013, $25,000,000, Investigator.

Five Selected Publications or Scholarly Works

- Y. Efendiev, J. Galvis, R. Lazarov, J. Willems, Robust Domain Decomposition Preconditioners for

http://www.math.tamu.edu/0ae1a4cc37f2c54e541cbf8809db6548/deptselfstudy/lazarov.html[3/29/10, 3:58:19 PM]

Recent Synergistic Activities
• Mentor for REU Program
• Departmental Advisor for Masters Degree Program

Recent Graduate Students and/or Postdocs
• Bangti Jin, postdoc, 2011-13
• Ke Shi, postdoc, 2014-15
• Aziz Takhirov, postdoc, 2015-17
• Zhi Zhou, Ph.D. graduate 2015
• Minam Moon, Ph.D. graduate, 2015
• Seul ki Kang, Ph.D. graduate, 2013
• Chaired 1 masters student committee in last 5 years
Paulo Lima-Filho
Professor

Education

- Ph.D. in Mathematics, State University of New York at Stony Brook, 1989
- M.S. in Mathematics, Univ. Federal de Pernambuco, Recife, Brazil, 1985
- B.S. in Mathematics, Univ. Federal de Pernambuco, Recife, Brazil, 1984

In the Profession

- 2004-present, Associate Head for Graduate Studies, Texas A&M Univ.
- 2004-present, Professor of Mathematics, Texas A&M Univ.
- 1998-2004, Associate Professor of Mathematics, Texas A&M Univ.
- 1993-1998, Assistant Professor of Mathematics, Texas A&M Univ.
- 1990-1993, Dickson Instructor, The Univ. of Chicago
- 1989-1990, Visiting Member, The Institute for Advanced Study, Princeton
Riad Masri
Associate Professor

Education

- Ph.D. in Mathematics, University of Texas at Austin, 2005

In the Profession

- 2014-present, Associate Professor of Mathematics, Texas A&M University
- 2009-2014, Assistant Professor of Mathematics, Texas A&M University
- 2008-2010, Van Vleck Assistant Professor, University of Wisconsin-Madison
- 2007-2008, Postdoctoral Fellow, Centre de Recherches Mathematiques (Montreal)
- 2005-2007, Postdoctoral Fellow, Max Planck Institute for Mathematics (Bonn)

Research or Scholarly Interests

Analytic number theory, Automorphic forms, L-functions, Arithmetic geometry

Notable Recent Grants

- NSF Grant DMS-1162535, Analytic number theory and periods of automorphic forms, PI, 2012-2017
- QNRF Grant NPRP9-336-1-069, Arithmetic properties of Drinfeld modular forms, Co-PI, 2016-2019
- Simons Foundation Grant #421991, Number theory related to special values of L-functions and modular forms, PI, 2016-2021
- NSA Young Investigator Grant H98230-10-1-0225, Investigations on Heegner points with applications to L-functions, elliptic curves, and combinatorics, PI, 2010-2012

Five Selected Publications or Scholarly Works

- Adrian Barquero-Sanchez and Riad Masri, The Chowla-Selberg formula for abelian CM fields and Faltings heights, Compositio Mathematica, 2016
- Riad Masri, Fourier coefficients of harmonic weak Maass forms and the partition function, American Journal of Mathematics, 2015
- Sheng-Chi Liu, Riad Masri, and Matthew P. Young, Subconvexity and equidistribution of Heegner points in the level-aspect, Compositio Mathematica, 2013
- Riad Masri and Tonghai Yang, Nonvanishing of Hecke L-functions for CM fields and ranks of abelian

**Recent Synergistic Activities**

- Mentor for REU Program, 2013-present
- Departmental Advisor for Honors Program, 2014-present

**Recent Graduate Students and/or Postdocs**

- Sheng-Chi Liu, Postdoc (VAP) 2009-2013
- Adrian Barquero-Sanchez, Ph.D. graduate, 2016
- Wei-Lun Tsai, Ph.D. student, 2014-present
- Narissara Khaochim, Ph.D. student, 2017-present
Laura Felicia Matusevich
Associate Professor

Education

- Ph.D. in Mathematics, University of California-Berkeley, 2002
- Licenciatura en Matematica, Universidad Nacional de Cordoba, Argentina, 1997
  (with University Prize equivalent to Valedictorian)

In the Profession

- 2009-present, Associate Professor of Mathematics, Texas A&M University
- 2005-2009, Assistant Professor of Mathematics, Texas A&M University
- 2004-2006, Assistant Professor of Mathematics, University of Pennsylvania
- 2003-2005, Benjamin Peirce Assistant Professor of Mathematics, Harvard University
- Fall 2002, Postdoctoral Fellow, Mathematical Sciences Research Institute

Research or Scholarly Interests

Algebraic geometry and algebraic combinatorics, especially hypergeometric functions and toric varieties.

Major Awards

- 2008-2010, Sloan Research Fellowship
- 2003-2007, NSF Postdoctoral Research Fellowship in the Mathematical Sciences
- Summer 2002, Clay Foundation Liftoff Fellowship
- Spring 2002, Sarah M. Hallam Fellowship, UC Berkeley
- Spring 2001, Julia B. Robinson Fellowship, UC Berkeley
- 1995-1997, Antorchas Foundation Fellowship for talented undergraduate students

Notable Recent Grants


Five Selected Publications or Scholarly Works

Recent Synergistic Activities

- Co-organizer for the IMA Summer program on Applicable Algebraic Geometry, Texas A&M University, Summer 2007
- Co-organizer for the Special Session on Algebraic and Enumerative Combinatorics, Joint Mathematics Meetings, San Antonio, January 2006
- Co-organizer for the Special Session on Hypergeometric Functions: Combinatorial and Algebra-Geometric Aspects, AMS 2004 Fall Eastern Section Meeting, Pittsburgh, November 2004

Recent Graduate Students and/or Postdocs

- Member of 5 Ph.D. Committees, one of them for a student at UT Austin, the others for Texas A&M students.
Francis J. Narcowich
Professor of Mathematics

Education

- Ph.D. Princeton University, 1972
- M.A. Princeton University, 1970
- B.S. DePaul University, 1968

In the Profession

- 1987-present, Professor of Mathematics, Texas A&M
- May 1986, Visiting Associate Professor, Ohio State
- 1985-1986, Visiting Member, Courant Institute
- 1978-1987, Associate Professor of Mathematics, Texas A&M
- 1972-1978, Assistant Professor of Mathematics, Texas A&M

Research or Scholarly Interests

For a long time now, Professor Ward and I have been working on meshless methods involving radial and spherical basis functions, as well as other kernels. Within the last five years we and our co-workers have developed highly localized, computationally efficient basis functions constructed using these kernels. Our current interest is applying these to obtain high order numerical solutions to partial differential equations, non-local diffusion problems, and various tasks involving least-squares approximation/interpolation of scattered data.

Major Awards

- 1983, A&M Association of Former Students Teaching Award - College Level

Notable Recent Grants

- Sandia National Laboratory: Award Number — 1271025, Revision 1, "Graduate Research Project for Stephen Rowe" (F. J. Narcowich, PI), August 1, 2012 to July 31, 2015. $75,000 from Sandia and $60,000 matching funds from TAMU.

Five Selected Publications or Scholarly Works

CV for Francis J. Narcowich


Recent Synergistic Activities

- Vivian Deng (co-mentored with J. D. Ward) 2016-present
- Supervised the Shiqi Zhang's (Beihang University) 2015 Capstone Project: "Radial Basis Functions with Application to Surface Fitting of Data from Scattered Sites." (Spring, 2015)
- SIAM Journal on Numerical Analysis, associate editor, May 2005-present
- Some time ago, Professor Albert Boggess and I developed a very successful undergraduate-level course on wavelets. This led to our co-authoring the book *A First Course in Wavelets with Fourier Analysis*; it was the first book on the subject that was aimed at undergraduate students in mathematics and various engineering fields. The course itself has always been project based, with students working on topics as diverse as characterizing speech defects and "water marking" digital images to hide information. It is noteworthy that the course inspired Vivian Deng, one of the students who took it, to become a graduate student in our department.

Recent Graduate Students and/or Postdocs

- Svenja Lowitzsch (May 2002), Dissertation: *Approximation and Interpolation Employing Divergence-Free Radial Basis Functions with Applications* (Co-advisor - J. D. Ward)
- Quoc Thong Le Gia (August 2003), Dissertation: *Approximation of Linear Partial Differential Equations on Spheres* (Co-advisor - J. D. Ward)

http://www.math.tamu.edu/0ae1a4cc37f2c54e541cbf8809db6548/deptselfstudy/narcowich.html[3/29/18, 3:44:55 PM]
Volodymyr Nekrashevych
Professor

Education

• Ph.D., Kyiv National Taras Shevchenko University, Ukraine, 1998.
  Ph.D. in Mathematics, University of Slobodia, 1993
• M.S. in Mathematics, Kyiv National Taras Shevchenko University, 1997

In the Profession

• 2009-present, Professor of Mathematics, Texas A&M
• 2005-2009, Associate Professor of Mathematics, Texas A&M
• 2003-2005, Visiting Assistant Professor, International University Bremen (Germany)
• 1997-2005, Assistant Professor, Kyiv National Taras Shevchenko University (Ukraine)

Research or Scholarly Interests

Group theory, especially groups acting on topological spaces, topological and hyperbolic dynamical systems, holomorphic dynamics, automata theory.

Major Awards

• 2001, Alexander von Humboldt fellowship
• 2000, award of Kyiv Taras Shevchenko University for young scientists
• 1999, Kasa Mianowskiego stipend (Poland)

Notable Recent Grants

• Collaboration Grants for Mathematicians, Simons Foundation, "Groups and dynamical systems", PI, September 1, 2016 - August 31, 2021 (declined after receiving the NSF grant on September 2017).

Five Selected Publications or Scholarly Works


Recent Synergistic Activities

• Chair of Subcommittee P 2017.
• Co-organizer of the AIM workshop "Amenability of discrete groups", September, 2016, San Jose, CA.
• Co-organizer of the conference "Geometric and Probabilistic Methods in Group Theory and Dynamical Systems", College Station, TX, November 2015.
• Co-organizer of the conference "Groups acting on rooted trees and around (IHP)", Paris, February 2014.

Recent Graduate Students and/or Postdocs

• Triet Duong (current).
• Justin Cantu (current, expected graduation Spring 2018).
• Current chair of 2 masters student committees
R. Lee Panetta
Professor, Departments of Atmospheric Sciences and Mathematics

Education

- Ph.D. in Mathematics, University of Wisconsin-Madison, 1978
- M.Sc. in Mathematics, University of Wisconsin-Madison, 1972
- B.Sc. in Mathematics, McGill University, 1969

In the Profession

- 2008-present, Professor, Department of Mathematics, TAMU
- 2007-present, Professor, Department of Atmospheric Sciences, TAMU
- 1988-2007, Associate Professor, Department of Atmospheric Sciences, TAMU
- 1985-1988, Research Associate, Joint Institute for the Study of the Atmosphere and Oceans, University of Washington
- 1982-1985, Visiting Scientist, GFD Program, Princeton University
- 1979-1982, Project Associate, Space Science and Engineering Center, University of Wisconsin-Madison
- 1978-1979, Assistant Professor, Department of Mathematics, Occidental College

Research or Scholarly Interests

I do research of three different types: numerical simulation, analysis of observational data, and mathematical study of certain partial differential equations important in the study of planetary atmospheric or oceanic processes. My two main areas of scientific interest are light scattering by suspended particles, and the maintenance of large-scale coherent structures in turbulent geophysical flows.

Five Selected Publications or Scholarly Works (* indicates mentored student)


Recent Synergistic Activities

- 2002-2008 HIPCAT (High Performance Computing Across Texas); Texas A&M Institutional Representative and Executive Committee member.
- 1995-2015 Texas A&M Faculty Steering Committee on High Performance Computing; Chair since 2001.

http://www.math.tamu.edu/0ae1a4cc37f2c54e541cbf8805db6548/deptselfstudy/panetta.html
Grigoris Paouris
Professor

Education

- Ph.D. in Mathematics, University of Crete, Greece, 2004
- M.Sc. in Mathematics, University of Crete, Greece, 1999
- B.Sc. in Mathematics, University of Athens, Greece, 1998

In the Profession

- 2014-present, Professor of Mathematics, Texas A&M
- 2012-2014, Associate Professor of Mathematics, Texas A&M
- 2008-2012, Assistant Professor of Mathematics, Texas A&M

Research or Scholarly Interests

I am working in Geometric Functional Analysis and Probability. I am mainly interested in High-dimensional phenomena, High-dimensional probability, Functional inequalities, isoperimetry and convexity. Lately I am also interested in non-asymptotic theory of random matrices and random polytopes.

Major Awards

- 2011-2013, Sloan Award

Notable Recent Grants

- NSF CAREER Grant 1151711, "Geometry of measures in high dimensions '94, 2012-2017

Five Selected Publications or Scholarly Works


Recent Graduate Students and/or Postdocs

- Postdocs/Ph.D. students
  - (Post-Doc) Peter Pivovarov 2011-2012, current position: Assistant Professor in University of Missouri
  - (Post-Doc) Nikos Dafnis 2012-2014, current position: Research position in Vienna University of Technology
  - (Post-Doc) Christos Saroglou 2012-2015, current position: visiting assistant professor in Kent University
  - (Post-Doc) Petros Valettas 2012-2015, current position: visiting assistant professor in University of
CV for Grigoris Paouris

Missouri
- (Ph.D) Ryan Causey (graduated 2014), current position: Instructor at Miami University
- (Ph.D) Alperen Ergur (graduated 2016), current position: Research position at Technical University of Berlin
CV for R. Lee Panetta

- 2004-2006 TIGRE (Texas Internet Grid for Research and Education), Steering Committee

Recent Graduate Students and/or Postdocs

- Kang, Yonsoo, Ph. D. (current)
- Zhai, Siyao, Ph. D. (current)
- Zhang, Jianing, Ph. D. (2016)
- Tang, Guanglin, Ph. D (2014)
- Liu, Chao, Ph. D. (2013)
- Ramotowski, Michelle, Ph. D. (2013)
Matthew Papanikolas
Professor

Education

- Ph.D. in Mathematics, Brown University, 1998
- Sc.M. in Mathematics, Brown University, 1993
- A.B. in Mathematics, Amherst College, 1992

In the Profession

- 2010-present, Professor of Mathematics, Texas A&M University
- 2006-2010, Associate Professor of Mathematics, Texas A&M University
- 2003-2006, Assistant Professor of Mathematics, Texas A&M University
- 2000-2003, Tamarkin Assistant Professor, Brown University
- 1998-2000, Visiting Assistant Professor, Penn State University

Research or Scholarly Interests

Number theory and arithmetic geometry. I'm interested in elliptic curves and Drinfeld modules, and in particular I work on special values of analytic functions, including $L$-series, modular forms, and hypergeometric functions, and their connections with periods and logarithms.

Notable Recent Grants


Five Selected Publications or Scholarly Works

- N. Green, M. A. Papanikolas, Special $L$-values and shtuka functions for Drinfeld modules on elliptic curves, Research in the Mathematical Sciences, to appear.
- G. W. Anderson, W. D. Brownawell, M. A. Papanikolas, Determination of the algebraic relations among special Gamma-values in positive characteristic,
Recent Synergistic Activities

- Director of Honors Programs in Mathematics, Texas A&M, 2016-present.
- Arizona Winter School, annual conference for graduate students in arithmetic geometry at University of Arizona, co-organizer, 2007-2015.

Recent Graduate Students and/or Postdocs

- Changningphaabi Namoljam, Ph.D. student, degree expected 2020.
- Oğuz Gezmiş, Ph.D. student, degree expected 2019.
- Nathan Green, Ph.D. student, degree expected 2018.
- Guchao Zeng, Ph.D. graduate, 2017.
- Detchat Samart, Ph.D. graduate, 2014.
- Dermot McCarthy, Postdoc (VAP), 2010-2013.
- Chaired 2 masters student committees last 5 years.
Joseph Pasciak  
Professor

Education

- Ph.D., Mathematics, Cornell University, 1977,

In the Profession

- 1996-present, Professor, Texas A&M University,
- 1977--1996, Mathematician, Brookhaven National Laboratory,
- 1994--1996, Adjunct Professor, Texas A&M University,
- 1986--1996, Adjunct Professor, State University of New York at Stony Brook,

Research or Scholarly Interests

Numerical methods for partial differential equations including equations with fractional order derivatives, iterative methods including multigrid and domain decomposition preconditioning, and large scale scientific computation.

Major Awards

- 2011, Texas A&M University Association of Former Students Research Award, College Level,
- 1997-1999, Texas A&M University Chapter of Sigma Xi Outstanding Science Communicator Award, 2010,

Notable Recent Grants

- GLOBAL RESEARCH PARTNERSHIP, King Abdullah University of Science and Technology Inaugural Global Research Partnership Center Grants: Texas A&M University Institute for Applied Mathematics and Computational Science (IAMCS), May 1, 2008 - May 1, 2013.

Five Selected Publications or Scholarly Works


Recent Synergistic Activities
• Developed a Web-based courses on iterative methods, numerical methods, and linear algebra with applications (given 3 times in the last 6 years).

Recent Graduate Students

• Wenyu Lei, Ph.D. (2018 expected).
• Chaired 4 masters student committees in the last 5 years.
Gregory Pearlstein
Associate Professor

Education

- Ph.D. in Mathematics, University of Massachusetts, 1999.
- M.S. in Mathematics, University of Massachusetts, 1994.
- B.S. in Mathematics, University of Massachusetts, 1991.

In the Profession

- 2013-present, Associate Professor of Mathematics, Texas A&M
- 2006-2013, Assistant Professor, Michigan State University, 2006-2013.
- 2004–2005, Member, Institute for Advanced Study.
- 2001–2004, Visiting Assistant Professor, UC Irvine.
- 1999–2001, Visiting Assistant Professor, UC Santa Cruz.

Research or Scholarly Interests

Hodge Theory and Algebraic Geometry.

Notable Recent Grants


Five Selected Publications or Scholarly Works


Recent Graduate Students and/or Postdocs

- Souvik Goswami, Postdoc, 2017–Present.
- Kevin Kordek, Postdoc (VAP), 2015–2017
Guergana Petrova
Associate Professor

Education

- Ph.D. in Mathematics, University of South Carolina, 1999
- M.S. in Mathematics, Sofia University, 1993
- B.S. in Mathematics, Sofia University, 1991

In the Profession

- 2006-present, Associate Professor of Mathematics, Texas A&M
- 2001-2006, Assistant Professor of Mathematics, Texas A&M
- 1999-2001, Assistant Professor of Mathematics, University of Michigan

Research or Scholarly Interests

Numerical analysis, hyperbolic PDE's, nonlinear approximation, wavelets.

Major Awards

- 2006, Outstanding Teaching Award, Department of Mathematics, Texas A&M
- 2000, Rackham Summer Fellowship, University of Michigan

Notable Recent Grants

- King Abdullah University of Science and Technology: Institute for Applied Mathematics and Computational Science (IAMCS) at Texas A&M University, Investigator, 2008-2013.

Five Selected Publications or Scholarly Works


Recent Synergistic Activities

http://www.math.tamu.edu/0ae1a4cc37f2c54e541cbf8809d6548/deptsselfstudy/petrova.html[3/29/18, 3:44:56 PM]
Refereed for National Sciences and Engineering Research Council of Canada
Co-organizer, "Approximation and Learning in High Dimensions," Workshop, Texas A&M University, College Station, TX, October 19, 2007-October 21, 2007
Recruiting Weekend, presentation for prospective graduate students, Texas A&M University, College Station, TX, March 3, 2007
Graduate Teaching Academy Mentor

Recent Graduate Students and/or Postdocs

- David Jimenez, Postdoc (VAP) 2008-present
- Member, 7 Ph.D. committees last 5 years
- Member, 4 M.S. committees last 5 years
Gilles Pisier  
Distinguished Professor  

Education  
- Ph.D. Université Paris VII, 1977 (adviser: Laurent Schwartz).  
- DEA de mathématiques pures, Université Pierre et Marie Curie, Paris VI, 1972  

In the Profession  
- major appointments only - reverse chronological order  
  - 1985-present, Distinguished Professor, (co-holder of Owen chair)  
    Texas A&M  
  - 1981-2010, Professor of Mathematics, Université Pierre et Marie Curie, Paris VI  

Research or Scholarly Interests  
Functional Analysis, Probability, Harmonic Analysis, Operator theory, C*-algebras  

Major Awards  
- 2012, Fellow of the Amer. Math. Soc.  
- 2010, Fellow of Indian National Science Academy  
- 2005, Foreign member of Polish Academy of Science  
- 2002, Member of Paris Académie des Sciences  
- 2001, Stefan Banach medal  
- 1998 Invited speaker (Plenary talk) at the International Congress of Mathematicians in Berlin  
- 1997, Ostrowski prize  
- 1993, Faculty Distinguished Achievement Award in Research, Texas A&M University  
- 1989, Fellow of the Institute of Mathematical Statistics  
- 1983, Invited speaker at the International Congress of Mathematicians in Warsaw  
- 1981, Cours Peccot at Collège de France, Paris  
- 1979, Salem prize  

Notable Recent Grants  
- NSF Grant #1501062, Co-PI, Workshop in Analysis and Probability, 2016-2018  

Five Selected Publications or Scholarly Works  

http://www.math.tamu.edu/0ae1a4cc37f2c54e541cbf8809db6548/deptselfstudy/pisier.html[3/29/18, 3:45:25 PM]
Jon T. Pitts
Professor

Education

- Ph.D. in Mathematics, Princeton University, 1974
- B.A. in Mathematics, The University of Texas at Austin, 1970.

