Do Math, See the World

Boko’s Diner Wins First Place

Student Activities

New Faculty

Student Award Winners
Did you know?
In Fall 2017, the Department of Mathematics taught classes in 19 buildings across the San Marcos and Round Rock campuses.

This information is available in alternate format upon request from the Office of Disability Services.

Teacher’s Corner: Create an Ellipse by Folding

1) Cut a circle out of paper that is easy to fold, such as wax paper.
2) Mark a dot anywhere on the paper.
3) Fold the paper so that the circumference of the circle touches the point. Press the fold.
4) Open the circle back up. Continue this process for multiple points on the circumference.
5) Have your students experiment with the dot outside the circle and on the circumference of the circle.
Greetings from the Department of Mathematics at Texas State University! 2017 was a busy year for the Department. For the 2016-2017 school year, we graduated 71 students with bachelor’s degrees, 12 with master’s degrees and 4 with Ph.D’s. We now have a total of 123 employees – faculty, staff and student workers who provided a total of 56,294 student contact hours for 21,574 students over the 2016-2017 school year. We are continuing to hire new faculty – both tenure-track and lecturers – to keep up with the demand. We are also creating more computer classrooms to allow us to implement more technology.

We now offer undergraduate degrees in Mathematics and Applied Mathematics, with or without teacher certification; master’s degrees in Mathematics with concentrations in Statistics and Applied Mathematics, Mathematics Education, and a Master’s of Teacher Education; as well as a doctoral degree in Mathematics Education.

If you drop by Derrick Hall in the evening or on a Friday afternoon, don’t expect it to be quiet and empty. It’s busier than ever with seminars for and by both students and faculty as well as committee meetings as we implement plans for change. The Problem Solver’s group, which involves students and faculty at all levels, meets on Wednesdays at 5 PM, followed by the Algebra seminar on Thursday afternoons. We then move on to a double-booking of the Differential Equations and Applied Mathematics Seminar and the Topology Seminar at 11 on Friday, followed by Talk Math 2 Me, which is a seminar for students, by students. Next come two more research seminars, one each in Discrete Mathematics and Mathematics Education, and every other week we cap the day off with a colloquium talk. Mix in regular seminars in teaching statistics along with a variety of teaching forums and there is something for everyone. Undergraduate and graduate students are welcome and encouraged to attend any of our weekly seminars and colloquium. For students and faculty looking to experience mathematics outside the classroom, we host an active Math Club and a Pi Mu Epsilon chapter, as well as a Putnam competition group.

Our faculty and students are taking advantage of this rich environment to produce high quality research that they are being invited to present across the nation and internationally. To learn more about the exciting research and see some pictures taken “on location” at conferences, please see pages 6 and 7 in this newsletter and check out our web page www.math.txstate.edu.

Grant Awarded:

Dr. Daniella Ferrero was awarded a second grant by the Mathematical Association of America (MAA) -Tensor Program for Women and Mathematics to continue Women Doing Math (http://womendoingmath.wp.txstate.edu). Women Doing Math (WDM) is a year-long program aimed at encouraging female participation in mathematics. Each month, WDM showcases the work and career of a prominent female mathematician who, at the end of the month, visits campus to deliver an undergraduate seminar and participate in mentoring events for graduate and undergraduate students.

Puzzle:

Students in a class are seated evenly around a circle. They count-off. Student number 15 is directly opposite student number 49. How many students are seated in the circle?
Department News

Math Department Wins Homecoming Decorations Award

In keeping with the theme *Throwback to the 50s/60s Era* to celebrate the 50th Anniversary of Soap Box Derby, the Math Office was turned into “Boko’s Diner.” The decorations, designed and executed by staff members Katie Alonzo, Amanda Garza, and Illona Weber and students Emily Leyendecker, Dallas Rebber, Danny Hernandez, Courtney Boyd, Payton Blisard and Yadira Huerta, won the first place for Campus Department Spirit for Homecoming 2017.

Graduate Open House a Success

Thirty prospective graduate students and four visitors attended the 2017 Mathematics Department Graduate Open House on November 10, 2017. Overall, 121 people attended including current graduate students, faculty and staff. Twenty faculty and graduate students presented posters in the Research Corner and thirteen students entered the Math in the Picture contest (see winners, page 12).

Holiday Party and Award Winners

The Department of Mathematics continued its award-winning Boko’s Diner theme at its annual holiday party and faculty awards ceremony. A 50’s diner-style lunch of burgers and hot dogs was provided while faculty and staff brought non-perishable donations for the local food bank.

Award winners for teaching were: Graduate: Christina Koehne, Lecturer: Timothy Chase, Faculty: Robert Sigley and Eugene Curtain. Faculty winners for Research/Scholarly were: Chunmei Wang and Jessica Bishop and winners for Service were Thersa Westbrook and Alejandra Sorto.
Student Activities

Under the leadership of Dr. Lucas Rusnak and Dr. Piyush Shroff, Pi Mu Epsilon Honor Society and the Math Club began combining forces about four years ago to support several events on campus. This past fall, they held “Corn on the Quad” for the third year. This event sold out rapidly the first day, prompting a department-wide request for more corn for day two. The proceeds went towards funding students’ attendance to the national MAA conference.