In the Profession

- 2000-2004, Special Assistant to the Provost, Texas A&M University
- 2000-2003, Accreditation Liaison, Texas A&M University
- 1981 to present, Professor of Mathematics, Texas A&M University
- 1980-2001 Associate Professor, University of Rochester
- 1974-1980 Assistant Professor, University of Rochester

Research or Scholarly Interests

- Geometric analysis
- Calculus of variations in the large

Major Awards

- Research: 1981-1985, Alfred P. Sloan Award
- Teaching: 2000 Association of Former Students Outstanding Teaching Award

Notable Recent Grants

- NSF Grant DMS-1510060, Texas Geometry and Topology Conference, 2015-2018
- NSF Grant DMS-0904481, Texas Geometry and Topology Conference, 2009-2012

Five Selected Publications or Scholarly Works

- Computing least area hypersurfaces spanning arbitrary boundaries (with H. Parks), Siam Jour. Scientific Comp., 18 No. 3 (1997) 886-917.

Recent Synergistic Activities

- Co-developer of Distance Masters Degree in Mathematics, Texas A\&M University (2001-present).

http://www.math.tamu.edu/0ae1a4cc37f2c54e541cbf8809db6548/deptselfstudy/pitts.html[3/29/18, 3:53:47 PM]
CV for Jon Pitts

Recent Graduate Students and/or Postdocs

- Chaired 2 distance masters student committees last 5 years
Alex Poltoratski
Professor

Education

- Ph.D., M.S. in Mathematics, California Inst. Of Technology, 1995
- B.S. in Mathematics, Leningrad State University, 1988

In the Profession

- 2006-present, Professor of Mathematics, Texas A&M
- 2002-2006, Associate Professor of Mathematics, Texas A&M
- 1995-2000, Assistant Professor of Mathematics, Texas A&M

Research or Scholarly Interests

Complex and harmonic analysis, spectral theory

Major Awards

- International Congress of Mathematicians 2018, invited speaker

Notable Recent Grants

- NSF Grant DMS-1665264, PI, 2017-20
- Continual NSF support through individual grants since 1999

Five Selected Publications or Scholarly Workshop


Recent Synergistic Activities

- Gave CBMS lecture series in August 2013
- Organized 3 conferences since 2016
- Gave 6 minicourses, 3-10 hours, at US and international events since 2012.

Recent Graduate Students and/or Postdocs

- Rishika Rupam, Ph.D., 2015
- Mishko Mitkovski, Ph.D., 2010
- Conni Liaw, postdoc, 2011-14
- Robert Rahm, postdoc, 2017-present
- Graduated 3 M.S. students in the last 3 years
- Currently supervise 2 Ph.D. students

http://www.math.tamu.edu/0ae1a4cc37f2c54e541cbf88095d6548/deptselfstudy/polt.html[3/29/18, 3:45:06 PM]
Bojan Popov
Professor

Education

• Ph.D. in Mathematics, University of South Carolina, 1999
• M.S. in Mathematics, Sofia University, Bulgaria, 1992

In the Profession

• 2012-present, Full Professor of Mathematics, Texas A&M
• 2007-2012, Associate Professor of Mathematics, Texas A&M
• 2001-2007, Assistant Professor of Mathematics, Texas A&M
• 1999-2001, Assistant Professor of Mathematics, Vanderbilt University

Research or Scholarly Interests

Numerical Analysis and Approximation theory

Notable Recent Grants

• DOD-AFOSR, CO-PI (with Jean-Luc Guermond as PI) (2011-2014), Entropy viscosity and L1-based Approximations of PDEs: Exploiting sparsity, $344,986, includes funding for a postdoc and students.
• DOE-LLNL, CO-PI (nuclear eng. Project 21 CO-PIs) (2011-2014), Support of Stockpile Stewardship Program, $2,936,677 (total), provided partial funding for my former PhD student Vladimir Tomov for a year.
• NSF, DMS, Computational Mathematics, Award Number 1217262, PI (September 2012- August 2016), High-order approximation techniques for nonlinear hyperbolic PDEs, $299,997 includes funding for a graduate student and $15000 for equipment.
• DOD-AFOSR, CO-PI (with Jean-Luc Guermond as PI) (2015-2017), $445,000, includes funding for a postdoc and students, and $12000 for equipment.
• DOD-ARO, CO-PI (with Jean-Luc Guermond as PI) (2015-2018), $440,000, includes funding for a postdoc and students, and $12000 for equipment.
• DOE-LLNL, CO-PI (2017-2019), Support of Stockpile Stewardship Program, $3,000,000 (PI Jim Morel, NUEN)
• KAUST Global Research Partnership Grant (2008-2013), IAMCS Investigator.

Five Selected Publications or Scholarly Works


Recent Synergistic Activities

• Co-organized three workshop at Texas A&M University in 2007, 2008, and 2015.
• Regularly invited to seminars, symposiums, schools, and conferences.

Recent Graduate Students and/or Postdocs

• Ignacio Tomas, Postdoc (VAP) 2015-2018
• Murtazo Nazarov, Postdoc (VAP) 2011-2014
• Vladimir Tomov, Ph.D. graduate, 2014
• Orhan Mehmetoglu, Ph.D. graduate, 2012
Eviatar B. Procaccia
Assistant Professor

Education
- Ph.D. in Mathematics, Weizmann Institute of Science, 2013
- M.S. in Mathematics, Hebrew University of Jerusalem, 2008
- B.S. in Physics and Mathematics, Hebrew University of Jerusalem, 2006

In the Profession
- 2015-present, Assistant Professor, Texas A&M
- 2013-2015, Hedrick Assistant Professor, UCLA

Research or Scholarly Interests
Probability theory, in particular random walks and random spatial processes such as percolation, correlated models and aggregation processes.

Major Awards
- 2013, Beta theta chai educator appreciation award (At UCLA).
- 2008, Klein award for excellent research students in mathematical science.

Notable Recent Grants

Five Selected Publications or Scholarly Works

Recent Synergistic Activities
- (2017) Joint UT Austin TAMU probability day organizer.

- (2017) RetainU mentor for undergraduate students
- (2017) Talk in SMaRT summer school outreach program.
- (2017) Public talk at the Aggieland Saturday.
- (2016) Panel member on the student research week luncheon.
- (2015-) Organizer of the probability seminar.

Recent Graduate Students and/or Postdocs
- Yuan Zhang, Postdocs, current.
- Jiayan Ye, Ph.D, current.
- Chaired 2 masters student committees last 5 years
Kumbakonam Rajagopal
Professor
Office Milner EOB 525
Phone +1 979 862 4552
Fax +1 979 845 6028
Email krajagopal <at> tamu.edu
URL http://www2.mengr.tamu.edu/FacultyProfiles/facultyinformation.asp?LastName=krajagopal
Education Ph.D. University of Minnesota, 1978
M.S. Illinois Institute of Technology, 1974
Research Area Mechanics
J.N. Reddy
Professor
Office Milner EOB 404
Phone +1 979 862 2417
Email jnreddy <at> shakti.tamu.edu
URL http://aero.tamu.edu/people2/faculty?id=221
Research Area Mechanics
J. Maurice Rojas
Professor of Mathematics and (by courtesy)
Computer Science & Engineering

Education

- Ph.D. in Mathematics, UC Berkeley 1995
- M.S. in Computer Science, UC Berkeley, 1991
- B.S. in Mathematics/Applied Science (Electrical Engineering emphasis), UCLA, 1988

In the Profession

- Dec. 2013-Present, Professor of Mathematics and (by courtesy) Computer Science & Engineering, Texas A&M
- Summer 2017, Research Director, MSRI-UP Summer Program for Undergraduates
- Oct.-Nov. 2015, John von Neumann Visiting Professor, Technische Universitat Munchen
- Sep. 2004 - Aug. 2007, Associate Professor with tenure, Texas A&M
- Jan. 2001 - Aug. 2004, Assistant Professor, Texas A&M
- Jan. 1998 - Dec. 2000, Research Assistant Professor, City University of Hong Kong
- Spring 1996, NSF Postdoctoral Fellow, MSRI
- Fall 1995, NSF Postdoctoral Fellow, MIT

Research or Scholarly Interests

Algorithmic algebraic geometry, including arithmetic, real analytic, and tropical methods. Some of my work has involved fewnomial theory over complete fields, random polynomial systems, condition number estimates, computational complexity, computational geometry, and cryptology.

Major Awards

- John von Neumann Visiting Professor, Technische Universitat Munchen, Fall 2015
- Co-Winner (with Jingguo Bi and Qi Cheng) of the 2013 ISSAC Distinguished Paper Award
- NSF CAREER Fellow, 2004-2009 (DMS-0349309)
- Outstanding Teaching Award, Mathematics Department, 2007
- 1992 SIAM Best Student Paper Award

Notable Recent Grants

- "REU Site Grant: Undergraduate Research in the Mathematical Sciences and their Applications," ($350,000, PIs J. Maurice Rojas and Anne Shiu), NSF, DMS-1757872, 6/1/2018-5/31/2021. (Recommended for funding, pending official letter from NSF Division of Grants and Agreements.)
- "MCS: Randomization in Algorithmic Fewnomial Theory Over Complete Fields," ($400,001, PI: Rojas, co-PIs: Martin Avendano, Scott Zrebiec) Mathematics/Computer Science Interface Program,
CV for J. Maurice Rojas

• Wenner-Gren Foundation Visiting Researcher Grant (75000 Swedish Kroner), to visit and work with Mikael Passare and Boris Shapiro at Stockholm University, Sweden (awarded 12/2008, visit will be during Mar.-Jun. 2009)
• NSF CAREER Award: DMS-0349309: Complexity, Reality, and Rationality in Large Nonlinear Equations Solving (9/1/04 - 8/31/09)

Five Selected Publications or Scholarly Works

• "A-Discriminants for Complex Exponents and Counting Real Isotopy Types," (by J. Maurice Rojas and Korben Rusek), accepted for presentation at MEGA 2017 (Nice, France, June 12-16), submitted for publication.
• "Polynomial-time Amoeba Neighborhood Membership and Faster Localized Solving," (by Eleanor Anthony, Sheridan Grant, Peter Gritzmann, and J. Maurice Rojas), Chapter 15 of: Topological and Statistical Methods for Complex Data - Tackling Large-Scale, High-Dimensional, and Multivariate Data Sets, (Bennett, Janine; Vivodtzev, Fabien; Pascucci, Valerio (Eds.)), pp. 255-278, series on Mathematics and Visualization, Springer-Verlag, 2015.

Recent Synergistic Activities

• Research Director, MSRI-UP REU Program, Summer 2017
• Leader of REU on algorithmic algebraic geometry, 2004-2017
• Member, Executive Committee, Department of Mathematics, 2016-2018
• John von Neumann Visiting Professor, Technische Universitat Munchen, Fall 2015.
• Presentations at TAMU Math Circle, 2012-2017

Recent Graduate Students and/or Postdocs

• Timo de Wolff, postdoc co-mentored with Frank Sottile, 2014-2017
• Mounir Nisse, postdoc co-mentored with Frank Sottile, 2010-2013
• Harlan Kadish, postdoc co-mentored with JM Landsberg, 2011-2012
• Martin Avendaño, postdoc, 2008-2011
• Scott Zrebiec, postdoc, 2007-2010
• Alperen Ergür, Ph.D. student, graduated 2016, now a postdoc at TU Berlin
• Kaitlyn Phillipson, Ph.D. student, graduated 2016, now a tenure-track assistant professor at St. Edward's University, Austin, TX
• Korben Rusek, Ph.D. student, graduated 2013, now head of software at rover.com
• Ashraf Ibrahim, Ph.D. student, graduated 2009, now a consultant at Bayer, Pittsburgh.
• Swaminathan Sethuraman, Ph.D. student, graduated 2009, now at Credit Suisse.
CV for Eric Rowell

Eric Rowell
Professor

Education

- Ph.D. in Mathematics, University of California, San Diego 2003
- B.S. in Mathematics, University of California, San Diego 1997

In the Profession

- 2017-present, Professor of Mathematics, Texas A&M
- 2012-2017, Associate Professor of Mathematics, Texas A&M
- 2006-2012, Assistant Professor of Mathematics, Texas A&M

Research or Scholarly Interests

I study the mathematical foundations of topological phases of matter and applications to topological quantum computation. The areas of mathematics involved include representation theory, quantum topology and algebraic category theory.

Major Awards

- none

Notable Recent Grants

- NSF FRG grant DMS-1664359: Mathematical Foundations of Topological Quantum Computation and its applications, PI, 12/2017-11/2020 (recommended for funding)

Five Selected Publications or Scholarly Works


Recent Synergistic Activities

- Co-organizer MSRI Semester: Quantum Symmetries, Berkeley, CA, Spring 2020
- Co-organizer IAMCS Workshop: Quantum Computation and Information, Fall 2018
• Member, Strategic Planning Committee, College of Science
• Co-organizer BIRS Workshop: Modular Categories–Their Representations, Classification and Applications, Casa Matematica Oaxaca, Mexico, August 2016
• Co-organizer AMS MRC: Mathematics of Quantum Phases of Matter and Quantum Information, Snowbird, UT June 2014.

Recent Graduate Students and/or Postdocs
• Julia Plavnik, Postdoc (VAP) 2015-18
• Liang Chang, Postdoc (VAP) 2013-2016
• Paul Bruillard, Ph.D. graduated 2013
• Paul Gustafson, Ph.D. current
• Andrew Kimball, Ph.D. current
• Daniel Creamer, Ph.D. current
• Qing Zhang, Ph.D. current
• Chaired 2 masters student committees last 5 years
William Rundell
Professor

Education

- Ph.D. in Mathematics, University of Glasgow, 1974
- B.S. in Mathematics, University of Glasgow, 1971

In the Profession

- 1987-present, Professor of Mathematics, Texas A&M
- 1981-1986, Associate Professor of Mathematics, Texas A&M
- 1974-1980, Assistant Professor of Mathematics, Texas A&M

- 2002-2006, Division Director, Mathematical Sciences, National Science Foundation.
- 1991-2002, Head Department of Mathematics, Texas A&M
- 1983-1985, Director, University Honors Program, Texas A&M

Research or Scholarly Interests

Inverse problems for partial differential equations.
I am interested in questions of uniqueness and regularity and also reconstruction methods with provable convergence.

Major Awards

- 1982, A&M Association of Former Students Teaching Award - College Level
- 2005, National Science Foundation, Directors Meritorious Service Award (usually given only to senior permanent NSF staff).

Notable Recent Grants

- Continuous NSF single investigator support for over 30 years. Current: DMS-1620138, $300,000.
- PI Vigre Award 1999 (final total ~ $3,000,000)
- PI MRI 2002 $605,000.
- Have in the past received PI support from AFOSR, ONR, DOE.

Five Selected Publications or Scholarly Works


**Recent Synergistic Activities**

**Recent Graduate Students and/or Postdocs**

- Bangti Jin, Postdoc 2009-2012. Now *Reader* at UCL.
- Sara Pollock, Postdoc 2013-2016. Now *Asst. Prof.* at Wright State but has accepted an Assistant Professorship at University of Florida, Gainesville.
- Isaac Harris, Postdoc 2015-current. Accepted a 3 year position at Purdue.
- Zhidong Zhang, Graduate student Ph.D 2017. Now *Postdoc* at University of Helsinki.
Vince Schielack
Associate Professor

Education
- Ph.D. in Mathematics Education, The University of Texas at Austin, 1982
- M.S. in Mathematics, University of Illinois at Urbana-Champaign, 1980
- B.S. in Mathematics, Texas A&M University, 1978

In the Profession
- 2001-2004, Director, College of Science Special Outreach Projects
- 1996-2001, Director, Texas A&M University Center for Mathematics and Science Education
- 1995-date, Associate Professor of Mathematics, Texas A&M University
- 1994-date, joint appointment, Texas A&M University, Department of Teaching, Learning, and Culture
- 1988-1995, Assistant Professor of Mathematics, Texas A&M University
- 1984-1988, Visiting Assistant Professor of Mathematics, Texas A&M University
- 1983-1991, Assistant Department Head of Mathematics, Texas A&M University
- 1982-1984, Lecturer in Mathematics, Texas A&M University
- 1980-1982, Assistant Instructor in Mathematics, The University of Texas at Austin
- 1978-1979, Teaching Assistant in Mathematics, University of Illinois at Urbana-Champaign

Research or Scholarly Interests
Mathematics education, teacher certification, mathematics instruction involving technology, assessment in mathematics, mathematics and science competitions, applications of mathematics to sports.

Major Awards
- 2013, Chancellor's Academy of Teacher Educators, Texas A&M University System.
- 2006, Award for service to the U.S. Department of Energy National Science Bowl, given by Under Secretary for Science Raymond L. Orbach
- 2005, Distinguished Service Award, Texas Section MAA
- 2002, Fellow, Texas Academy of Science
- 1996, Department of Mathematics Outstanding Service Award
- 1993-94, Montague Center for Teaching Excellence Scholar Award

Five Selected Publications or Scholarly Works
- V. Schielack, The football coach's dilemma: should we go for 1 or 2 points first The Math. Teacher 88 (1995), 731-733.
- V. Schielack, Summing geometric series by holding a tournament, College Mathematics J. 23 (1992), 210-211.
Recent Synergistic Activities

- Member, Non-STEM Core Committee, Department of Mathematics, 2017-date
- Algebra I and II mathematics test reviewer, Pearson, 2011-date
- TExES Mathematics 7-12 and EC-6 question writer, ETS, 2011-date
- Board member, Conference for the Advancement of Mathematics Teaching, 2009-date
- Academic advisor, University Studies - Mathematics for Teaching, Texas A&M University, 2007-date
- Board member and official, Texas Science Olympiad, 2002-date
- National Planning Committee, Regional Coordinator, official, mathematics question writer/reviewer, and chief overall reviewer, U.S. Department of Energy National Science Bowl, 1998-date
- Board member, Texas Academy of Science, 1997-date
- Director, Texas Junior Academy of Science, 1996-date
- Secondary mathematics teaching field advisor, Texas A&M University, 1988-date

Recent Graduate Students and/or Postdocs

- Jennifer Travis, Ph.D. graduate, Curriculum and Instruction, 2014
- Scott Travis, Ph.D. candidate, Curriculum and Instruction
Thomas Schlumprecht
Professor

Education

- Dr. rer. nat. (Ph.D.), Ludwig-Maximilians-Universität, München (Germany), 1988,
- Diplom, Ludwig-Maximilians-Universität, München (Germany) 1982.

In the Profession

- 1/13- Adjunct Professor, Faculty of Electrical Engineering, Czech Technical University, Prague,
- 1/01- 9/05 Associate Head for Graduate Studies, Texas A&M
- 9/99- Professor, Texas A&M University, College Station,
- 9/95- 9/99 Associate Professor, Texas A&M University, College Station,
- 9/92- 9/95 Assistant Professor, Texas A&M University, College Station,
- 9/90 -9/92 Assistant Professor, Louisiana State University (on leave:9/90-9/91),
- 9/89- 9/91 Instructor, University of Texas at Austin,
- 9/88- 9/89 Lecturer, University of Texas at Austin,
- 1/87- 8/88 Teaching Associate, Universität München,
- 1/85- 12/86 Fellowship of the State of Bavaria,
- 9/82- 12/84 Winterthur Insurance Company, München.

Research or Scholarly Interests

Functional Analysis, in particular linear and non linear Banach space theory.

Major Awards

- Fellow of the American Mathematical Society, since 2016,
- University Fellow 2001 - 2006,
- 2000 A&M Association of Former Students Research Award - University Level.

Notable Recent Grants

- Continuously funded by NSF since 1992
- Grant from the Faculty of Electrical Engineering at the Technical University Prague to cover local costs during stays in Prague, 200,000 Czech Koruna (ca $10,000), since January 2016- December 2018,
- National Science Foundation: "Banach Spaces: Theory and Applications", single PI, DMS1464713, $264,382.00, June 2015 - June 2018,
- National Science Foundation: "Banach Spaces: Theory and Applications", single PI, DMS1160633, ca. $220,000, June 2012 - June 2016 (includes one year no cost extension).

Five Selected Publications or Scholarly Works


**Recent Synergistic Activities**

- Associate Editor, *Journal of Functional Analysis*, since May 2017,
- Associate Editor, *Proceedings of the American Mathematical Society*, since October 2010 -- December 2017,
- International Editor, *Glasgow Mathematical Journal*, since January 99 ,

**Organization of Conferences**

- Conference on *Metric spaces: Embeddings into Banach spaces*, July 5-9, 2016, College Station, Texas (with Florent Baudier, Michail Ostrovskii, and Nirina Randrianarivony).
- Conference on *Mathematical Legacy of Ted Odell*, August 1, 2013, College Station, Texas.

**Recent Graduate Students and/or Postdocs**

Postdoctorial Fellows:
- Pavlos Motakis, 2015 - 2018

Ph.D. Students:
- Andrew Swift (co-chair: F. Baudier), graduation (expected): August 2018,
- Keaton Hamm (co-chair: N. Sivakumar) graduation: August 2015. Position obtained: Visiting Assistant Professor, Vanderbilt University,
- Ryan Causey (co-chair: G. Paouris) graduation: August 2014. Position obtained: Visiting Assistant Professor, University of South Carolina.

- Chaired 3 masters student committees last 5 years
Anne J. Shiu
Assistant Professor

Education

- Ph.D. in Mathematics with designated emphasis in genomic and computational biology, University of California Berkeley, 2010
- B.S. in Mathematics, University of Chicago, 2005

In the Profession

- since 2014, Assistant Professor of Mathematics, Texas A&M
- 2011-2014, I.E. Dickson Instructor/NSF Postdoctoral Fellow, University of Chicago
- 2010-2011, NSF Postdoctoral Fellow, Duke University

Research or Scholarly Interests

Algebraic, geometric, and combinatorial approaches to mathematical biology; biochemical dynamical systems; neural coding; algebraic statistics; genomics

Major Awards

- 2010, Bernard Friedman Memorial Prize, UC Berkeley, top thesis in applied mathematics
- 2010-2013, NSF Postdoctoral Fellowship

Notable Recent Grants

- NSF Grant DMS-1312473, transferred to DMS-1513364, "Biochemical reaction systems: multistationarity, persistence, and identifiability", PI, 2013-2017
- NSF REU Grant DMS-1460766, co-PI, 2015-2018.
- Simons Foundation Collaboration Grant #521874, "Biochemical reaction systems: from structure to dynamics", PI, 2017-2022.

Five Selected Publications or Scholarly Works

- Mitchell Eithun and Anne Shiu, An all-encompassing global convergence result for processive multisite phosphorylation systems, Mathematical Biosciences, 2017
- Caitlin Lienkaemper, Anne Shiu, and Zev Woodstock, Obstructions to convexity in neural codes, Advances in Applied Mathematics, 2017
- Stefan Muller, Elisenda Feliu, Georg Regensburger, Carsten Conradi, Anne Shiu, and Alicia Dickenstein, Sign conditions for injectivity of generalized polynomial maps with applications to chemical reaction networks and real algebraic geometry, Found. Comput. Math., 2016

Recent Synergistic Activities

http://www.math.tamu.edu/0ae1a4cc37f2c54e541cbf8809db6548/deptselfstudy/annejls.html[3/29/18, 3:34:55 PM]
CV for Anne J. Shiu

- Co-director and mentor for REU Program, since 2015
- Co-organizer for 8 workshops, etc., including at AIM, Castle Dagstuhl (Germany), and Banff (Canada), since 2012
- Panelist, Symposium for Faculty, Staff, Graduate Students and PostDocs in the Sciences: Insight and Strategies for Professional Success, Personal Well Being and Getting Along with Others, College of Science, Texas A&M, 2017
- Panelist for evaluating grant proposals, NSF Division of Mathematical Sciences, 2015.

Recent Graduate Students and/or Postdocs

- Xiaoxian Tang, Postdoc (VAP) since Jan. 2017
- Jonathan Tyler, Ph.D. student (co-advised with Jay Walton) since 2016
- Alexander Ruys de Perez, Ph.D. student (co-advised with Laura Matusovich) since 2017
John Slattery

Professor

Office HRBB 746C
Phone +1 979 845 0407
Email slattery <at> tamu.edu
URL http://aero.tamu.edu/people2/faculty?id=191

Research Area Fluid mechanics
N. Sivakumar
Associate Professor

Education

- Ph.D. in Mathematics, University of Alberta, 1990
- M.Sc. in Mathematics, Indian Institute of Technology Madras, 1983
- B.Sc. in Mathematics, Vivekananda College, University of Madras, 1981

In the Profession

- 1997-present, Associate Professor of Mathematics, Texas A&M
- 1991-1997, Assistant Professor of Mathematics, Texas A&M
- 1990-1991, Visiting Assistant Professor of Mathematics, Texas A&M

Research or Scholarly Interests

Approximation Theory (in general); initial work was in Spline Theory, subsequent work on Radial Basis Functions, mostly centred on interpolation of functions.

Also involved in authoring a few tracts related to teaching.

Major Awards

- 1997, A&M Association of Former Students Teaching Award - College Level

Notable Recent Grants

- None

Five Selected Publications or Scholarly Works


Recent Synergistic Activities

- Undergraduate Adviser, Mathematics Department
- Co-ordinator of Peer Led Team Learning Programme
CV for N. Sivalakumar

- Engineering Calculus Course Co-ordinator (multiple times)

Recent Graduate Students

- Keaton Hamm, Ph.D. graduate, 2015 (co-advisor with Thomas Schlumprecht)
- Benjamin Aaron Bailey, Ph.D. graduate, 2011 (co-advisor with Thomas Schlumprecht)
Education

- D.Phil. in Mathematics, Oxford University, 1975
- M.S. in Mathematics, M.I.T., 1973
- B.A. in Mathematics, Oxford University, 1972

In the Profession

- 1989-present, Professor of Mathematics, Texas A&M
- 1981-1989, Associate Professor of Mathematics, Texas A&M
- 1977-1981, Assistant Professor of Mathematics, Texas A&M
- 1975-1977, Visiting Assistant Professor of Mathematics, Texas A&M

Research or Scholarly Interests

My main interests are in functional analysis, operator spaces, C*-algebras, von Neumann algebras, and operator theory.

Major Awards

- 2017, Fellow of A.M.S.

Notable Recent Grants


Five Selected Publications or Scholarly Works


Recent Synergistic Activities

- Will be a co-organizer of the Great Plains Operator Theory Symposium in 2019. This is a large conference that usually attracted about 120 participants. This will be my fourth GPOTS as an organizer.
- Supervised the work of Xiaoyan Zhou 2014-2015. She was a visiting scholar from China, funded by
CV for Roger Smith

the Chinese equivalent of NSF.

- Administered the *Frontiers in Mathematics Program* currently and for many years.

**Recent Graduate Students and/or Postdocs**

- Wai-Kit Chan, Ph.D. 2015, chair of committee.
- I am currently on 5 Ph.D. committees.
Frank Sottile
Professor

Education

- major degrees only - reverse chronological order
- Ph.D. in Mathematics, University of Chicago, 1994
- M.S. in Mathematics, University of Cambridge, 1989
- M.S. in Mathematics, Cambridge University, 1986
- B.S. in Physics (Honors), Michigan State University, 1985

In the Profession

- major appointments only - reverse chronological order
- 2006-present, Professor of Mathematics, Texas A&M
- 2004-2006, Associate Professor of Mathematics, Texas A&M
- 2000-2004, Assistant Professor of Mathematics, University of Massachusetts at Amherst
- 1999-2000, Van Vleck Visiting Assistant Professor of Mathematics, University of Wisconsin, Madison
- 1998 (Autumn) Postdoc, MSRI
- 1996-1997 Postdoc, MSRI
- 1994-1998, Visiting Assistant Professor of Mathematics, University of Toronto

Research or Scholarly Interests

Numerical algebraic geometry, applications of algebraic geometry, real algebraic geometry, algebraic combinatorics, Hopf Algebras, Discrete and Computational Geometry, tropical geometry.

Major Awards

- 2012, Fellow of the American Mathematical Society
- 2009, Department of Mathematics award for service
- 2002-2007, NSF CAREER fellow
- 1986-1989, National Science Foundation Graduate Fellow
- 198501986, Winston Churchill Foundation Graduate Fellow, Churchill College, Cambridge University

Notable Recent Grants

- DMS-1501370, Combinatorial and Real Algebraic Geometry, 2015-2018
- DMS-1001615, Applications and Combinatorics in Algebraic Geometry, 2010-2014
- DMS-0915211, Numerical Real Algebraic Geometry, 2009-2013
- DMS-0701050, Applicable Algebraic Geometry: Real Solutions, Applications, and Combinatorics, 2007-2010

Five Selected Publications or Scholarly Works

http://www.math.tamu.edu/0ae1a4cc37f2c54e541cf8809db554b/dept/selfstudy/sottile.html

- Christopher J. Brooks, Abraham MartÃ­n del Campo, and Frank Sottile, Galois groups of Schubert problems of lines are at least alternating, Transactions of the American Mathematical Society, 2015.
- Raman Sanyal, Frank Sottile, and Bernd Sturmfels, Orbitopes, Mathematika, 2011
- Frank Sottile, Real Solutions to Equations in Geometry, AMS, 2011

Recent Synergistic Activities

- 2017 to present, Scientific Advisory Committee, BIRS
- 2017, Co-organizer (with H.P. Adeyemo) CIMPA Summer School on Combinatorial and Computational Algebraic Geometry, Ibadan, Nigeria
- 2016 to present, Corresponding Editor, SIAM Journal on Applications of Algebra and Geometry
- 2014-2015 Led the application to the SIAM for the SIAM Journal on Applications of Algebra and Geometry
- 2014 to present, Associate Editor, Americal Mathematical Monthly
- 2011 to present, Co-organizer of TAMU Math Circle
- 2009-2011, Founding Chair of SIAM Activity Group on Applications of Algebraic Geometry

Recent Graduate Students and/or Postdocs

- Postdocs or Ph.D. students within last 5 years or so
- Elise Walker, Ph.D. student, 2017-
- Taylor Brysiewicz, Ph.D. student, 2015-
- Li Ying, Ph.D. student, 2014-
- Ata Pir, Ph.D. student, 2014-
- Robert Williams, Ph.D., 2014-2017
- Nickolas Hein, Ph.D., 2007-2013
- Emanuele Ventura, Postdoc, 2017-
- Timo de Wolff, Postdoc, 2014-2017
- Jacob White, Postdoc, 2012-2015
- Mounir Nisse, Postdoc, 2010-2013
- Jonathan Hauenstein, Postdoc, 2010-2012
Peter F. Stiller
Professor

Education

- Ph.D. in Mathematics, Princeton University, 1977
- M.A. in Mathematics, Princeton University, 1974
- S.B. in Mathematics, Massachusetts Institute of Technology, 1973
- S.B. in Economics, Massachusetts Institute of Technology, 1973

In the Profession

- 1987-present, Professor of Mathematics, Texas A&M
- 1993-2013, Professor of Mathematics and Computer Science, Texas A&M
- 1999-2007, Associate Director Institute for Scientific Computation
- 1986-1987, Associate Professor, Louisiana State University
- 1984-1987, Associate Professor of Mathematics, Texas A&M
- 1977-1984, Assistant Professor of Mathematics, Texas A&M

Research or Scholarly Interests

Dr. Stiller's work has focused on questions in algebraic geometry, both theoretical and applied. This includes work on elliptic surfaces, vector bundles on complex projective spaces and related problems in approximation theory, and automorphic forms. His applied work touches on applications of algebraic geometry to questions in robotics, object recognition, computer vision, and, most recently, data clustering and topological data analysis.

Major Awards

- Visiting Fellow, Institute for Advanced Study, 1988-1989 and 1990
- NSF-CNRS Exchange Fellowship, Institut des Hautes Etudes Scientifiques, 1982-1983
- NATO Postdoctoral Fellowship, Institut des Hautes Etudes Scientifiques, 1979-1980

Notable Recent Grants


Five Selected Publications or Scholarly Works


http://www.math.tamu.edu/0ae1a4c3712c54e541cb8809db6548/deptselfstudy/stiller.html[3/29/18, 3:34:57 PM]

Recent Synergistic Activities

- Supervised Undergraduate Research Projects: Trace Dressen 2013, Tyler Mandry 2013, Jennifer Rieger 2015
- Collaborations with engineers and computer scientists at AFRL, Wright Patterson AFB.

Recent Graduate Students and/or Postdocs

- Bryan Ko, Ph.D. graduate 2010
- Served on 6 Ph.D. committees since 2012
Emil J. Straube
Professor

Education

- Ph.D. in Mathematics, Swiss Federal Institute of Technology (ETH), Zürich, 1983
- Diploma in Mathematics, Swiss Federal Institute of Technology (ETH), Zürich, 1977

In the Profession

- 2011-present, Head, Department of Mathematics, Texas A&M University
- 1996-present, Professor of Mathematics, Texas A&M University
- 1991-1996, Associate Professor of Mathematics, Texas A&M University
- 1987-1991, Assistant Professor of Mathematics, Texas A&M University
- 1986-1987, Visiting Assistant Professor of Mathematics, University of Pittsburgh
- 1984-1986, Visiting Assistant Professor of Mathematics, Indiana University
- 1983-1984, Visiting Research Scholar, University of North Carolina

Research or Scholarly Interests

My research is in the area of several complex variables. Specifically, interests include regularity properties of the d-bar-Neumann, the complex Green, and the Bergman projection operators.

Major Awards

- 1995, Bergman Prize (jointly with H. Boas), American Mathematical Society
- 1998, Distinguished Achievement Award in Research, Association of Former Students, Texas A&M University
- 2005, Senior Research Fellowship, Erwin Schrödinger International Institute of Mathematical Physics, Vienna
- 2006, Invited speaker at International Congress of Mathematicians (ICM), Madrid
- 2007, Invited Address to American Mathematical Society, Miami University, Oxford, OH
- 2013, Fellow of the AMS

Notable Recent Grants

- ESI Vienna, Several Complex Variables and CR Geometry, Nov. 3 - 13, 2015, (co-PI/organizer), $19,000.-
- Qatar National Research Fund Grant NPRP 7-511-1-98, 2015-18 (Co-PI, N.Mir PI), $729,316.73

Five Selected Publications or Scholarly Works

- (with Yunus Zeytuncu), Sobolev Estimates for the Complex Green Operator on CR Submanifolds of Hypersurface Type", Inventiones Mathematicae 201, no. 3 (2015), 1073-1095.
- Lectures on the L^2-Sobolev theory of the d-bar-Neumann problem, ESI Lectures in Mathematics and
CV for Emil J. Straube


Recent Synergistic Activities

- Conference on Complex Analysis and Geometry in Several Complex Variables, Doha, Qatar, Jan. 8-12, 2017, co-organizer
- Workshop on Several Complex Variables and CR geometry, ESI Vienna, Nov. 3-13, 2015, co-organizer
- BIRS workshop on Harmonic Analysis, $d$-bar, and CR Geometry, CMO, Oaxaca, Mexico, Oct. 18-Oct. 23, 2015, co-organizer
- NSF panel 2015
- NSF panel 2014

Recent Graduate Students and/or Postdocs

- Mustafa Ayyüri, Ph.D. 2014
- Yue Zhang, Ph.D. 2014
- Yunus Zeytuncu, post-doc, 2010-13
- Severine Biard, post-doc, 2014-16
Zoran Sunik
Professor
Fax +1 979 845 6028
Email sunik <at> math.tamu.edu
URL http://www.math.tamu.edu/~sunik

Research Area Combinatorial/Geometric Group Theory
Steven D. Taliaferro
Associate Professor

Education

- Ph.D. in Mathematics, Stanford University, 1976
- B.S. in Mathematics, San Diego State University, 1971

In the Profession

- 1982-present, Associate Professor of Mathematics, Texas A&M
- 1976-1982, Assistant Professor of Mathematics, Texas A&M

Research or Scholarly Interests

Asymptotic behavior of solutions of nonlinear elliptic and parabolic PDEs using methods from functional and harmonic analysis.

Major Awards

- 1984, Alexander von Humboldt Forschungsstipendium

Five Selected Publications or Scholarly Works


Recent Synergistic Activities

- Member departmental teaching committee
- Member departmental tenure and promotion committee
Edriss S. Titi
Arthur Owen Professor of Mathematics

Education

- Ph.D. in Mathematics, Indiana University, 1986
- M.S. in Mathematics, Technion, I.I.T., 1981
- B.Sc. in Mathematics, Technion, I.I.T., 1979

In the Profession

- 2014–present, Arthur Owen Professor of Mathematics, Texas A&M
- 2003–present, Professor of Computer Science and Applied Mathematics, Weizmann Institute for Science
- 1997–2013, Professor of Mathematics and of Mechanical and Aerospace Engineering, University of California - Irvine
- 1992–1997, Associate Professor of Mathematics and of Mechanical and Aerospace Engineering, University of California - Irvine
- 1991–1994, Adjunct Associate Professor, Center of Applied Mathematics, University
- 1988–1989, Visiting Assistant Professor, Department of Mathematics and Mathematical Sciences Research Institute, Cornell University
- 1988–1992, Assistant Professor of Mathematics, University of California -

Research or Scholarly Interests

The research of Edriss S. Titi in applied and computational mathematics lies at the interface between rigorous applied analysis and physical applications. His work focuses on the development of analytical and computational techniques for investigating nonlinear phenomena. Specifically, in studying the Euler and the Navier-Stokes equations of incompressible fluids, and other related nonlinear partial differential equations. Such equations arise as models in a wide range of applications in nonlinear science and engineering. The applications include, but are not limited to fluid mechanics, geophysics, turbulence, chemical reactions, nonlinear fiber optics, and control theory.

Major Awards

- Stanislaw M. Ulam Distinguished Visiting Scholar, The Center for Nonline
Studies, Los Alamos National Laboratory. 2002-2003
• Fellow of the Institute of Physics, London, UK. 2004-present
• SIAM Prize on Best Paper in Partial Differential Equations, SIAM Activity (on Analysis of Partial Differential Equations. 2009
• Humboldt Research Award for Senior U.S. Scientists, Alexander von Humboldt Stiftung/Foundation, Germany. 2009
• Fellow of the Society of Industrial and Applied Mathematics (SIAM). 2012-present
• Fellow of the Inaugural Class of the American Mathematical Society (AMS 2013–present
• Distinguished Visiting Researcher Award Ciência sem Fronteiras - Science without Boundaries Scholarship, The Conselho Nacional de Desenvolvimento Científico (CNPq), Brazil. 2013-2015
• Gaspard Monge Distinguished Visiting Professor, École Polytechnique - Paris 2018
• Einstein Visiting Fellow, Einstein Stiftung/Foundation Berlin. 2018-2020

Notable Recent Grants

• ONR Grant No. ONR- N00014-15-1-2333 (PI). 2015-2018
• NSF Grant No. DMS-1109645 (PI). 2011-2014
• NSF Grant No. DMS-1109640 (PI). 2011-2014
• NSF Grant No. DMS-1109022 (co-PI). 2011-2014

Five Selected Publications or Scholarly Works

• Foias, Ciprian; Holm, Darryl D.; Titi, Edriss S. The three-dimensional visco Camassa-Holm equations, and their relation to the Navier-Stokes equation turbulence theory. J. Dynam. Differential Equations 14 (2002), no. 1, 1-35.
• Cao, Chongsheng; Titi, Edriss S. Global well-posedness of the three-dimensional viscous primitive equations of large scale ocean and atmosphere dynamics. Math. 166 (2007), no. 1, 245-267.
• Azouani, Abderrahim; Olson, Eric; Titi, Edriss S. Continuous data assimilation using general interpolant observables. J. Nonlinear Sci. 24 (2014), no. 2, 277-304.

Recent Synergistic Activities

• Member of the Advisory board of the “Department of Mathematics and Statistics”, The American University of Sharjah, 2016-present.
• Member of the Advisory board of the “Department of Mathematics”, Universit

2 of 3
of South Florida, 2016-present.
- Member of the Advisory board of the "Department of Mathematics", University of Texas - Dallas, 2016-present.
- Member of the "Steering Committee for Excellence in the Arab Community", Yad-Hanadiv Rothschild Foundation, 2014-present.
- Member of the Advisory Board of the "EPSRC Centre for Doctoral Training in the Mathematics of Planet Earth (MPECDT)", Imperial College, London, UK, 2014-present.
- Member of the "SIAM's Coordinating Committee for the Joint Mathematics Meeting (JMM)", USA, 2013-2016.

Recent Graduate Students and/or Postdocs

- Yanqiu Guo, Postdoc (Weizmann Institute of Science), 2012-2015
- Jinkai Li, Postdoc (Weizmann Institute of Science), 2013-2016
- Cecilia Mondaini, Postdoc (Texas A&M), 2015-2017
- Xin Liu, Postdoc (Texas A&M), 2017-present
Paula Tretkoff
Professor

Education

- Habilitation à diriger les recherches, Mathematics, University of Paris VI, Paris, France, 1995
- Ph.D., Mathematics, Nottingham University, United Kingdom, 1985
- B.Sc. Hons. Hons., Applied Mathematics (1978) and Pure Mathematics (1979), University of Sydney, Australia

In the Profession

- Professor in the Department of Mathematics, Texas A&M Univ., 2002-present
- Directeur de Recherche au CNRS, Universite de Lille 1, France, 1995-present
- Charge de Recherche au CNRS, Universite de Paris VI, France, 1983-1995

Research or Scholarly Interests

My broad research area is in Number Theory. I am particularly interested in the transcendence properties of values of special functions at algebraic points. Other interests include Diophantine problems and arithmetic and classical geometry.

Notable Recent Grants


Five Selected Publications or Scholarly Works


Recent Synergistic Activities

- Member of Graduate Committee, Texas A&M Math. Dept., 2003-2005

Recent Graduate Students and/or Postdocs

http://www.math.tamu.edu/0ae1e4cc37f2c54e541cbf8809db6548/deptselfstudy/tretkoff.html[3/29/18, 3:58:11 PM]
CV for Paula Tretkoff

- Margaret Upton, Postdoc 2007-present
CV for Yaroslav Vorobets

Yaroslav Vorobets
Assistant Professor

Education

- Ph.D. in Mathematics, Lomonosov Moscow State University, 1998
- M.S. in Mathematics, Lomonosov Moscow State University, 1994

In the Profession

- 2006-present, Assistant Professor of Mathematics, Texas A&M University
- 2002-2006, Senior Research Scholar in Mathematics, Pidstryhach Institute for Applied Problems of Mechanics and Mathematics, Lviv, Ukraine
- 1998-2002, Research Scholar in Mathematics, Ivan Franko National University, Lviv, Ukraine

Research or Scholarly Interests

My primary area of research is dynamics of billiards in polygons and related systems, e.g. geodesic flows on flat surfaces and interval exchange transformations. Also, I study self-similar groups of tree automorphisms generated by finite automata.

Major Awards

- 2005-2006, Clay Research Scholarship

Notable Recent Grants


Five Selected Publications or Scholarly Works


http://www.math.tamu.edu/0ae1a4cc37f2c54e541cbf8809db6548/deptselfstudy/vorobetsY.html[3/29/18, 3:58:07 PM]
Joseph D. Ward
Full Professor

Education

- Ph.D. Purdue University, 1973
- M.S. Purdue University, 1970
- B.A. Boston College, 1968

In the Profession

- 1985-present, Professor of Mathematics, Texas A&M
- Fall 1988 Visiting Professor, Mass. Inst. of Technology
- 1980-1985, Associate Professor, Texas A&M
- Fall 1976 Visiting Researcher, Universitat of Bonn
- 1974-1980, Assistant Professor of Mathematics, Texas A&M
- 1973-1974, Instructor, Purdue University

Research or Scholarly Interests

For a long time now, Professor Narcowich and I have been working on the mathematical foundations of approximation of scattered data on manifolds. The analysis includes error estimates, stability of the approximation process, quadrature, construction of tight frames on spheres, etc. Within the last five years we and our co-workers have developed highly localized, computationally efficient basis functions constructed using these kernels. Our current interest is applying these to obtain high order numerical solutions to partial differential equations, non-local diffusion problems, and various tasks involving least-squares approximation/interpolation of scattered data within the framework of meshless methods.

Major Awards

No awards

Notable Recent Grants

- Sandia National Laboratory: Award Number — 1271025, Revision 1, "Graduate Research Project for Stephen Rowe" (F. J. Narcowich, PI), August 1, 2012 to July 31, 2015. $75,000 from Sandia and $60,000 matching funds from TAMU.

Five Selected Publications or Scholarly Works

Spaces on the Unit Sphere. *SIAM Journal on Numerical Analysis* 2013 51:5, 2538-2562


**Recent Synergistic Activities**

- Vivian Deng (co-mentored with J. D. Ward) 2016-present
- Supervised the Shiqi Zhang's (Beihang University) 2015 Capstone Project: "Radial Basis Functions with Application to Surface Fitting of Data from Scattered Sites," (Spring, 2015)
- *Advances in Comp. Math.*, associate editor, May 2000-2010

**Recent Graduate Students and/or Postdocs**

- Svenja Lowitzsch (May 2002), Dissertation: *Approximation and Interpolation Employing Divergence-Free Radial Basis Functions with Applications* (Co-advisor - J. D. Ward)
- Quoc Thong Le Gia (August 2003), Dissertation: *Approximation of Linear Partial Differential Equations on Spheres* (Co-advisor - J. D. Ward)
Sarah Witherspoon
Professor

Education

- Ph.D. in Mathematics, University of Chicago, 1994
- S.M. in Mathematics, University of Chicago, 1991
- B.S. in Mathematics, Arizona State University, 1988

In the Profession

- 2010-present, Professor of Mathematics, Texas A&M
- 2006-2010, Associate Professor of Mathematics, Texas A&M
- 2004-2006, Assistant Professor of Mathematics, Texas A&M
- 2001-2003, Visiting Assistant Professor, Amherst College
- 2000-2001, Visiting Assistant Professor, University of Massachusetts, Amherst
- 1999-2000, Van Vleck Assistant Professor, University of Wisconsin, Madison
- 1994-1998, Assistant Professor, University of Toronto

Research or Scholarly Interests

Homological algebra and representation theory: Structure, representations, and cohomology of various types of (noncommutative) rings, including in particular Hopf algebras, quantum groups, and group-graded rings.

Notable Recent Grants

- NSF Grant #1665286, Cohomology of Noncommutative Rings: Structure and Applications, PI, 2017-2020
- NSF Grant #1401016, Noncommutative Representation Theory, PI, 2014-2017
- NSF Grant #1101399, Collaborative Research: Cohomology and Deformations of Algebras (with Anne V. Shepler), PI, 2011-2014

Five Selected Publications or Scholarly Works


Recent Synergistic Activities

- Editorial Boards: Algebras and Representation Theory, Communications in Algebra, Quaestiones Mathematicae
- Mathematical Sciences Research Institute Human Resources Advisory Committee, 2017-2020

http://www.math.tamu.edu/0ae1a4cc37f2c54e541cbf8809db6548/deptselfstudy/wither.html[3/29/18, 3:34:58 PM]
Co-organizer, Association for Women in Mathematics Workshop at the Joint Mathematics Meetings, San Diego, 2018
- Co-organizer, Banff International Research Station Workshop, Banff, Canada, 2015
- Co-organizer, Pan-American Advanced Studies Institute, Guanajuato, Mexico, 2012

Recent Graduate Students and/or Postdocs

- Julia Plavnik, Postdoc (VAP) 2015-18
- Lauren Grimley, Ph.D. graduate, 2016
- Van C. Nguyen, Ph.D. graduate, 2014
- Piyush Shroff, Ph.D. graduate, 2012
- Jeanette Shakalli, Ph.D. graduate, 2012
Zhizhang Xie
Assistant Professor

Education

- Ph.D. in Mathematics, Ohio State University, 2011
- B.S. in Mathematics, Zhejiang University, 2005

In the Profession

- 2013-present, Assistant Professor, Texas A&M University
- 2011-2013, Assistant Professor (non-tenure-track), Vanderbilt University

Research or Scholarly Interests

K-theory of operator algebras, index theory, noncommutative geometry and their applications to geometry and topology

Notable Recent Grants

- NSF DMS-1500823 (PI), K-Theory of Operator Algebras and Invariants of Elliptic Operators, 2015 - 2018
- NSF DMS-1430907 (co-PI, with G. Yu (PI) and B. Cacic), Noncommutative Geometry Festival, 2014
- AMS-Simons Travel Grant, 2013 - 2015

Five Selected Publications or Scholarly Works

- (with S. Weinberger and G. Yu) Additivity of higher rho invariants and nonrigidity of topological manifolds, 2017
- (with N. Higson and T. Schick) On C*-Algebraic Higher Signatures and an Invariance Theorem in Codimension Two, 2017
- (with A. Gorokhovsky and D. Sullivan) Generalized Euler classes, differential forms and commutative DGAs, Journal of Topology and Analysis, 2017

Recent Synergistic Activities

- co-organizer of Noncommutative Geometry Seminar at Texas A&M University
- teaching the advanced problem-solving session at Math Circle
- organized 5 international conferences or workshops
- referee about 4 papers every year

Recent Graduate Students and/or Postdocs

- Mingyu Liu, Ph.D. student, 2017 - present
- Qinfeng Zhu, Master degree student, 2017 - present
- Yoshiyasu Fukumoto, visiting graduate student, 2014
Catherine H. Yan
Professor

Education

- Ph.D. in Mathematics, Massachusetts Institute of Technology, 1997
- B.S. in Mathematics, Peking University, China, 1993

In the Profession

- 2004-present, Professor of Mathematics, Texas A&M
- 2002-2004, Associate Professor of Mathematics, Texas A&M
- 1999-2002, Assistant Professor of Mathematics, Texas A&M
- 1997-1999, Courant Instructor, New York University

Research or Scholarly Interests

Algebraic and Enumerative Combinatorics, Probabilistic Methods, Ordered Algebraic Structures, and Discrete Structures.

Major Awards

- AMS Fellow, class of 2018.
- 2001-2003, Sloan Foundation Research Fellow

Notable Recent Grants

- Qatar National Research Foundation, title: Crossings and Nestings in Combinatorial Structures. Joint with P. Schumacher (for year 1) and Rudolph Lorentz (for year 2 and 3) 10/15/2012-4/14/2016.

Five Selected Publications or Scholarly Works


Recent Synergistic Activities

- AMS Contemporary Mathematics Editorial Committee and Fan Fund Committee, 2016--2020

http://www.math.tamu.edu/0ae1a4cc37f2c54e541cbf8809db6548/deptselfstudy/yan.html[3/29/18, 3:34:59 PM]
CV for Catherine Yan

- Editor-in-Chief for Advances in Applied Mathematics (2014-present)
- Co-Organizer for CombinaTexas Conference Series
- Departmental Committees: Graduate Committee, Award Committee, and Postdoc Committee

Recent Graduate Students and/or Postdocs

- Niraj Khare, Postdoc at TAMU-Qatar, 2013-14
- Salvadore Tringali, postdoc at TAMU-Qatar, 2014--2015
- Mitchell Phillipson, Ph.D. graduate, 2015
- Westin King, Ph.D. student, current
- Ayomikun Adeniran, Ph.D. Student, current

http://www.math.tamu.edu/0ae1a4cc3772c54e541cbf8809db6548/deptselfstudy/yan.html|3/29/18, 3:34:59 PM|
Tian Yang
Assistant Professor

Education

- Ph.D. in Mathematics, Rutgers University at New Brunswick, 2013
- M.S. in Mathematics, University of Regina, Canada, 2007
- B.S. in Mathematics, Zhejiang University, China, 2005

In the Profession

- 2017-present, Assistant Professor of Mathematics, Texas A&M
- 2013-2017, Szego Assistant Professor of Mathematics, Stanford University

Research or Scholarly Interests

Geometric topology and quantum topology

Major Awards


Notable Recent Grants

- NSF Grant DMS-1405066, 2014-2017, Principal Investigator

Five Selected Publications or Scholarly Works

- Qingtao Chen and Tian Yang, Volume conjectures for the Reshetikhin-Turaev and the Turaev-Viro invariants, to appear in Quantum Topology

Recent Synergistic Activities

- Peer Review for the Luxembourg National Research Fund.
- Referee for Communications in Mathematical Physics, Experimental Mathematics, Groups, Geometry and Dynamics, Pure and Applied Mathematics Quarterly and Quantum Topology
- Reviewer for Mathematical Reviews and Zentralblatt MATH
Philip B. Yasskin
Associate Professor

Education

- Ph.D. in Physics, University of Maryland, 1979
- M.S. in Physics, University of Maryland, 1975
- M.S. in Applied Mathematics, University of Pennsylvania, 1971
- B.A. in Physics and Mathematics, University of Pennsylvania, 1971

In the Profession

- 1988-present, Associate Professor of Mathematics, Texas A&M
- 1982-1988, Assistant Professor of Mathematics, Texas A&M

Research or Scholarly Interests

General relativity, applications of computer algebra systems, use of computer algebra systems and other technology in teaching, outreach to middle school and high school students and teachers.

Major Awards

- 2008, 11th annual ICTCM Award to Yasskin and Douglas Meade and their program "Maplets for Calculus" for "excellence and innovation in using technology to enhance the teaching and learning of mathematics," 20th International Conference on Technology in Collegiate Mathematics

Notable Recent Grants


Five Selected Publications or Scholarly Works


Recent Synergistic Activities

- 1986-95,99-present, Faculty Advisor for Math Club, Pi Mu Epsilon Honor Society
- 2002-present, Founder and Director of TAMU Summer Educational Enrichment in Math
- 2008-present, Founder and Director of Brazos Valley Math Teachers’ Circle

Recent Graduate Students and/or Postdocs

https://www.math.tamu.edu/admin/dept-review2018/department_review/deptselfstudy/yasskin.html
- Marta Kobiela, Master's with Thesis, 2006
- Chaired 2 Master's without Thesis committees last 5 years
Matthew Young
Professor

Education

- Ph.D. in Mathematics, Rutgers University, 2004
- B.S. in Mathematics, University of Minnesota, 1999

In the Profession

- 2015-present, Professor of Mathematics, Texas A&M
- 2011-2015, Associate Professor of Mathematics, Texas A&M
- 2007-2011, Assistant Professor of Mathematics, Texas A&M
- 2004-2007, Postdoc, American Institute of Mathematics, NSF Postdoctoral Fellowship

Research or Scholarly Interests

Analytic number theory

Notable Recent Grants

- NSF Grant #DMS-1702221, $158,997, Automorphic forms and L-functions, PI, 9/17-8/20
- NSF Grant #DMS-1401008, $132,706, Analytic theory of automorphic forms, PI, 9/14-8/17
- NSF Grant #DMS-1101261, $129,996, Families of L-functions and automorphic forms, PI, 9/11-8/14
- NSF Grant #DMS-0758235, $120,000, Mean values of L-functions, PI, 9/11-8/14

Five Selected Publications or Scholarly Works

- Matthew P. Young, Low-lying zeros of families of elliptic curves, JAMS, 2006
- Matthew P. Young, Weyl-type subconvexity bounds for twisted L-functions and Heegner points on shrinking sets, JEMS, 2017
- Valentin Blomer, Rizwan Khan, and Matthew P. Young, Distribution of mass of holomorphic cusp forms, Duke Math Journal, 2013

Recent Synergistic Activities

- Mentor for REU Program, 2013-present

Recent Graduate Students and/or Postdocs

- Postdocs or Ph.D. students within last 5 years or so
- Eren Mehmet Kiral, Postdoc (VAP) 2014-2017
- Sheng-Chi Liu, Postdoc (VAP) 2011-2013
- Jiakun Pan, PhD, 2016-present
CV for Matthew Young

- Chaired 2 masters student committees last 5 years
Guoliang Yu  
Powell Chair in Mathematics and Professor

- Ph.D. in Mathematics, State University of New York at Stony Brook, 1991.  
- M.S. in Mathematics, Sichuan University, 1986.

In the Profession

- 2012-present, Powell Chair in Mathematics and Professor, Texas A&M.  
- 2000-2012, Professor of Mathematics, Vanderbilt University.  
- 1998-2000, Associate Professor of Mathematics, University of Colorado, Boulder.  

Research or Scholarly Interests

Noncommutative geometry, K-theory of operator algebras, index theory, topology and analysis of manifolds, geometric group theory.

Major Awards

- 2012, Inaugural Fellow, American Mathematical Society.  
- 2006, Cheung Kong Distinguished Visiting Professorship, Chinese Ministry of Education.  
- 2002, Distinguished Overseas Young Scientist Award, National Natural Science Foundation of China.  

Notable Recent Grants

- 2017-2020, NSF, PI, $186,000.  
- 2011-2014, NSF, PI, $246,000.

Five Selected Publications or Scholarly Works

Recent Synergistic Activities

- 2014-present, organizer, Math Circle.
- 2015-present, Elected member, Board of Trustee, K-theory Foundation.
- 2012-2015, Centennial Fellow Committee, American Mathematical Society.

Recent Graduate Students and/or Postdocs

- Postdocs: Xianjin Wang, Benyin Fu, Branimir Cacic, Alexander Engel, Kun Wang, Benbeb Liao (current), Hongzhi Liu (current), Shilin Yu (current).
Igor Zelenko
Assistant Professor

Education

- Ph.D. in Mathematics, Technion-Israel Institute of Technology, Haifa, Israel, 2002
- M.S. in Mathematics, Technion-Israel Institute of Technology, Haifa, Israel, 1998
- B.S. in Mathematics, Technion-Israel Institute of Technology, Haifa, Israel, 1994

In the Profession

- 2008-present, Assistant Professor of Mathematics, Texas A&M
- 2005-2008, Visiting Associate Professor of Mathematics, SISSA, Trieste, Italy
- 2002-2004, Research Associate in Mathematics, SISSA, Trieste, Italy

Research or Scholarly Interests

Equivalence problem for wide class of geometric structures on manifolds, including nonholonomic vector distributions, sub-Riemannian, and sub-Finslerian structures, with application to Control Theory, geometry of variational problems, geometric theory of ODE's and PDE's, and Hamiltonian dynamics.

Major Awards

- 2001, Wolf prize for Israeli PhD students - Hebrew University, Jerusalem

Notable Recent Grants

- Grant of Central European Initiative (CEI) for hosting a half-year post-doctoral position at SISSA during the year 2008, Trieste, Italy
- Grant of Central European Initiative (CEI) for organization of the workshop during the year 2006 at SISSA, Trieste, Italy

Five Selected Publications or Scholarly Works


Recent Synergistic Activities

CV for Igor Zelenko


Recent Graduate Students and/or Postdocs

- Chengbo Li, Ph.D. graduate, SISSA 2005-present
- Josef Silhan, Postdoc SISSA, 2008
- E.A. Kwessi Nyandjou, the Diploma program of ICTP (pre-Ph.D.)-International Center for Theoretical Physics, Trieste Italy, 2007
- Y. Roodgar Amoli in the Diploma program of ICTP-International Center for Theoretical Physics, Trieste, Italy, 2006
- A member of 1 Ph.D. and 1 student committee at Texas A&M
Jianxin Zhou
Professor

Education

• Postdoc Fellow, Penn State U., University Park, PA, USA, 1987
• Ph.D. in Mathematics, Penn State University, 1986
• M.S. in Applied Mathematics, Shanghai University, 1982
• B.S. (Equivalent) in Computational Mathematics, Shanghai University, 1977

In the Profession

• 1999-present, Professor of Mathematics, Texas A&M
• 1993-1999, Associate Professor of Mathematics, Texas A&M
• 1987-1993, Assistant Professor of Mathematics, Texas A&M

Research or Scholarly Interests


Major Awards

• Oversea Distinguished Scholar, Hunan Province, China, (2015-2016)
• Feng Kang Professor, Shanghai University, Shanghai, China (5/2004-6/2004)

Notable Recent Grants

• Oversea Distinguished Scholar Award, Hunan Province, China, 100,000CNY, 05/1/2015-06/30/2016, J. Zhou.

Five Selected Publications or Scholarly Works


Recent Synergistic Activities

• Initiated and helped Dr. P. Lima-Filho to establish Beihang-TAMU International Math Program, continue to serve as a mediator between Beihang and TAMU, and as a coordinator and mentor to the
CV for Jianxin Zhou

students in this program (2013-present)
• Official primary advisor of TAMU Chinese Student and Scholar Association (2004-present)
• Chair of the Department Postdoc Search Committee (2017)

Recent Graduate Students and/or Postdocs (in last five years)

• Changchun Wang, Ph.D., 2012
• Bingbing Ji, Ph.D., 2017
• Meiqin Li, Ph.D., 2017
• Hosted visiting scholars Prof. Z.X. Li of Shanghai Normal University (2013-2014) and Prof. J. Du of Beijing Normal University (2016-2017)
Yue Cai
Visiting Assistant Professor

Education

- Ph.D. in Mathematics, University of Kentucky, 2016
- M.S. in Mathematics, University of Kentucky, 2012
- B.S. in Mathematics, Zhejiang University, 2010

In the Profession

- 2016-present, Visiting Assistant Professor of Mathematics, Texas A&M University

Research or Scholarly Interests

Algebraic combinatorics, q-analogues, poset topology

Publications or Scholarly Works

- Y. Cai, R. Ehrenborg and M. Readdy, q-Stirling identities revisited, submitted.
- Y. Cai and C. Yan, Counting with Borel's Triangle, submitted.

Recent Synergistic Activities

- Organizing Committee member of CombinaTexas 2018
Souvik Goswami
Visiting Assistant Professor

Education

- PhD student in Pure Mathematics, University of Alberta, Edmonton, Canada, 2009 - 2015 (official degree conferred on June 4th, 2015). Note that there is no official grade for thesis dissertation. **Supervisor: Dr. James D. Lewis**
- MS in Mathematics, Indian Institute of Science, Bengaluru, India, 2005 - 2008. **Supervisor: Dr. G.V. Ravindra**
- B.Sc with Honours in Mathematics, University of Calcutta, Kolkata, India, 2002 - 2005

In the Profession

- Visiting Assistant Professor at Department of Mathematics, Texas A&M University, Texas, USA, for the period of 08/21/2017 - 05/31/2018
- Visiting Researcher at Instituto de Ciencias Matemáticas (ICMAT), Madrid, Spain for the period of 03/16/2017 - 06/13/2017
- Visiting Researcher at Instituto de Ciencias Matemáticas (ICMAT), Madrid, Spain for the period of 08/22/2016 - 11/19/2016
- Post-doctoral Visiting Fellow at Tata Institute of Fundamental Research, Mumbai, India, for the period of 01/01/2016 - 07/31/2016
- Research Associate at University of Alberta, Edmonton, Canada, March-July 2015

Research or Scholarly Interests

(Transcendental) Algebraic Geometry, Hodge Theory and Arakelov Geometry

Awards

- Awarded the GS4 Graduate Student Summer Support Scholarship, 2010/11-2012/13 (Accepted)
- Awarded Pansy and George Strange Graduate Scholarship, September 2010 (Accepted)
- Awarded Eoin L Whitney Scholarship, June 2010 (Accepted)

Five Selected Publications or Scholarly Works

- *Higher Arithmetic Intersection Theory*, jointly with José Ignacio Burgos Gil. In preparation (copy available on request)
Diane Guignard
Visiting Scholar
Office Blocker 608P
Fax +1 979 845 6028
Email dguignard <at> math.tamu.edu
URL http://www.math.tamu.edu/~dguignard
Isaac Harris
Visiting Assistant Professor

Education

- Ph.D. in Applied Mathematics, University of Delaware, 2015
- M.S. in Applied Mathematics, University of Delaware, 2012
- B.A. in Mathematics, Kean University, 2010

In the Profession

- 2015-present, Visiting Assistant Professor, Texas A&M University
- 2013(Summer), Visiting Student Researcher, Ecole Polytechnique

Research or Scholarly Interests

My main research interests are in direct and inverse problems for partial differential equations, especially those arising in acoustic and electromagnetic scattering. I have used non-iterative methods to develop numerical inversion/reconstruction algorithms for inverse initial boundary value problems.

Awards

- 2017 NSF-SIAM CSE 17 Early Career Travel Award
- 2016 US Junior Oberwolfach Fellow
- 2015 Cover Image of Inverse Problems (volume 31 issue 2)
- 2015 Joint Math Meeting Graduate Student Travel Award
- 2014 Baxter-Sloey Graduate Teaching Award
- 2013-2014 University of Delaware's Graduate Fellowship

Five Selected Publications or Scholarly Works

- I. Harris and W. Rundell "A direct method for reconstructing inclusions and boundary conditions from electrostatic data" (Submitted) (arXiv:1704.07479)

Recent Synergistic Activities

- Co-Coordinator, TAMU Math Dept PostDoc Seminar, 2017-present
- Panelist, Field of Dreams Conference, 2017
- Presenter for TAMU Math Circle, 2017
- Panelist, TAMU Math Department "REU Graduate School" panel, 2016
Panelist, TAMU Math Department "applying for academic positions" panel, 2016
Peter Jantsch
Visiting Scholar
Office Blocker 604
Fax +1 979 845 6028
Email pjantsch <at> math.tamu.edu
URL http://www.math.tamu.edu/~pjantsch
Benben Liao
Visiting Assistant Professor

Education

- Ph.D. in Mathematics, Institut de Mathématiques de Jussieu- Paris Rive Gauche (Paris 7), France, 2014
- M.S. in Mathematics, Université Paris Diderot- Paris 7, France, 2011
- B.S. in Mathematics, University of Science and Technology of China, China, 2010

In the Profession

- 2017 - present, Visiting Assistant Professor, Texas A&M
- 2015 - 2017, Post Doctoral Researcher, Shanghai Mathematics Center, Fudan University, Shanghai, China
- 2014 - 2015, Post Doctoral Researcher, Unité de mathématiques pures et appliquées (UMPA), École normale supérieure de Lyon, France

Research Interests

Noncommutative geometry, geometric group theory, geometry of Banach spaces

Five Selected Publications

- Benben Liao, About the difficulty to prove the Baum Connes conjecture without coefficients for a non-cocompact lattice in $Sp_4$ in a local field, J. Noncommut. Geom., 2016
- Benben Liao, Strong Banach property (T) for simple algebraic groups of higher rank, Journal of Topology and Analysis, 2014
- Guixiang Hong, Benben Liao, Simeng Wang, Noncommutative maximal ergodic inequalities associated with doubling conditions, arXiv:1705.04851, 2017

http://www.math.tamu.edu/0ae1a4cc37f2c54e541cbf8809db6540/deptselfstudy/liao.html[3/29/18, 3:53:17 PM]
Richard G. Lynch
Visiting Assistant Professor

Education

- Ph.D. in Mathematics, University of Missouri-Columbia, 2016
- M.S. in Mathematics, Southern Illinois University Edwardsville, 2011
- B.S. in Mathematical Studies, applied mathematics specialization, Southern Illinois University Edwardsville, 2010

In the Profession

- Visiting Asistant Professor, Texas A&M University, Math. Department, Aug. 2016 - Present

Research or Scholarly Interests

I'm interested in frame theory, the study of over redundant representations of signals. I also study compressive sensing, where one is concerned with the recovery of vectors (or matrices) from much fewer measurements than the ambient dimension of the space. My current primary focus is to shift to data science to help provide a theoretical grounding to the field.

Five Selected Publications or Scholarly Works

- Recovering low-rank matrices from binary measurements, S. Foucart and R.G. Lynch, submitted
Pavlos Motakis
Visiting Assistant Professor

Education

- Ph.D. in Mathematics, National Technical University of Athens, 2015
- Diploma in Applied Mathematics and Physics, National Technical University of Athens, 2010
- B.S. in Mathematics, University of Eastern Slobodia, 1989

In the Profession

- 2015-present, Visiting Assistant Professor, Texas A&M University
- 2000-present, Associate Professor of Mathematics, Texas A&M
- 1995-2000, Assistant Professor of Mathematics, Texas A&M

Research or Scholarly Interests

Hereditarily indecomposable Banach spaces, $L$-spaces, local and asymptotic behavior of Banach spaces, operators on Banach spaces, metrical characterization of non-local properties of Banach spaces.

Recent Grants

- NSF Grant DMS-1600600, Geometry of Banach spaces and their spaces of operators, PI, August 2016 - July 2019

Five Selected Publications or Scholarly Works


Recent Synergistic Activities

- Coorganizer, AMS Fall Sectional Meeting - Special Session on Banach Spaces and Applications, September 9-10 2017, Denton, TX, USA.
- Coordinator, Texas A&M Banach spaces seminar, Fall 2016-Spring 2017.
- Ad hoc reviewer, NSF, since 2017.
- Referee, Involve, since 2017.
- Referee, Advances in Mathematics, since 2016.
CV for Pavlos Motakis

Julia Yael Plavnik
Visiting Assistant Professor

Education

• Ph.D. in Mathematics, Universidad Nacional de Córdoba, Argentina, 2013
• Master Class “Quantum groups, affine lie algebras, and their applications”, MRI (Mathematical Research Institute), Utrecht University, The Netherlands, 2008
• Licenciada en Matematica (equivalent M.Sc. in Mathematics), Universidad Nacional de Córdoba, Argentina, 2007

In the Profession

• 2015-present, Visiting Assistant Professor, Texas A&M University
• 2013-2015, CONICET (Argentinian National Research Council) Mathematics Postdoctoral Fellowship, Universidad de Buenos Aires and Universidad Nacional de Córdoba, Argentina

Research or Scholarly Interests

Tensor, fusion, braided, and modular categories, noncommutative algebra, algebras, homological algebra, representation theory, knot theory, braid groups, quantum groups, and quantum computation.

Awards

• 2016, AMS - Simon Travel Grant
• 2015, AWM Travel grant
• 2008, Premio Talentos: Best undergraduate student of FaMAF - Journal "Punto a Punto"

Five Selected Publications or Scholarly Works

• P. Bruillard, J.Y. Plavnik, and E. Rowell, Modular categories of dimension $p^2m$ with $m$ square-free, arXiv:1609.04896 (accepted for publication in Proc. Amer. Math. Soc.).
• C. Galindo and J.Y. Plavnik, Tensor functor between Morita duals of fusion categories, Letters in Mathematical Physics 107 (2017), Issue 3, 553-590.
• S. Natale and J.Y. Plavnik, On fusion categories with few irreducible degrees, Algebra Number Theory 6 (2012), no. 6, 1171-1197.

Recent Synergistic Activities

• Co-organizer of the Workshop on Subfactors and fusion categories at BIRS in Banff, Canada, October 2018.
• Co-organizer of several AMS Sectional Meeting - Special Sessions, for example, Special Session on Algebras, Tensor Categories, and Homological Algebra, April 2018, Boston, MA, USA;
Session on Quantum Symmetries, March 2018, Columbus, OH, USA; Tensor Categories: Bridging Algebra, Topology, and Physics, November 2017, Riverside, CA, USA; Special Session on Fusion Categories and Applications, Bloomington, IN, USA; Special Session on Topological Phases of Matter and Quantum Computing, Brunswick, ME, USA; Special Session on Fusion Categories and Topological Phases of Matter, Salt Lake City, UT, USA

- Co-organizer of Special Session at the Joint Mathematics Meetings (JMM): AMS Special Session on Quantum Computing and Topological Phases of Matter, January 2018, San Diego, CA, USA; AMS Special Session on Fusion Categories and Quantum Symmetries, January 2017, Atlanta, GA, USA.

- Co-organizer of several special sessions at different international meetings: Special Session on Hopf Algebras and Tensor Categories at the XXII Coloquio Latinoamericano de Algebra in Quito, Ecuador (August 2017); Special Session on Mathematics of Quantum Phases of Matter and Quantum Information at the Mathematical Congress of the Americas in Montreal, Canada (July 2017).


- Mentor for REU Program at Texas A&M University 2017: Program on Mathematics of Topological Quantum Computation (4 students).

- Editor (with P. Bruillard, and C. Ortiz Marrero) of the Proceedings of the AMS Special Session on Topological Phases of Matter and Quantum Computation, which will be published in the Contemporary Mathematics book series.


- Mentor for the LGTB program at Texas A&M University, since Oct. 2017.

- Co-organizer of the Workshop on Topological quantum computing, an interdisciplinary challenge at the 5th Heidelberg Laureate Forum (HLF) in Heidelberg, Germany, September 2017 (mentored by Sir M. Atiyah).

- Tutor in College of Science Learning Communities program at Texas A&M University, since Aug. 2017.

- Co-organizer of the Postdoc Colloquium Series, Texas A & M University, since Fall 2017.


- Judge for the Student Research Week at Texas A&M University. Topic judge (subject area: science) for posters, March 2017.

- Co-organizer of the Symposium for Faculty, Staff, Graduate Student and PostDocs in the Sciences: Insight and Strategies for Professional Success, Personal Well Being and Getting Along with Others at Texas A&M University, February 2017.

- Co-organizer of the Algebra and Combinatorics Seminar, Texas A & M University, since Spring 2017.

- Judge for the Texas Junior Academy of Science (physics), October 2016, October 2017.

- Coordinate Texas A&M undergraduate attendees, MathFest (August 2016, August 2017) and JMM (January 2017).

- SEE-Math instructor (Logic Puzzles activity), Texas A&M University, July 2016.


- Postdoctoral representative at the College of Science Diversity Committee of Texas A&M University since April 2016.


- Postdoctoral representative at the College of Science Diversity Committee of Texas A&M University since April 2016.


- Postdoctoral representative at the College of Science Diversity Committee of Texas A&M University since April 2016.


- Postdoctoral representative at the College of Science Diversity Committee of Texas A&M University since April 2016.

March 2016; Fourth Annual Derivative Bee, November 2015.

- Reviewer for Mathematical Reviews (AMS) since March 2013.
Rob Rahm
Visiting Assistant Professor

Education

- Ph.D. in Mathematics, Washington University in St. Louis, 2017
- B.S. in Mathematics, Georgia Institute of Technology, 2012

In the Profession

- 2017-present, Visiting Assistant Professor, Texas A&M

Research or Scholarly Interests

I am interested in several areas of harmonic analysis. My work in grad school was on various one and two weight inequalities. I am now working on problems related to spectral theory of ordinary differential equations and connections to complex analysis and fourier analysis.

Five Selected Publications or Scholarly Works

Xiaoxian Tang
Visiting Assistant Professor

Education

- Ph.D. in Mathematics, Peking University & North Carolina State University, 2014
- M.S. in Mathematics, University of Electronic Science and Technology of China, 2010
- B.S. in Mathematics, University of Electronic Science and Technology of China, 2007

In the Profession

- 2017-present, Visiting Assistant Professor, Texas A&M
- 2015-2016, Postdoc, University of Bremen, Germany
- 2014-2015, Postdoc, National Institute for Mathematical Sciences, South Korea

Research or Scholarly Interests

Applying computational algebraic geometry to statistics and biology.

Awards

- 2012–2013 State Scholarship Fund $30000 by China Scholarship Council
- 2008–2009 Excellent Master Student in UESTC
- 2007–2008 Excellent Master Student in UESTC
- 2007 Entrance Scholarship in UESTC
- 2006–2007 Outstanding Undergraduate Graduation Thesis in UESTC
- 2004–2005 People Scholarship in UESTC
- 2003–2004 People Scholarship in UESTC

Recent Grants

- 2018/9-2018/12 ICERM Semester Program on Nonlinear Algebra $3600 for Housing and $1200 for airfare
- 2017/10, MSRI Workshop on Topological Combinatorics Travel Funding $450
- 2017-2019 AMS Simons Travel Grant $4000

Five Selected Publications or Scholarly Works

- Jose Israel Rodriguez, Xiaoxian Tang, Data-Discriminants of Likelihood Equations. In the
CV for Xiaoxian Tang

Proceedings of ISSAC'15, Bath, United Kingdom, ACM, 2015.

Emanuele Ventura
Visiting Assistant Professor

Education

- Ph.D. in Mathematics, Aalto University, 2017
- M.S. in Mathematics, University of Catania and SSC, 2013
- B.S. in Mathematics, University of Catania, 2010

In the Profession

- Sept. 2017-present, Visiting Assistant Professor, Texas A&M, under the supervision of prof. Landsberg and prof. Sottile
- Feb. 2017-Aug. 2017, Postdoc at Max Planck Institute for Mathematics in the Sciences in Leipzig, Germany, under the supervision of Prof. Sturmfels and Dr. Michałek

Research or Scholarly Interests

Algebraic geometry, combinatorics, representation theory, and their applications.

Awards

- 2014, Anile prize for the Master thesis

Five Selected Publications or Scholarly Works


Shilin Yu, Department of Mathematics, Texas A&M University

Faculty »
Staff »
Visiting faculty »
Retired faculty »
Graduate students »

Shilin Yu
Visiting Assistant Professor
Office Blocker 636
Fax +1 979 845 6028
Email yus <at> math.tamu.ed
URL http://www.math.tamu.edu/~yus
Yuan Zhang
Visiting Assistant Professor

Education

- Ph.D., Mathematics, Duke University, 2015
- B.S., Mathematics, Peking University, 2010

In the Profession

- 2016-present, Visiting Assistant Professor, Texas A&M
- 2015-2016, Assistant Adjunct Professor, University of California, Los Angeles
- 2015, Summer Session Faculty, Duke University
- 2014-2015, Grad. Research Fellow, SAMSI

Research or Scholarly Interests

Interacting particle systems and their applications, diffusion limit aggregation, random walk, random interlacement

Five Selected Publications or Scholarly Works

Zheng Zhang  
Visiting Assistant Professor

Education

- Ph.D. in Mathematics, Stony Brook University, 2014
- B.S. in Mathematics, Zhejiang University, 2009

In the Profession

- 2015-present, Visiting Assistant Professor, Texas A&M

Research or Scholarly Interests

Algebraic geometry. In particular, Hodge theory and its geometric applications, special varieties (e.g. K3 surfaces, abelian varieties, Calabi-Yau varieties, cubic hypersurfaces) and their degenerations, geometric and motivic realizations of variations of Hodge structure over Hermitian symmetric domains.

Awards

Recent Grants

Five Selected Publications or Scholarly Works


Recent Synergistic Activities

- Co-organizer of Geometry Seminar
- The A&M High School Math Contest
Janice Epstein
Instructional Associate Professor

Education

- Ph.D. in Physics, Texas A&M University, 1992
- B.S. in Chemistry, University of California, Berkeley, 1982

In the Profession

- 2015 - present, Instructional Associate Professor of Mathematics, Texas A&M University
- 2015 - present, Special Assistant to the Director of External Affairs and Stakeholder Relations Office, Brookhaven National Laboratory (Joint Appointment at 50% time)
- 2013 – 2015, Instructional Assistant Professor of Mathematics, Texas A&M University
- 1999 – 2013, Senior Lecturer of Mathematics, Texas A&M University
- 2005 – 2007, Freshman Core Mathematics Coordinator, Texas A&M University
- 1984 – 1992, Graduate Assistant (Physics), Texas A&M University
- 1982 – 1984, Graduate Assistant (Chemistry), Texas A&M University

Recent Courses Taught

- Fall 2016, Finite Mathematics, Math 141-510 to 519, 309 students – taught as flipped class
- Spring 2016, Finite Mathematics, Math 141-508 to 517, 231 students – taught as flipped class

Major Awards

- 2014, Guest Coach, Texas A&M vs. Louisiana State University Football Game
- 2012, Richard Stadelmann Award for Service to the Faculty Senate
- 2004, Outstanding Service Award, Department of Mathematics, Texas A&M University
- 2001, Outstanding Teaching Award, Department of Mathematics, Texas A&M University

Notable Pedagogical or Scholarly Activities

- 2017, Developing a Hybrid Business PreCalculus class for SUNY Old Westbury and Texas A&M
- 2012 – 2014, Texas A&M University, ADVANCE Center for Women Faculty: “Women’s Community Building Initiative,” PI: Jill Zarestky, $7,100

Selected Publications or Scholarly Works

- 2004, Finite Math on the Web , M. Pilant, J. Epstein, K. Bollinger, R. Hall, Y. Hester and A. Strader,

**Recent Synergistic or Major Service Activities**

- 2015 – present, Co-Chair, Academic Course Guide Manual Advisory Committee for the Texas Higher Education Coordinating Board
- 2016 – present, Member, United Way Campaign for Brookhaven National Lab
- 2016 – present, Member, 70/100 Anniversary Committee for Brookhaven National Lab
- 2011 – present, Member, Faculty Senate Executive Committee
- 2011 – present, Member, Core Curriculum Council
- 2009 – present, Faculty Senator, Texas A&M
- 2016, Reviewer, National Science Foundation
- 2016, Member, Faculty Senate Election Committee
- 2015, Member, Math Learning Outcomes Project for the Texas Higher Education Coordinating Board
Yvette Hester
Instructional Associate Professor

Education

• Ph.D. in Educational Statistics and Psychometrics, Texas A&M University, 2000
• M.S. in Mathematics, University of Northern Slobodia, 1991
• B.S. in Mathematics, University of Eastern Slobodia, 1989

In the Profession

• 2017-present, Assistant Dean for Student Affairs, Texas A&M University
• 2015-present, Instructional Associate Professor, Texas A&M University
• 2013-2015, Instructional Assistant Professor, Texas A&M University
• 2008-2011, Senior Lecturer, Texas A&M University
• 2006-2007, Full Professor, Germanna Community College
• 2003-2007, Mathematics Department Chair, Germanna Community College
• 2003-2005, Dean of Instruction, Germanna Community College
• 2001-2006, Associate Professor, Germanna Community College

Recent Courses Taught

• Math 148, Calculus II for Biology
• Honors Math 142H, Calculus for Business

Major Awards

• 2012, Outstanding Service Award, Department of Mathematics

Notable Pedagogical or Scholarly Activities

• May 2017 - Submitted Grant with Biology as Co-PI-$1,000,000 student success initiative (passed first approval)
• May 2012 - Principal Investigator - $75,000 Instructional Technology grant

Up to Five Selected Publications or Scholarly Works

• Finite Math on the Web 2.0, Brooks/Cole Publishers, 2005
• Using the TI-83 Graphing Calculator in Finite Mathematics, Brooks/Cole Publishers, 2000
• Using the TI-83 Graphing Calculator in College Mathematics, Brooks/Cole Publishers, 2000
Recent Synergistic or Major Service Activities

- THECB Committee for reviewing/revising the Texas College and Career Readiness Standards
- Implementation Committee for the Joint COE/COS new Curriculum
- RetainU Student Success Initiative
- Established College of Science Program, ASSIST for underprepared freshman
- Member; COS/COE Curriculum Committee
- CO-led departmental initiatives to lower D/F/Q rates in freshman courses
- Chair; Academic Professional Track Committee (internal governance) from inception(2008)to May 2017
- Chair; Non-STEM Course Committee, Fall 2016 to May 2017
- CO-led departmental initiatives to lower D/F/Q rates in freshman courses
- Co-Chair, Faculty Senate Academic Professional Track Faculty Committee, Spring 2014-Spring 2016
- Chair, Faculty Advisory Committee to the Dean, Fall 2013 through Fall 2016
- Member, Faculty Senate Ad Hoc Subcommittee for NTTF, Fall 2013 to Fall 2014
- Help Session Coordinator; Interview/hire, staff and schedule all department help sessions, 2010-Fall 2016
- Business Math Tutorial Assistant Coordinator; 2011-2013
Oksana Shatalov  
Instructional Associate Professor

Education

- Ph.D. (Applied Mathematics), Technion - Israel Institute of Technology, 2001
- M.Sc. (Applied Mathematics), Technion - Israel Institute of Technology, 1996

In the Profession

- 2017-present, Instructional Associate Professor, Texas A&M
- 2015-2017 Instructional Assistant Professor, Texas A&M
- 2014-2015, Senior Lecturer, Texas A&M
- 2011-2014, Lecturer, Texas A&M
- 2008-2011, Visiting Assistant Professor, Texas A&M
- 2005-2008, Lecturer at the Diploma Program, Abdus Salam International Center for Theoretical Physics (Italy)
- 2002-2002, Postdoctoral fellowship, Technion - Israel Institute of Technology
- 2000-2002, Lecturer, Technion - Israel Institute of Technology

Recent Courses Taught

- Math 141 (Business Mathematics I)
- Math 151/151-Honors (Engineering Mathematics I)
- Math 152/152-Honors (Engineering Mathematics II)
- Math 166 (Topics in Contemporary Mathematics II)
- Math 171 (Analytic Geometry and Calculus)
- Math 172 (Calculus)
- Math 221 (Several Variables Calculus)
- Math 220/220-Honors (Foundations of Mathematics)
- Math 251 (Engineering Mathematics III)
- Math 308 (Differential Equations)

Major Awards

- 2013, A&M Association of Former Students Teaching Award - College Level
- 2012, Outstanding Teaching Award, TAMU, Department of Mathematics
- 2002, Excellent Lecturer Award - University Level, Technion - Israel Institute of Technology

Notable Pedagogical or Scholarly Activities
• 2017 - Course recertification (Math 172)
• Created a series of writing assignments to help students to write an original
term paper for Math 220 class.
• 2017 - Math 220 Textbook Evaluation Committee
• 2017 - co-PI, NSF grant (pending), SMaRT Camp: raising a new generation of
STEM leaders
• 2016 - co-PI, AMS Grant for Summer Mathematics Research Training High
School (SMaRT) Camp at Texas A&M
• 2016 - co-PI, MAA Grant for Summer Mathematics Research Training High
School (SMaRT) Camp at Texas A&M
• 2016 - 19th Annual Wakonse South Teaching Conference (Talk "Bringing
Calculus to life or life to Calculus")

Up to Five Selected Publications or Scholarly Works

• P. Kuchment, O. Shatalov and Z. Sunic, "SMaRT Camp. Lectures and problems"
(2013,2016), 86 pages.
• Yu.I. Lyubich, O.Shatalova, Polynomial functions on the classical projective
• Yu.I. Lyubich, O.Shatalova, Isometric embeddings of finite dimensional 1_p-spaces
• Yu.I. Lyubich, O.Shatalova, Euclidean subspaces of the complex spaces `np
constructed by orbits of finite subgroups of SU(m), Geom. Dedicata, 86(2001),
169-178.
• Yu.I. Lyubich, O.Shatalova, Almost Euclidean planes in 1_p^n, Func. Anal. and

Recent Synergistic or Major Service Activities

• Oct 2014 - present - member, chair (from Jul 2017), Department of Mathematics
Outreach Committee
• Feb 2017 - organizer of Math Booth at Texas A&M STEMfest 2017 organized by
The Society of Women Engineers partnered with Girl Scouts of Central Texas
• 2016 - present - member of APT (Academic Professional Track) Committee
(Department of Mathematics)
• 2016 - present - co-director, Summer Mathematics Research Training High
School (SMaRT) Camp at Texas A&M University
• 2015 - present - director, Department of Mathematics High School Math
Contest
• 2013, 2015 - co-organizer, "Mathematical Art - enjoy and create!" activity
(Department of Mathematics Mini-Fair (Open House))
• 2013-2014 - PI, Professional Development and Community Building Initiative
Texas A&M, ADVANCE Center for Women Faculty
• 2012 - Week in Review Math 152 (Engineering Calculus I)
Angela Allen
Instructional Assistant Professor

Education
- M.S. in Mathematics, Texas A&M University, 2005
- B.S. in Applied Mathematical Sciences, Texas A&M University, 2001

In the Profession
- 2014-present, Instructional Assistant Professor, Texas A&M University
- 2010-2014, Senior Lecturer, Texas A&M University
- 2005-2010, Lecturer, Texas A&M University

Recent Courses Taught
- Math 142: Business Calculus
- Math 131: Mathematical Concepts - Calculus
- Math 141: Finite Mathematics
- Math 166: Topics in Contemporary Mathematics II
- Math 365: Structure of Mathematics I

Major Awards
- Texas A&M University System Teaching Excellence Award (SLATE), top 5% (2010)
- Fish Camp Namesake (2010)
- Outstanding Teaching Award, Department of Mathematics (2009)
- Texas A&M University System Teaching Excellence Award (SLATE), top 5% (2009)
- The Physician's Centre Hospital Guest Coach Award - presented at Texas A&M men's basketball game (2009)

Notable Pedagogical or Scholarly Activities
- Co-Author of problem sets with full solutions for Math 140 (Summer 2017-present)
- Co-Author of Non-STEM Math Placement Exam questions (Summer 2016, Summer 2015, Summer 2014)
- Math 142 Technology Project: Prepared and instructed one technology based section of Math 142 and one "control" section in order to compare student performance (Summer 2012-Spring 2013)
- Co-Author of Algebra Placement Exam (Spring 2007)

Recent Synergistic or Major Service Activities
• Non-STEM Curriculum Committee (NSCC) (Fall 2016-present)
• Math 131 Course Coordinator: Prepared exam shells, reviewed instructors' exams, mentored new graduate student instructors as well as visiting professors (Fall 2017, Spring 2015, Fall 2014, Fall 2011)
• Math 131 Week in Review: Conducted reviews once a week that covered the previous week's material for all Math 131 students (Fall 2017, Spring 2015, Fall 2011)
• Math 142 Course Coordinator: Prepared exam shells, reviewed instructors' exams, helped coordinate teaching assistants, mentored new graduate student instructors as well as visiting professors (Fall 2015, Spring 2011)
• Math 142 Week in Review: Conducted reviews once a week that covered the previous week's material for all Math 142 students (Spring 2017, Fall 2016, Spring 2016, Spring 2014, Fall 2013, Spring 2013)
• Math 142 Core Curriculum Documents: Created documents to submit to University's core curriculum committee to request Math 142 continue to be a core curriculum course (Spring 2013)
• Math 142 Textbook Committee (Summer 2012)
Benjamin Aurispa
Instructional Assistant Professor

Education

- M.S. in Mathematics, Texas A&M University, 2006
- B.S. in Mathematics, Texas A&M University, 2005

In the Profession

- 2014-present, Instructional Assistant Professor, Texas A&M University
- 2011-2014, Senior Lecturer, Texas A&M University
- 2006-2011, Lecturer, Texas A&M University

Recent Courses Taught

- Math 151 Engineering Mathematics I
- Math 152 Engineering Mathematics II
- Math 167 Explorations in Mathematics
- Math 140 Mathematics for Business and Social Sciences
- Math 141 Business Mathematics I
- Math 166 Topics in Contemporary Mathematics II
- Math 171 Analytic Geometry and Calculus

Major Awards

- 2012, Fish Camp Namesake
- 2010, Department of Mathematics Outstanding Teaching Award

Notable Pedagogical or Scholarly Activities

- 2016, Assisted in the Development of the new course Math 140
- 2009-2014, National Science Foundation Step 1B Grant #0856767: "Retention Through Remediation: Enhancing Success in Calculus 1," PI: G. Donald Allen; $1,148,887, 2009-2014

Recent Synergistic or Major Service Activities

- 2012-present, Online Homework Coordinator
- 2016-present, Non-STEM Core Committee member
- 2010-present, Academic Advisor
- 2010-present, Honor Council Member
- 2011-2016, Academic Professional Track Committee member
• 2010-2012, 2015-2017, Course Coordinator for Math 166, 151, 152 and 140 in varying semesters.
• 2010-2014, Week in Review Instructor for Math 166 and 151 in varying semesters
Amy Austin
Instructional Assistant Professor

Education
- M.S., Mathematics, Texas A&M University, 1994
- B.S., Mathematics, University of Houston, 1992

In the Profession
- 2013-present, Instructional Assistant Professor, Texas A&M University
- 1998-2013, Senior Lecturer, Texas A&M University
- 1994-1998, Lecturer, Texas A&M University
- 1994-2005, Instructor, Blinn College

Recent Courses Taught
- Math 151, Engineering Mathematics I
- Math 152, Engineering Mathematics II
- Math 251, Engineering Mathematics III
- Math 171, Analytic Geometry and Calculus
- Math 172, Calculus
- Math 131, Mathematical Concepts-Calculus

Major Awards
- 2015, Corps Academic Mentor of the Year
- 2013, Honorary Guest Coach, Men's Texas A&M Basketball
- 2011, Honorary Guest Coach, Women's Texas A&M Basketball
- 2010, Outstanding Teaching Award, Texas A&M University Department of Mathematics
- 2010, Student Led Award for Teaching Excellence, Texas, A&M University
- 2010, Physicians Centre Hospital Honorary Guest Coach, Texas A&M Baseball
- 2009, Student Led Award for Teaching Excellence, Texas A&M University
- 2008, Honorary Guest for Century Scholars Dinner, Texas A&M University
- 2006, Distinguished Achievement Award, Texas A&M University Association of Former Students - College Level
- 2006, Corps Academic Mentor of the Year, Texas A&M University
- 2002, Recognition of Appreciation by Texas A&M Corps of Cadets
- 2001, Fish Camp Namesake, Texas A&M University
- 1997, Outstanding Teaching Award, Texas A&M University, Department of Mathematics

Notable Pedagogical or Scholarly Activities
- 2017, Course Coordinator, Math 251, Engineering Mathematics III
- 2016, Course Coordinator, Math 152, Engineering Mathematics II
- 2007-2015, Volunteer, Derivative Bee
- 2007-2015, Volunteer, Integral Bee
• 2013, Member, Mathematics and Engineering Student Success Committee
• 2013, Week in Review, Math 152, Engineering Mathematics II
• 2013, Course Coordinator, Math 152, Engineering Mathematics II
• 2012, Course Coordinator, Math 152, Engineering Mathematics II
• 2012, Week in Review, Math 152, Engineering Mathematics II

Recent Synergistic or Major Service Activities

• 2017, Member, Academic Professional Track Committee
• 2017, Presenter, The Geosciences Academic Preparation
• 2006-present, Volunteer Corps Mentor
• 2016-present, Member, Honor Council
• 2015, Volunteer, Big Event
• 2010-2014, Volunteer, FLOW final review
Florent P. Baudier
Instructional Assistant Professor

Education

• Ph.D. in Mathematics, Université de Franche-Comté, France, 2009
• M.S. in Mathematics, Université de Franche-Comté, France, 2005
• B.S. in Mathematics, Université de Franche-Comté, France, 2002

In the Profession

• 2017-present, Instructional Assistant Professor with a special appointment to the Graduate Faculty, Texas A&M University
• 2010-2017, Visiting Assistant Professor, Texas A&M University
• 2014, ANR Fellow, NoLiGeA Project, IMJ-PRG, Université Pierre et Marie Curie (Paris 6), France
• Fall 2011, Research Member, MSRI, Berkeley, California
• Spring-Summer 2010, Postdoc FNS, Université de Neuchâtel, Switzerland
• Fall 2009, Postdoc IMI, Universidad Complutense de Madrid, Spain

Recent Courses Taught

• Foundations of Mathematics MATH 220
• Calculus MATH 172
• Advanced Calculus MATH 409
• Directed Studies MATH 485
• Topics Course in Geometry of Metric Spaces MATH 663
• Differential Equations MATH 308
• Linear Algebra MATH 304
• Engineering Mathematics I MATH 151
• Engineering Mathematics II MATH 152
• Engineering Mathematics III MATH 251

Major Awards

• ANR research grant, PI for the NoLiGeA Project, reference number ANR-13-PDOC-003, funding period January 2014-January 2016, total amount: 150,000 Euros
• FAPESP research grant, Co-PI (PI Prof. V. Ferenczi, USP) for the project "Somas torcidas, posicoes, e teoria de Ramsey", reference number 2013/11390-4, funding period: October 2013-September 2015, total amount: 76,398 Brazilian Reals

Notable Pedagogical or Scholarly Activities

• Study Abroad programs in France, Summer 2016-2017-2018
• Advising: Ph.D. Student A. Swift (2014-2018), Texas A&M University (co-advisor with Prof. Th. Schlumprecht)
• Nonlinear geometry of Banach spaces, monograph in preparation, to appear in Cours Spécialisé Collection SMF (with G. Lancien and A. Bouchakov).
• Topics in Geometry of Metric Spaces, monograph in preparation
• invited plenary speaker: Workshop on Large Scale Geometry and Applications, The Fields Institute

http://www.math.tamu.edu/0ae1a4cc37f2c54e541cbf9809db6348/deptselfstudy/florent.html[3/29/18, 3:53:11 PM]
CV for Florent P. Baudier

for Research in Mathematical Sciences, Toronto, Canada, May 2018
• invited plenary speaker: Non Linear Functional Analysis, CIRM (Centre International de Rencontres Mathématiques), Luminy, France, March 2018
• invited plenary speaker: Virginia Operator Theory and Complex Analysis Meeting (VOTCAM), University of Virginia, Charlottesville, VA, October 2017
• invited plenary speaker: Annual Meeting of the AFHP Research Group, Institut de Mathématiques de Toulouse, Toulouse, France, October 2016
• invited plenary speaker: Group Actions and Metric Embeddings, Kyoto University, Kyoto, Japan, (3-hour mini-course), September 2015
• invited plenary speaker: Banach Methods in Non Commutative Geometry, Fundan University, Shangai, China, June 2014

Up to Five Selected Publications or Scholarly Works
• The coarse geometry of Tsirelson's space and applications, submitted, 2017 (with G. Lancien and Th. Schlumprecht)
• The metric geometry of the Hamming cube and applications, Geom. Topol., 20, (2016), no. 3, 1427-1444 (with D. Freeman, Th. Schlumprecht, and A. Zsák)

Recent Synergistic or Major Service Activities

Conferences organized
• "First Brazilian Workshop in Geometry of Banach Spaces", co-organized with Profs. J. L. Abad, C. Brech, V. Ferenczi (chair), and E. Galego, Maresias, Brazil, August 2014.

Editorial activities
• reviewer for Zentralblatt MATH (since 2013)
• reviewer for MathSciNet (since 2010).
Art Belmonte
Instructional Assistant Professor

Education

- M.S. in Mathematics, Texas A&M University, 1986
- B.S. in Mathematics, Michigan State University, 1978

In the Profession

- September 2014-Present, Instructional Assistant Professor and Systems Analyst, Texas A&M University
- September 2013-August 2014, Instructional Assistant Professor and Systems Analyst, Texas A&M University at Qatar
- July 2008-August 2013, Senior Lecturer and Systems Analyst, Texas A&M University at Qatar
- January 1994-June 2008, Senior Lecturer and Systems Analyst, Texas A&M University
- January 1993-December 1993, Lecturer, Texas A&M University
- August 1990-January 1993, Software Engineer, IMSL, Inc.
- June 1985-May 1988, Graduate Teaching Assistant and Lecturer, Texas A&M University
- 1983-1985, Instructor, Oakland University
- March 1980-December 1984, Senior Programmer, General Motors Corporation

Recent Courses Taught

- Math 151: Engineering Mathematics 1 (Calculus 1)
- Math 152: Engineering Mathematics 2 (Calculus 2)
- Math 251: Engineering Mathematics 3 (Calculus 3)
- Math 308: Differential Equations
- Math 311: Topics in Applied Mathematics 1

Major Awards

- 2014, Plaque presented for my contributions to Texas A&M University at Qatar between 2008-2014
- 2014, Faculty of the Year Award for the Science Program at Texas A&M University at Qatar
- 2014, Service Award for 5 years of service to Texas A&M University at Qatar
- 2012, Service Award for 20 years of service to Texas A&M University and the State of Texas
- 2004, Distinguished Achievement College of Science Teaching Award (from the Association of Former Students at Texas A&M University)
- 2002, Certificate of Appreciation for Teaching, Support, and Counseling of Students (from the Corps of Cadets at Texas A&M University)
- 1997, Outstanding Service Award (from the Department of Mathematics at
Texas A&M University
- 1995, Outstanding Teaching Award (from the Department of Mathematics at Texas A&M University)

Notable Pedagogical or Scholarly Activities
- 2008-2014: Implemented the widespread use of TI-Nspire CAS in Math 251 and 308, at the behest of Texas A&M University at Qatar.
- 2003-2005: Implemented the widespread use of MATLAB in Math 151, 152, 253, and 308, at the behest of Math Dept Head.
- 1995-2002: Implemented the widespread use of Maple in Math 151, 152, 253, and 308, at the behest of Math Dept Head.

Up to Five Selected Publications or Scholarly Works
- CalcLabs with Maple for Stewart's Single Variable Calculus; 2003, 2005, 2008, 2010; Barrow, Belmonte, Boggess, Morgan, Rahe, Smith, Stecher, Yasskin
- Calculus: Early Vectors; 1999; Stewart, Belmonte, Boggess, DeBlassie, Lowe, Morgan, Smith, Yasskin
Kathryn Bollinger
Instructional Assistant Professor

Education

• M.S. in Mathematics, Texas A&M University, 1998
• B.S. in Applied Mathematics, Texas A&M University, 1996

In the Profession

• 2014 - present, Instructional Assistant Professor, Texas A&M University
• 2005 - 2014, Senior Lecturer, Texas A&M University
• 1998 - 2005, Lecturer, Texas A&M University

Recent Courses Taught

• MATH 131: Mathematical Concepts - Calculus
• MATH 140: Mathematics for Business and Social Sciences
• MATH 141: Finite Mathematics
• MATH 142: Business Calculus
• MATH 167: Explorations in Mathematics

Major Awards

• 2015, Outstanding Corps of Cadets Academic Mentor of the Year, Texas A&M University
• 2011, Outstanding Teaching Award, Department of Mathematics, Texas A&M University
• 2003 - 2004, Texas A&M Aggie Access Namesake, Texas A&M University
• 2002, Fish Camp Namesake, Texas A&M University
• 2000, Outstanding Teaching Award, Department of Mathematics, Texas A&M University

Notable Pedagogical or Scholarly Activities

• 2007 - 2009, THECB (Texas Higher Education Coordinating Board): "Course Redesign for Math 1324", PI and director: G. Donald Allen, co-PI Janice Epstein (contract funded)
• 2004, THECB (Texas Higher Education Coordinating Board): "Pre-Calculus Practices Good Teaching" Teacher Quality Grant, PI: G. Donald Allen (contract funded)

Up to Five Selected Publications or Scholarly Works

• 2004, Applied Calculus on the Web, J. Epstein, J. Whitfield, K. Bollinger, M.
Pilant, L. Chen and T. Kiffe, Thomson Higher Education, 1st edition

**Recent Synergistic or Major Service Activities**

• 2017 - present, Help Session Coordinator, Department of Mathematics, Texas A&M University
• 2016 - present, Member of Non-STEM Curriculum Committee (NSCC), Department of Mathematics, Texas A&M University
• 2012 - present, Appointed Member to Honor Council Separation Appeals Panel, Texas A&M University
• 2008 - present, Review Transfer Credit Requests for Core Math Classes, Department of Mathematics, Texas A&M University
• 2004 - present, Instructor, Summer Educational Enrichment (SEE) Math Camp, Department of Mathematics, Texas A&M University
• 2016, Make-Up Exam/Retest Coordinator, Department of Mathematics, Texas A&M University
• 2014 - 2016, Co-Author of Non-STEM Math Placement Exam Questions, Department of Mathematics, Texas A&M University
• 2013 - 2016, Elected Member to the Academic Professional Track Committee (APTC), Department of Mathematics, Texas A&M University
• 2012 - 2016, Course Coordinator (MATH 131, 141, 142, 166), Department of Mathematics, Texas A&M University
• 2013 - 2015, Corps Academic Mentor, Squadron 23, Texas A&M University
• 2014, Math Department co-representative to Core Curriculum Assessment Focus Group to discuss how to implement state learning objectives in mathematics courses
• 2014, Week-in-Review (MATH 142), Department of Mathematics, Texas A&M University
• 2012 - 2014, Mentor to Instructors Teaching Large Core Math Classes (250+ students/class), Department of Mathematics, Texas A&M University
• 2013, Authored Core Curriculum Learning Outcomes and Core Objectives as well as sample general syllabus for Math 141 for approval by the Core Curriculum Committee and the Texas Higher Education Coordinating Board
Andrew Bridy  
Instructional Assistant Professor

Education

- Ph.D. in Mathematics, University of Wisconsin-Madison, 2014
- A.B. in Mathematics, Cornell University, 2004

In the Profession

- 2016-present, Instructional Assistant Professor, Texas A&M
- 2014-2016, Visiting Assistant Professor, University of Rochester

Research or Scholarly Interests

Number theory, algebraic geometry, arithmetic dynamics, Galois theory, applications of finite automata to algebra and number theory.

Five Selected Publications or Scholarly Works


Recent Synergistic Activities

- Anonymous referee for Proceedings of the AMS, Journal of Number Theory, Monatshefte für Mathematik, Algebra and Number Theory, Contemporary Mathematics
- Reviewer for National Science Center of Poland
- TA training and TA evaluation committee, University of Wisconsin--Madison
- High School Math Night speaker, University of Wisconsin--Madison
Tamara Anthony Carter
Instructional Assistant Professor

Education

- Ph.D. in Curriculum and Instruction, Texas A&M University, 2005
- M.S. in Mathematics, Texas A&M University, 1999
- M.A. in Computational and Applied Mathematics, Rice University, 1995
- B.S. in Computational and Applied Mathematics, Rice University, 1994

In the Profession

- 2014-present, Instructional Assistant Professor, Texas A&M University
- 2013-2014, Professor of Mathematics, Oklahoma City Community College
- 2007-2013, Director of the Mathematics Department, Oklahoma City Community College
- 2007 Fall, Acting Dean of Science and Mathematics, Oklahoma City Community College
- 2005-2007, Professor of Mathematics, Oklahoma City Community College
- 2004-2005, Instructor of Mathematics Education, Texas A&M
- 2001-2003, Mathematics Lecturer, University of North Texas
- 1999-2001, Mathematics Instructor, University of North Texas
- 1999-2000, Mathematics Instructor, Texas Woman’s University
- 1999 Summer, Instructor of Mathematics, Texas A&M
- 1997-1999, Associate Professor of Mathematics, Tomball College
- 1995-1997, Adjunct Mathematics Instructor, North Harris Montgomery Community College District
- 1995-1997, Mathematics Teacher, Tomball High School

Recent Courses Taught

Math 365, Structure of Mathematics I
Math 167, Explorations in Mathematics
Math 166, Topics in Contemporary Mathematics II
Math 367, Basic Concepts of Geometry

Major Awards

- 2015, Outstanding Teaching Award, Department of Mathematics

Notable Pedagogical or Scholarly Activities

- Panel Reviewer for National Science Foundation

Up to Five Selected Publications or Scholarly Works

Recent Synergistic or Major Service Activities

• Academic Professional Track Committee, Texas A&M
• Academic Professional Track Committee, Department of Mathematics
• Outreach Committee, Department of Mathematics
• Mathematics Fair 2017, Chair
• Texas A&M Math Circle, Presenter
• Week in Review, Math 167, Explorations in Mathematics
• Course Coordinator, Math 167, Explorations in Mathematics
Joe Kahlig
Instructional Assistant Professor

Education

- M.S. in Mathematics, Texas A&M University, 1994
- B.S. in Mathematics, Angelo State University, 1992

In the Profession

- 2014-present Instructional Assistant Professor, Texas A&M University
- 2006-2014, Senior Lecturer, Texas A&M University
- 1995-2006, Part-time Mathematics Instructor, Blinn College - Bryan Campus
- 1992-1994, Graduate Teaching Assistant, Texas A&M University

Recent Courses Taught

- Math 131: Calculus for Science Majors
- Math 141: Business Mathematics I
- Honors Math 141: Business Mathematics I, includes a computer lab.
- Math 142: Business Mathematics II
- Honors Math 142: Business Mathematics II
- Math 151: Engineering Calculus I
- Math 151: Engineering Calculus I as a web-based instruction.
- Math 151: Engineering Calculus I as a distance education course.
- Math 152: Engineering Calculus II
- Math 152: Engineering Calculus II as a distance education course.
- Math 166: Topics in Contemporary Mathematics II
- Honors Math 166: Topics in Contemporary Mathematics II, includes a computer lab.
- Math 171: Calculus I for Mathematics Majors
- Math 172: Calculus II for Mathematics Majors

Major Awards

- 2013, Award for Outstanding Service, Department of Mathematics
- 1998, Award for Outstanding Service, Department of Mathematics

Recent Synergistic or Major Service Activities

- 2003-Present, Supervise graders and Undergraduate Teaching Assistants
- 2017 Textbook Committee: Math 152.
Kendra Kilmer
Instructional Assistant Professor

Education

- M.S. in Mathematics, Texas A&M University, 2003
- B.S. in Applied Mathematical Sciences, Texas A&M University, 2002

In the Profession

- 2014-present, Instructional Assistant Professor, Texas A&M University
- June 2010-June 2017, AP Calculus Reader, Educational Testing Service - College Board
- 2010-2014, Senior Lecturer, Texas A&M University
- 2004-2010, Lecturer, Texas A&M University

Recent Courses Taught

- Math 140 - Mathematics for Business and Social Sciences - Fall 2017
- Honors Math 141 - Finite Mathematics Fall 2014, Fall 2007
- Honors Math 166 Topics in Contemporary Mathematics II Fall 2008
- Math 152 - Engineering Mathematics II Summer 2006

Major Awards

- 2010, Finalist for Student Led Award for Teaching Excellence (SLATE)
- 2006, Aggie Access Namesake
- 2003, The Outstanding Teaching Assistant Award
- 2002, AUF Fellow Award
- 2002, The Outstanding Mathematics Undergraduate Award

Recent Synergistic or Major Service Activities

- Math 140 Course Coordinator and Week-in-Review Instructor - Fall 2017
- Math 141/142 Jumbo Course Coordinator Fall 2017, Fall 2016, Spring 2016, Spring 2014, Fall 2013
• TAMU Disability Services Faculty Advisory Board Member "Spring 2017, Fall 2016, Spring 2016, Spring 2014, Fall 2013, Spring 2013, Fall 2012, Spring 2012
• Primary Faculty Advisor for Best Buddies "TAMU Student Organization " 2010-2017
• Non-STEM Core Committee Member "Spring 2017, Fall 2016
• Math 141 Jumbo Course Coordinator "Fall 2015
• Math 142 Jumbo Course Coordinator "Spring 2015
• Math 141 Week-in-Review Leader "Spring 2013, Fall 2012, Fall 2011
• Math 131 Week-in-Review Leader "Spring 2012, Spring 2011
• Lecturer Core Curriculum Committee Member "Spring 2012, Fall 2011, Spring 2011, Fall 2010
• Math 131 Course Coordinator "Spring 2011
• Participant in eCampus Grade Submission Pilot Project "Fall 2013
JoungDong Kim
Instructional Assistant Professor

Education

- Ph.D. in Applied Mathematics, State University of New York at Stony Brook, 2012
- M.S. in Mathematics, Pusan National University, Korea, 2007
- B.S. in Mathematics, Pusan National University, Korea, 2005

In the Profession

- 2014-present, Instructional Assistant Professor, Texas A&M
- 2012-2014, Visiting Assistant Professor, Texas A&M

Recent Courses Taught

- Math 151, Engineering Mathematics I, Fall 2017
- Math 151, Engineering Mathematics I, Summer 2017
- Math 151, Engineering Mathematics I, Spring 2017
- Math 151, Engineering Mathematics I, Fall 2016
- Math 142, Business Mathematics II, Summer I and II 2016
- Math 151, Engineering Mathematics I, Fall 2015
- Math 142, Business Mathematics II, Summer I and II 2015
- Math 142, Business Mathematics II, Spring 2015
- Math 150, Pre-Calculus, Fall 2014
- Math 308, Differential Equation, Summer 2014
- Math 151, Engineering Mathematics I, Spring 2014
- Math 151, Engineering Mathematics I, Fall 2013
- Math 151, Engineering Mathematics I, Spring 2013
- AMS595, Fundamentals of Computing, Stony Brook University, Fall 2010
- AMS595, Fundamentals of Computing, Stony Brook University, Fall 2009

Major Awards

- 2016, Outstanding Teaching Award, Texas A&M

Notable Pedagogical or Scholarly Activities

- Recent progress of Hybrid Fast Algorithm and its applications. Invited talk, Pusan National University, Republic of Korea, November 2013.
- Hybrid Fast Algorithm based on FFT-recursive-relation and its applications. 2013
KSIAK Annual Conference, Jeju, Republic of Korea, November 2013.

Up to Five Selected Publications or Scholarly Works


Recent Synergistic or Major Service Activities

- Week-in-review of Math151, Fall 2017
- Program Coordinator of PPP(Personalized Precalculus Program), Summer 2017
- Week-in-review of Math151, Spring 2017
- Week-in-review of Math 151, Spring 2017
- SI(Supplemental Instruction) Coordinator of Math151, Fall 2016
- FLSI(Faculty-Led Supplemental Instruction) Coordinator of Math151 (Pilot project), Spring 2016
- Course Coordinator of Math151, Spring 2016
- Week-in-review of Math151, Fall 2015
- Week-in-review of Math142, Spring 2015
- Week-in-review of Math150, Fall 2014
Greg Klein
Instructional Assistant Professor

Education

- M.S. in Mathematics, Texas A&M University, 1992
- B.S. in Mathematics, Angelo State University, 1990

In the Profession

- 2014-present, Instructional Assistant Professor, Texas A&M
- 2008-2014, Senior Lecturer, Texas A&M
- 2005-2008, Lecturer, Texas A&M
- 2003-2005, Lecturer, Texas A&M at Qatar
- 1994-2003, Senior Lecturer, Texas A&M

Recent Courses Taught

- Math 148, Calculus for Biology Majors
- Math 167, For All Practical Purposes
- Math 419, Applications in Actuarial Sciences
- Math 308, Differential Equations
- Math 367, Basic Concepts of Geometry
- Math 140, Math for Business and Social Sciences
- Math 131, Math Concepts Calculus

Major Awards

- 2007, Award for Distinguished Achievement College-Level in Teaching from the Association of Former Students
- 1998, Award for Outstanding Teaching, Department of Mathematics

Notable Pedagogical or Scholarly Activities

- 2017, Committee Member Mathematics 308, revisit and redesign to implement MATLAB and Confirm ACCM
- 2009, Committee Member of AFS Distinguished Achievement College Level Teaching Award

Up to Five Selected Publications or Scholarly Works

•
•
•

Recent Synergistic or Major Service Activities

•
Glenn Lahodny Jr.
Instructional Assistant Professor

Education

- Ph.D. in Mathematics, Texas Tech University, 2012
- M.S. in Mathematics, Texas Tech University, 2010
- B.A. in Mathematics, Texas Tech University, 2007

In the Profession

- 2014-present, Instructional Assistant Professor, Department of Mathematics, Texas A&M
- 2013-2014, Visiting Assistant Professor, Department of Mathematics, Texas A&M
- 2012-2014, Postdoctoral Research Associate, Department of Veterinary Integrative Biosciences, Texas A&M

Recent Courses Taught

- Math 147 - Calculus I for Biological Sciences
- Math 148 - Calculus II for Biological Sciences
- Math 151 - Engineering Mathematics I
- Math 152 - Engineering Mathematics II
- Math 251 - Engineering Mathematics III
- Math 308 - Differential Equations
- Math 442 - Mathematical Modeling
- Math 469 - Introduction to Mathematical Biology

Major Awards

- 2012, Helen Devitt Jones Excellence in Graduate Teaching Award

Selected Publications


**Service Activities**

• Member of the Academic Professional Track Committee
• Course Coordinator for Math 308 - Differential Equations
• Course Coordinator for Math 147/148 - Calculus I and II for Biological Sciences
• Volunteer for Integral Bee
• Volunteer for Derivative Bee
David J. Manuel  
Instructional Assistant Professor

Education
- M.S. in Mathematics, Texas A&M University, 1994
- B.S. in Mathematics, Texas A&M University, 1990

In the Profession
- 2013-present, Instructional Assistant Professor, Texas A&M
- 2000-2013, Senior Lecturer, Texas A&M/Texas A&M-Qatar
- 1994-2000, Lecturer, Texas A&M

Recent Courses Taught
- MATH 166, "Topics in Contemporary Mathematics II" (Fall/Spring 2015-2017)
- MATH 696, "Mathematical Communication and Technology" (Summer 2014-2017)
- MATH 172, "Calculus" (Spring 2015)
- MATH 171, "Analytic Geometry and Calculus" (Fall 2014)

Major Awards
- 2015, Distinguished Achievement Award in Teaching - College Level
- 2008-2009, Student Led Award for Teaching Excellence - University Level
- 2004 Outstanding Service Award - Department Level
- 2000 Outstanding Teaching Award - Department Level

Notable Pedagogical or Scholarly Activities
- 2016 Designed Calculus with MATLAB for use with Cody Coursework of MathWorks
- 2014 Designed MATH 696, "Mathematical Communication and Technology"

Up to Five Selected Publications or Scholarly Works
- 2013 Instructional Video supplement to MATLAB: An Introduction with Applications, Gilat, Wiley & Sons, Inc., 5th edition
• 2008 Qatar Math Standards Committee: Final Report and Recommendations, Supreme Education Council, State of Qatar

• 2000 Precalculus at TAMU (WebAlg), Stecher, Wells, Manuel, Pearson, Primary Edition

**Recent Synergistic or Major Service Activities**

• 2015-present, Faculty of Posse Immersion Program, Texas A&M University

• 2015-present, Course Coordinator and Week in Review, MATH 166

• 2014-present, Director of Graduate TA Training

• 2011-present, Coordinator, TAMU Derivative Bee/TAMU Integral Bee

• 2012-present, Member, Department Online Homework Committee

• 2009-present, Assistant Director/Co-director, Summer Educational Enrichment Program

• 2008-present, Member, Department Outreach Committee

• 2008-present, Member High School Math Contest Committee
Mila Mogilevsky
Instructional Assistant Professor

Education

- Ph.D. in Mathematics, Rostov State University, Rostov-on-Don, USSR, 1977
- M.S. in Mathematics with Honors, Voronezh State University, Voronezh, USSR, 1971

In the Profession

- 2015-present, Instructional Assistant Professor, Department of Mathematics, TAMU (50% employment)
- 2001-2015, Senior lecturer, Texas A&M
- 1996-2001, Director of Kansas Outreach School in Math/Math Educator, Wichita State University, Wichita, KS
- 1991-1995, Instructor, Department of Mathematics and Statistics, Wichita State University, Wichita, KS
- 1990, Lecturer, Department of Mathematics and Statistics, Wichita State University, Wichita, KS
- 1976-1989, Assistant Professor, Voronezh Air Force Institute, Voronezh, USSR
- 1975-1976, Lecturer, Voronezh Polytechnic Institute, Voronezh, USSR
- 1970, Part time teacher at a specialized Math High School, Voronezh, USSR

Recent Courses Taught


Major Awards

- Department of Mathematics Service Award, Texas A&M, 2006.
- Mortar Board Chapter Educator Appreciation Award, Wichita State University, 1994

Notable Pedagogical or Scholarly Activities
Developed and promoted a new Core Curriculum course, Math 167 (with Peter Kuchment and Janice Epstein).

Developed and taught for the last four years a new class for freshmen math majors (Math 200, Horizons in Mathematics).

Eisenhower Professional Development Program. Project title: Stampede (Science, Technology and Mathematics: Propelling Educational Directives toward Excellence), Faculty Associate.


**Up to Five Selected Publications or Scholarly Works**


**Recent Synergistic or Major Service Activities**

- Undergraduate Adviser (since 2005).

- One of the advisers at the New Student Conferences (since 2005)

- Member of the Undergraduate Studies Committee (since 2007)

- Member of the Scholarship committee (since 2007)

- Member of the Outreach Committee, 2017.

- Helped with High School Math Contest (wrote BC exam and proofread AB exam), 2016, 2017


- As one of the Math Department advisers, meet with high school students and their parents during Aggieland Saturday (TAMU Open House).

- Member of the Math Awareness Month Committee; one of the initiators and organizers of Math Fair, 2004-2008. Helped with Math Fair activities, 2009-2015.
Constantin Onica  
Instructional Assistant Professor

Education

• Ph. D. in Mathematics, Texas A&M University, 2005  
• M.S. in Mathematics, Al.I.Cuza University, Iasi, Romania, 1998  
• B.S. in Mathematics, Al.I.Cuza University, Iasi, Romania, 1997

In the Profession

• 2014-present, Instructional Assistant Professor, Texas A&M University  
• 2007-2014, Assistant Professor, University of Texas - Pan American  
• 2005-2007, Postdoctoral Fellow, Indiana University

Recent Courses Taught

Engineering Mathematics I (Math 151), Differential Equations (Math 308),  
Engineering Mathematics II (Math 152), Topics in Contemporary Mathematics II  
(Math 166), Business Calculus (Math 142), Explorations in Mathematics (Math 167),  
Mathematics Concepts - Calculus (Math 131).

Up to Five Selected Publications or Scholarly Works


Recent Synergistic or Major Service Activities

• Week in Review: Math 151 (Fall 2015 and Fall 2016), Math 142 (Spring 2015), Math 131 (Fall 2014)  
• Created the CD Exam for the High School Math Contest (October 2017)  
• Created the BC Exam for the High School Math Contest (October 2016)
Heather Ramsey
Instructional Assistant Professor

Education
- M.S. in Mathematics, Texas A&M University, 2004
- B.S. in Applied Mathematical Sciences, Texas A&M University, 2002

In the Profession
- 2014-present, Instructional Assistant Professor, Texas A&M University
- 2012-2014, Senior Lecturer, Texas A&M University
- 2011-2012, Instructor, Blinn College
- 2010-2011, Instructor, Copper Mountain College
- 2009-2010, Senior Lecturer, Texas A&M University
- 2004-2009, Lecturer, Texas A&M University

Recent Courses Taught
- MATH 141 - Business Mathematics I (Finite Math)
- MATH 147 - Calculus I for the Biological Sciences
- MATH 148 - Calculus II for the Biological Sciences
- MATH 325 - The Mathematics of Interest
- MATH 419 - Applications of Actuarial Science
- MATH 420 - Applications of Actuarial Science II

Major Awards
- 2013, Outstanding Service Award, Department of Mathematics
- 2010, Student Led Award for Teaching Excellence, Texas A&M University
- 2008, Student Led Award for Teaching Excellence, Texas A&M University
- 2008, Outstanding Teaching Award, Department of Mathematics

Notable Pedagogical or Scholarly Activities
- Member of select group of faculty running pilot sections for core curriculum reassessment, Dec. 2014-Aug. 2015
- Author of new Applications of Actuarial Science II course, Math 420, Nov. 2013
- Coauthor (with Dr. Michael Stecher) of new Advance Spreadsheet Techniques course for actuarial science program, Nov. 2012
- Authoring and video developer for "Course Redesign for Math 1324," a grant funded by the Texas Higher Education Coordinating Board, 2007-2009
- Presenter at International Conference on Technology in Collegiate Mathematics (ICTCM). Title: "Creating Graded Videos Using Camtasia," March 14, 2009
- Chair of MATH 166 Curriculum Committee, 2006-2007
- Member of Finite Mathematics Textbook Search Committee, 2005-2006
Recent Synergistic or Major Service Activities

- Senior Academic Advisor, Department of Mathematics, June 2017-present
- Lead Academic Advisor for University Studies, Math for Business and Math for Pre-professionals, June 2017-present
- Lead Advisor for Actuarial Science Program, Department of Mathematics, Aug. 2012-present
- Member of Undergraduate Studies Committee, Department of Mathematics, 2012-present
- Member of Scholarship Committee, Department of Mathematics, 2013-present
- Member of College of Science Undergraduate Programs Committee, Jan. 2015-present
- Regents Scholars Mentor, Department of Mathematics, Jan. 2017-May 2017
- Member of the Faculty Senate, elected by the College of Science, Sept. 2013-Aug. 2016
- Member of the Academic Affairs Committee, a standing committee of the Faculty Senate, Sept. 2014-Aug. 2016
- Member of Academic Professional Track Committee, Department of Mathematics, 2012-2016
- Member of the College of Science Dean Search Advisory Committee, elected by the College of Science, April 2014-May 2015
- Member of the University Disciplinary Appeals Panel, appointed by the Texas A&M University President, Oct. 2013-Aug. 2015
- Member of the Workplace Climate and Diversity Committee, a standing committee of the Faculty Senate, Oct. 2013-Sept. 2014
Kamran Reihani
Instructional Assistant Professor

Education

- Ph.D in Mathematics, Tarbiat Modares University, 2005
- M.S. in Mathematics, Sharif University of Technology, 1998
- B.S. in Civil Engineering, Sharif University of Technology, 1995

In the Profession

- Instructional Assistant Professor, Texas A&M University, College Station Texas, August 2014 - present
- NTT Assistant Professor, Vanderbilt University, Nashville, Tennessee, August 2013 - August 2014
- Lecturer, Northern Arizona University, Flagstaff, Arizona, May 2012 - August 2013
- Assistant Professor, University of Kansas, Lawrence, Kansas, Aug. 2008 - May 2012
- Visiting Assistant Professor, Arizona State U., Tempe, Arizona, Aug. 2007 - July 2008
- Visiting Assistant Professor, NTNU, Trondheim, Norway, Jan. 2007 - June 2007
- Visiting Researcher, Max-Planck-Institut fur Mathematik, Germany, Sep. 2004 - Dec. 2004

Recent Courses Taught

- Honors Engineering Mathematics - I (Math 151H), Texas A&M University
- Mathematical Probability (MATH 411), Texas A&M University
- Advanced Calculus (MATH 409), Texas A&M University
- Advanced Engineering Mathematics (MATH 401), Texas A&M University
- Engineering Mathematics - II (MATH 152), Texas A&M University
- Differential Equations (MATH 308), Texas A&M University
- Engineering Mathematics - III (MATH 251), Texas A&M University
- Business Mathematics - I (MATH 141), Texas A&M University
- Accelerated Calculus - II (MATH 155B), Vanderbilt University
- Multivariable Calculus (MATH 175), Vanderbilt University
- Calculus - II (MAT137), Northern Arizona University
- Introduction to Linear Algebra (MAT316), Northern Arizona University
- Calculus - III (MAT238), Northern Arizona University
- Introduction to Analysis (MAT431), Northern Arizona University
- Calculus - I (MAT136), Northern Arizona University
- Finite Mathematics (MAT119), Northern Arizona University
- Elementary Linear Algebra (Math 290), University of Kansas
- Functional Analysis - I (Math 960), University of Kansas
- Functional Analysis - II (Math 961), University of Kansas
• Differential Equations (Math 220), University of Kansas
• Real Analysis and Measure Theory - I (Math 810), University of Kansas
• Vector Calculus (Math 223), University of Kansas
• Introduction to the Theory of Functions - II (Math 766), University of Kansas
• Introduction to the Theory of Functions - I (Math 765), University of Kansas
• Vector Calculus (Math 223), University of Kansas
• Elementary Linear Algebra (Math 290), University of Kansas
• Modern Differential Equations (MAT 275), Arizona State University
• Elementary Differential Equations (MAT 274), Arizona State University
• Functional Analysis (TMA 4230), NTNU, Trondheim, Norway
• Functional Analysis (MAT 4350), University of Oslo, Norway
• T.A. for Engineering Mathematics, Sharif University of Technology, Iran
• T.A. for Mathematical Analysis II, Sharif University of Technology, Iran

Major Awards

• 2012 - Travel grant from the Center for Teaching Excellence (CTE) of the University of Kansas to observe SCALE-UP courses at Clemson University.
• 2011 - Travel Grants from the Center for Pure and Applied Mathematics (CIMPA) in France, KU College of Liberal Arts and Sciences, and KU International Programs to participate and give a talk at the research school on Spectral Triples and their Applications in Bangkok, Thailand.
• 2009 - New Faculty General Research Fund (NFGRF) from the KU Center for Research (KUCR), University of Kansas.
• 2006 - Travel grant from SUP (Strategic University Programs) to give a talk at NTNU, Norway.
• 2005 - Research grant from SUP (Strategic University Programs) to give a talk at University of Oslo, Norway.
• 2004 - Travel grant from the Max-Planck-Institute fur Mathematik to attend the Workshop on Noncommutative Manifolds, SISSA, Trieste, Italy.
• 2004 - Research Fellowship, Max-Planck-Institut fur Mathematik, Bonn, Germany.
• 2004 - Full grant from ICTP for the Advanced School and Conference on Noncommutative Geometry, Aug 9-27
• 2002 - Full grant from the Ministry of Science, Research and Technology of Iran to conduct an 8-month complimentary PhD research period at the Department of Mathematics, University of Western Ontario, Canada.
• 2001 - Travel Grants from Centre de Recerca Matem\'atica (CRM) and the Ministry of Science, Research and Technology of Iran to attend the Summer School "Advanced course on group actions", Bellaterra, Spain.

Notable Pedagogical or Scholarly Activities

• Teaching Strategies to Improve Student Learning, Northern Arizona University, August 2012
• Faculty Annual Workshop: SCALE-UP, presented by Lisa Benson (Clemson) and Bob Beichner (North Carolina State) School of Engineering, University of Kansas, Jan. 2012
• Mathematics Department ambassador to CTE (Center for Teaching Excellence) at the University of Kansas (2008-2010)
Up to Five Selected Publications or Scholarly Work


Recent Synergistic or Major Service Activities

- Designing and Grading High School Math Contests, Texas A&M University
- Week in Reviews for MATH 152 (Engineering Mathematics II), Texas A&M University
- Organizing the AMUSE (Applied Mathematics Undergraduate Seminar), Texas A&M University
Mariya Vorobets
Instructional Assistant Professor

Education

• Ph.D. in Mathematics, Lviv National University, Ukraine, 2004
• M.S. in Mathematics, Lviv National University, Ukraine, 1996

In the Profession

• 2013–present: Texas A&M University, Instructional Assistant Professor
• 2009–2013: Texas A&M University, Senior Lecturer
• 2006–2009, Visiting Assistant Professor, Texas A&M University
• 2005–2006, Research Assistant, Texas A&M University
• 2001–2006, Assistant Professor, National University "Lviv Polytechnika"
• 1996–1998, Research Scholar, National University "Lviv Polytechnika"

Recent Courses Taught

• Business Mathematics II (MATH142)
• Engineering Mathematics I (MATH 151)
• Engineering Mathematics I (honors) (MATH 151H)
• Analytic Geometry and Calculus (MATH 171)
• Engineering Mathematics II (MATH 152)
• Engineering Mathematics II (honors) (MATH 152H)
• Engineering Mathematics III (MATH 251)
• Differential equations (MATH 308)
• Differential equations (MATH 308H)
• Linear Algebra (MATH 304)
• Advanced Engineering Mathematics (MATH 401)
• Partial Differential Equations (MATH 412)

Recent Synergistic or Major Service Activities

• MATH 152 Course Coordinator
• MATH 151 Week-in-Review
• MATH 152 Week-in-Review
• MATH 251 Week-in-Review
• MATH 308 Week-in-Review

Publications

• On the Bethe-Sommerfeld conjecture for periodic Maxwell operators (in preparation).
• Automata over a binary alphabet generating free groups of even rank (with B. Steinberg and Y. Vorobets), submitted to Internat. J. Algebra Comput.
• A series of finite automata defining free groups (with Y. Vorobets), Groups, Geometry, and Dynamics, to appear in 2010.
• On a free group of transformations defined by an automaton (with Y. Vorobets), Geom. Dedicata, 124 (2007), 237-249.
Jennifer G. Whitfield
Assistant Head for APT Affairs, Instructional Assistant Professor

Education

- Ph.D. in Curriculum and Instruction, Texas A&M University, 2017
- M.S. in Mathematics, Texas A&M University, 2000
- B.A. in Mathematics, Colorado College, 1993

In the Profession

- Jan 2017-present, Assistant Head for Academic Professional Track (APT) Faculty Affairs, Texas A&M Department of Mathematics
- Sept 2013-present, Instructional Assistant Professor, Texas A&M Department of Mathematics
- March 2011-present, aggieTEACH Program Director, Center for Math and Science Education, Texas A&M College of Science Dean's Office
- April 2010-August 2017, Personalized Precalculus Program Co-Director, Texas A&M Department of Mathematics
- Aug 2001-Aug 2013, Senior Lecturer, Texas A&M Department of Mathematics
- Aug 1999-May 2001, High School Math Instructor, A&M Consolidated High School, College Station, TX
- Aug 1993-July 1995, Middle School Math Instructor, Jane Long Middle School, Bryan, TX

Recent Courses Taught

- Department of Mathematics
  - Math 645 - A Survey of Mathematical Problems I
  - Math 646 - A Survey of Mathematical Problems II
  - Math 151 - Engineering Mathematics I

- College of Science
  - SCEN 201 - Self-Directed Experiences with Adolescents

- Department of Teaching, Learning, and Culture
  - TEFB 406 - Science in the Middle and Secondary School
  - TEFB 407 - Mathematics in the Middle and Senior School

Major Awards

- May 2015, Grant Recipient Award, Texas A&M Department of Teaching, Learning, and Culture
- February 2014, Texas A&M Chancellor's Academy of Teacher Educators
- July 2013, Center for Research, Evaluation, and Advancement of Teacher Education (CREATE) Award for Exemplary Faculty Practice
- 2013, TAMU Fish Camp Namesake
- 2012, College of Education and Human Development John E. Trott, Jr. Award in Student Recruiting
- Fall 2009, Student Led Award for Teaching Excellence (SLATE)
CV for Jennifer G. Whitfield

- 2009, Department of Mathematics Outstanding Service Award
- 2005, Department of Mathematics Outstanding Teaching Award

Notable Pedagogical or Scholarly Activities

Federal Grant Awards

State Grant Awards
- Whitfield, J. (PI), Scott, T. (Co-PI), The University of Texas (Sponsor), TAMU College Station Math Regional Collaborative, $110,982, May 2017 July 2018.
- Whitfield, J. (PI), Scott, T. (Co-PI), The University of Texas (Sponsor), TAMU College Station Math Regional Collaborative, $99,909, May 2016 July 2017.
- Scott, T (PI), Whitfield (Co-PI) Greater Texas Foundation, aggieTEACH Program Expansion and Improvement Project, $150,000, June 2012 June 2015
- Scott, T (PI), Whitfield, J. (Director) Texas Instruments Foundation, Challenge Grant for aggieTEACH Project, $150,000, August 2011-August 2013.
- Allen, G.D., (PI), Austin, A., Axelson, H., Bollinger, K., & Whitfield, J., Texas Higher Education Coordinating Board, Teacher Quality Type A (Pre-Calculus), $300,000, January 2004
University/Local

- Whitfield, J. (PI), Texas A&M University, Innovative Pedagogy Grant Program, $10,000, September 2017 June 2018.
- Whitfield, J. (PI), Parker, D. (Co-PI), Texas A&M University, College of Education and Human Development Global Education Programs, $12,000, Spring 2017.
- Pilant, M. (PI), Furuta, R. (Co-PI), Whitfield, J. (Co-PI), Wu, B. (Co-PI), Texas A&M University Tier-One Program Grant (TOP), Math Virtual Learning Center (MVLC), $300,000, September 2016 August 2019.

Up to Five Selected Publications or Scholarly Works


Recent Synergistic or Major Service Activities

- Council for Teacher Education (CTE), Fall 2017 (chair)
- Math Placement Exam Administrator, Fall 2015, Spring 2016, Summer 2016, Summer 2017
- Invited guest for TAMU Football Game, representing faculty efforts for STEM Education, October 2015
- Math Placement Exam migration to WebAssign, Summer 2015
- TAMU POSSE Foundation, Houston branch summer emersion experience, Summer 2015
- University Supervisor for Student Teaching Paired Placement Model, Spring 2015
- TAMU POSSE Scholarship selection for Atlanta and Houston POSSE, December 2014
- TAMU POSSE Foundation, Houston branch summer emersion experience, Summer 2014
- Center for Research Evaluation and Advancement of Teacher Education (CREATE) Exceptional Teacher Candidate Review Committee, May 2014
- Brazos Valley Cooperative Teacher Education Center, Secretary, 2013-2016
- Aggie Educator Network College of Science Representative, 2012-2016
- TAMU Mathematics Department Math Placement Exam Improvement Committee, 2013-present
- TAMU POSSE Foundation, Houston branch, summer emersion experience, summer 2013
- Association of Public Land Grant Universities (APLU), Science & Mathematics Teacher
Imperative (SMTI), East Central Texas Mathematics Teacher Partnership Team Leader, 2012-present
• SEE Math Camp Instructor, 2013
• Association of Public Land Grant Universities (APLU) Courseware Project in Precalculus, 2013
• STEM Teacher Education Council Member, 2011-2013
• Future Aggie Mathematics Educators (FAME) Sponsor, 2011-2015
Sinjini Sengupta
Senior Lecturer

Education

- Ph.D. in Physics, Florida State University, 2006
- M.Sc. in Physics, Jadavpur University, India, 2007
- B.Sc. in Physics, Jadavpur University, India, 2005

In the Profession

- 2017- present, Senior Lecturer, Dept. of Mathematics, Texas A&M
- 2012-2017, Lecturer, Dept. of Mathematics, Texas A&M
- 2009-2012, Assistant Research Scientist, Dept. of Physics, Texas A&M
- 2006-2009, Research Associate, Dept. of Physics, University of Minnesota
- 2000-2006, Research Assistant, Dept. of Physics, Florida State University
- 1999-2000, Teaching Assistant, Dept. of Physics, Florida State University
- 1998-1999: Software developer, Dept. of Physics, IIT-Delhi, India

Recent Courses Taught

- Math 131 (Math concepts: Calculus)
- Math 141 (Business Math I)
- Math 142 (Business Math II)
- Math 150 (Pre-Calculus for Engineers)
- Math 151 (Calculus I for Engineers)
- Math 152 (Calculus II for Engineers)
- Math 167 (Explorations in Mathematics)
- Math 251 (Calculus III for Engineers)
- Math 396 (Communications in Mathematics)

Notable Pedagogical or Scholarly Activities

- 2017: Working on creating an online Calculus course (Math 151)
- 2016-2017: Worked on launching and implementing the Peer-Led-Team-Learning (PLTL) program to ensure student success
- 2015: $2000 equipment grant from Instructional Technology Services, Texas A&M, for "Flipping your Course". Publications or Scholarly Works

Recent Synergistic or Major Service Activities
• 2017, Fall: Course coordinator, Math 152
• 2017, Spring: Co-organizer, Math Fair
• 2016, Fall: SI, Math 151
• 2016, Spring: Course coordinator, Week in Review, Math 131
• 2015, Spring: Week in Review, Math 152
• 2014, Fall: Week in Review, Math 151
• 2014, Spring: Week in Review, Math 151
• 2013, Fall: Week in Review, Math 141
Jennifer Lewis
Senior Lecturer

Education

• M.S. in Mathematics, Ohio State University, 1979
• B.S. in Mathematics, Ohio State University, 1975

In the Profession

• 2016-present, Senior Lecturer, Texas A&M
• 2000-2016, Lecturer, Texas A&M

Recent Courses Taught

• Math 131 Mathematical Concepts -- Calculus
• Math 141 Finite Mathematics
• Math 251 Engineering Mathematics III
• Math151, Calculus I
• Math152, Calculus II

Notable Pedagogical or Scholarly Activities

• Course Coordinator and Week in Review for Math 141
• Course Coordinator and Week in Review for Math 131
• Week in Review for Math 251
Erin Fry  
Lecturer

Education

- M.S. Mathematics, University of Illinois at Urbana-Champaign, August 1990
- B.S. Mathematics Education, Millikin University, Decatur IL, May 1988

In the Profession

- 2012-present, Lecturer, Texas A&M

Recent Courses Taught

Math 150 Functions, Trigonometry, and Linear Systems

Notable Pedagogical or Scholarly Activities

- 2017, Implementation of PLTL in Math 150
- 2015- Present, Implementation of Video Lessons in Math 150
- 2015-2016, Implementation of Learning Catalytics in Math 150

Up to Five Selected Publications or Scholarly Works


Recent Synergistic or Major Service Activities

- 2017 Math 150 Textbook Committee
- 2016-present, Math Fair Planning Committee
- 2015 Pilot Core Curriculum Recertification Process
Maya Johnson
Instructional Assistant Professor

Education

- Ph.D. in Mathematics, Texas A&M, 2015
- M.S. in Mathematics, Texas A&M, 2008
- B.S. in Mathematics, Lincoln University, 2006

In the Profession

- 2016-present, Lecturer, Texas A&M
- 2015-2016, Post Doctoral Fellow, Statistics Department, Texas A&M

Recent Courses Taught

- Math 141-Finite Mathematics
- Math 142-Business Calculus
- Math 131-Mathematical Concepts-Calculus

Major Awards

- 2008, IGERT Fellow
- 2007, LSAMP BTD Fellow

Recent Synergistic or Major Service Activities

- Lead a Math Circle
- Member of the Mathematics and Statistics Fair Planning Committee
- Assisted at the Math booth for Physics Fest
Sang Rae Lee
Lecturer

Education

- Ph. D. in Mathematics, The University of Oklahoma, 2012
- M.S. in Mathematics, Sogang University, Korea, 2004
- B.S. in Mathematics, Sogang University, Korea, 2001

In the Profession

- 2016-present, Lecturer, Texas A&M
- 2013-2016, Visiting Assistant Professor, Texas A&M
- 2012-2013, Postdoc, Technion, Israel

Recent Courses Taught

- Math 151: Engineering Mathematics
- Math 304: Linear Algebra
- Math 308: Differential Equations
- Math 396: Communications in Mathematics

Publication

- The R-infinity property for Houghton’s groups (with J. H. Jo and J. B. Lee), Algebra and Discrete Mathematics Volume 23 (2017)

Service Activities

- Problem Committee member for 25th Math Contest, 2017
- SI Session for Math 151, 2016
- Volunteered at Derivative Bee, 2016
- Volunteered at Integral Bee, 2015
Benjamin Lynch  
Lecturer  

Education  
- Ph.D. in Mathematics, University of Tennessee, 2010  
- B.S. in Mathematics, Cedarville University, 2003  

In the Profession  
- 2015-present, Lecturer, Texas A&M  
- 2011-2015, Postdoctoral Research Associate, North Carolina State University  

Recent Courses Taught  
- Math 150: Functions, Trigonometry, Linear Systems  
- Math 151: Engineering Mathematics I  
- Math 152: Engineering Mathematics II  
- Math 308: Differential Equations  

Notable Pedagogical or Scholarly Activities  
- Developing a course based on a Calculus Video Game  
- Committee Chair for choosing new Math 150 textbook  

Up to Five Selected Publications or Scholarly Works  

Recent Synergistic or Major Service Activities  
- Math 150 Course Coordinator  
- Math 150 Week-in-Review  
- Retest and Makeup Exam Coordinator
Patrick Orchard
Lecturer

Education

- M.S. in Mathematics, Texas A&M University, 2015
- B.S. in Mathematics, University of Oklahoma, 2011

In the Profession

- 2015-present, Lecturer, Texas A&M

Recent Courses Taught

MATH 140: Mathematics for Business and Social Sciences
MATH 141: Finite Mathematics
MATH 142: Business Calculus

Major Awards

Notable Pedagogical or Scholarly Activities

Up to Five Selected Publications or Scholarly Works

Recent Synergistic or Major Service Activities

- Week-In-Review for MATH 141: Fall 2016
- Week-In-Review for MATH 142: Fall 2015, Spring 2016, Spring 2017
- Volunteered for Math Fair 2017
- Proctored Make up Exams
Rosanna Pearlstein
Lecturer

Education

- Ph.D. in Mathematics, University of Massachusetts at Amherst, 1998
- M.S. in Mathematics, University of Massachusetts at Amherst, 1994
- Laurea Matematica Universita' degli Studi di Napoli Federico II, 1992

In the Profession

- 2013-present, Lecturer, Texas A&M University
- 2006-2013, Instructor, Michigan State University
- 2005-2006, Lecturer, University of North Carolina at Chapel Hill
- 1998-2004, Visiting Assistant Professor at UCSC, Lecturer at UCI

Recent Courses Taught

Calculus I, II and III for Engineering: Math 151, 152, 251.

Up to Five Selected Publications or Scholarly Works

- Ph.D. thesis, UMASS Amherst

Recent Synergistic or Major Service Activities

- Week in Review for Math 151, 141, Calculus I and Business Math
Marco Roque-Sol, Department of Mathematics, TAMU

Office Blocker 211A
Fax +1979 862 4190
Email roquesol <at> math.tamu.edu
URL http://www.math.tamu.edu/~roquesol

http://www.math.tamu.edu/directory/formalpg.php...
Todd Schrader
Lecturer

Education
• M.S. in Mathematics, Texas A&M University, 2016
• B.S. in Mathematics, Texas A&M University, 2013

In the Profession
• 2017-present, Lecturer, Texas A&M
• 2016, Lecturer, Blinn College

Recent Courses Taught
• Math for Business and Social Sciences - Math 140
• Engineering Math I - Math 151
• Engineering Math II - Math 152

Recent Synergistic or Major Service Activities
• 2017-present, Aggie Actuaries Faculty Advisor
• 2017 Integral Bee
Kun Wang
Lecturer

Education

- Ph.D. in Mathematics, University of Puerto Rico, 2014
- M.S. in Mathematics, Xiamen University, P.R.China, 2008
- B.S. in Information and Computational Science, Xiamen University, P.R.China, 2006

In the Profession

- 2017/08-present, Lecturer, Texas A&M
- 2015/08-2017/07, Visiting Assistant Professor, Texas A&M
- 2014/10-2015/07, Postdoctoral, University of Toronto
- 2011/08-2014/06, Teaching Assistant, University of Puerto Rico

Recent Courses Taught

- Engineering Mathematics I (MATH 151), Fall 2017
- Functions (MATH 150), Fall 2017
- Engineering Mathematics II (MATH 152), Spring 2017
- Functions (MATH 150), Fall 2016
- Engineering Mathematics II (MATH 152), Spring 2016

Major Awards

- 2012-2013, Programa Piloto de Practica en Docencia Universitaria. This annual award is presented by the University of Puerto Rico for doctoral students excellence in both teaching and research potential.
- 2011-2012, Scholarship of Becas por Merito Academico y Ejecutorias Excepcionales. This annual award is presented by the University of Puerto Rico for doctoral students in good standing.

Notable Pedagogical or Scholarly Activities

- Nov 14-18, 2016, I attended the conference Computation of K-theory and classification of C*-algebras in the University of Hawaii, Monoa.
- Nov 7, 2016, I gave a talk in the Working seminar in Groups, Dynamics, and Operator algebras in Texas A&M University.
- Sep 14, 2016, I gave a talk in the Noncommutative Geometry seminar in Texas A&M University.
- July 14-20, 2016, I visited Xiamen University and gave a talk On Invariance of classification of C*-Algebras.
- July 4-8, 2016, I attended International Conference on Structure of C* and gave a 50 minutes talk On the Cuntz Semi-group for non-simple C*-algebras.
June 1-12, 2015, I attended RMMC Summer School and CBMS Conference and gave a 50 minutes talk in the University of Wyoming.

January 5, 2015, I visited Hebei Normal University and gave a 50 minutes talk.

October 20-24, 2015, I attended the Dynamics and C*-Algebras: Amenability and Soficity workshop in Banff and gave a 50 minutes talk entitled On the bound of the C* exponential length and the classification invariants of C*-algebras.

October 11-12, 2014, I attended The 12th East Coast Operator Algebras Symposium held in the Fields Institute.

July 2013, I attended the conference C*-algebras, Structures, and Classification in Changchun, China and gave a 50 minutes talk entitled Equivalence of Two Invariants of C*$algebras with the Ideal Property.

In June 2013, I attended the China-Japan Conference on Noncommutative Geometry and K-Theory in Changchun, China.

March, 2013, I gave a 20 minutes talk in the XXVIII SIDIM conference held in San Juan, Puerto Rico.

Up to Five Selected Publications or Scholarly Works

• A complete classification of limits of splitting interval algebras with the ideal property, J. Ramanujan Math. Soc. 27, No.3 (2012) 305-354.
• About the bound of the C* exponential length, Canadian Mathematical Bulletin 57(2014), no. 4, 853-869.
• Equivalence of two Invariants of C*-algebras with the ideal property, accepted by Journal of Noncommutative Geometry.
• About the Cuntz Comparison from non-simple C*-algebras, https://arxiv.org/pdf/1709.04597.pdf, preprint

Recent Synergistic or Major Service Activities

• 2016/09 - Now, I volunteered to teach a problem solving session in the Math Circle of Texas A&M University (http://mathcircle.tamu.edu/).
• On March 25, 2017, I volunteered for helping the Texas A&M Math Fair activity.
• March 2017, I volunteered for helping organizing the 2017 Integral Bee in Texas A&M University.
• On Feb 4, 2017, I volunteered for presenting "Penny Problems" for beginner group in the Math Circle of Texas A&M University.
• 2015/09 -- 2016/05, I helped Prof. Guoliang Yu to organize a math club at College Station.
• Feb. 2016, I volunteered for helping organizing the 2016 Integral Bee in Texas A&M University.
• Feb. 7, 2016, I volunteered for helping organize Texas A&M Regional Science Bowl.