Another co-sponsored event is the Halloween Party, intended to bring faculty and students together in a social environment. Other events include the Calculus Bee, the Math Game Party, Pi Day, and the Putnam Competition.

On September 9-10, 2017 Dr. Rusnak and Dr. Shroff, along with Dr. Nathan Reff from SUNY Brockport, co-organized a special session on ‘Generalizations of Graph Theory’ at AMS Fall Central Sectional Meeting held at University of North Texas, in Denton. Two of our faculty, Dr. William Grilliette and Ms. Ellen Robinson, gave talks in this session. Undergraduate students Hannah Brown, Amanda Cagle, Jordan Goble, Nick Montana, Ryan Rodriguez, Isaiah Silaski, and Diana Vu attended the conference.

A little closer to campus, undergraduate students Hannah Brown, Kevin Flowers, Gustavo Flores, Rodrigo Lozano, and Josephine Reyes attended the Texas Undergraduate Mathematics Conference (TUMC) held at University of the Incarnate World, San Antonio, Texas on Oct 20-21, 2017.

The third student club in the Department of Mathematics is the Texas State Chapter of the Association for Women in Mathematics (AWM), sponsored by Dr. Daniela Ferrero. Students who join this club receive free AWM membership. In 2017, the Department offered a Spring Break Research Experience for Undergraduates enrolled at Texas State University. Funding came from a MAA-SUMMA grant awarded to Dr. Ferrero, who lead students Taylor Baumgard, Marcus Cisneros, Sarah Gibbons, Enrique Gomez-Leos, and Nick Montana through their first research experience. Their research findings have been showcased in the Autumn Newsletter of the American Institute of Mathematics and presented at the Joint Math Meetings 2018 in San Diego. Due to the success of this experience, the grant was renewed for an additional year, and in 2018 the Spring Research Experience has been extended to one full semester.
Our faculty and graduate students are not confined to the Texas State campus, or even the boundaries of the United States. That’s right - teaching math can provide opportunities to see the world!

Our department chair, Dr. Susan Morey, has been a very busy traveler. She visited Tribhuvan University in Catmandu, Nepal, in October, 2016 where she observed cows grazing outside the mathematics building. Then, in May 2017, she was part of an international working group in Oaxaca, Mexico. Wisely, in July, 2017, she escaped the Texas heat and headed north to Montreal, Canada, as a session organizer then returned to Canada in December, 2017, (perhaps that’s a better time to head south) for the Canadian Mathematical Society’s winter meeting in Toronto.

Another faculty who visited Canada was Dr. Shuying Sun who presented at the GLBIO/CCBC: Great Lakes Bioinformatics and the Canadian Computational Biology Conference 2016 in May 2016, in Toronto.

In July 2015, Dr. Alexander White presented and sponsored a workshop (in Spanish) at IASE Satellite in Rio De Janerio.

In July, 2016, a large group of faculty members and graduate students crossed the pond to attend the International Congress in Mathematics Education, ICME13, in Hamburg, Germany. Faculty attending included H. Warshauer, S. Strickland, R. Sigley, J. Czocher, A. Sorto, A. White, and Z. Jiang. Former and current graduate students attending included: C. Koehne, B. Webre, C. Starkey, C. Herrera, S. Smith, L. Hickman, Y. Melnikova. Dr. Sigley was actually not yet a faculty member at Texas State at the time but was so impressed by the support for the graduate students attending that he applied to be a Bobcat faculty member, and now he is.

In July, 2017, Dr. Alejada Educativa (COME) in Hong Kong again to lead a team.
Faculty and Students of the World

Andro Sorto was the Keynote speaker for Congreso de Matemática Honduras. In the same month, Dr. Hiroko Warshauer took to the helm of four middle school students to the 20th PMWC competition in...
Welcome New Professors

Tenure Track

Lew, Kristen
Assistant Professor Kristen Lew, from East Windsor, New Jersey, received her Ph.D. in Mathematics Education from Rutgers University. Her research interests consider how undergraduate students write proofs. In her spare time, she likes to cook, hike and travel.

Lee, Hwa Young
A native of Seoul, Korea, Assistant Professor Hwa Young Lee earned her Ph.D. in Mathematics at The University of Georgia. Her research interests are related to student thinking and how teachers can support students’ mathematical thinking. She enjoys doing jigsaw puzzles and water-related activities.

Lecturers

Acosta, Jorge
Originally from El Paso, Texas, Jorge Acosta earned his Ph.D. in Applied Mathematics from Rice University. His research interests include Higher Teichmuller Theory and Surface Group Representations. Outside of academia, he enjoys chess and other board games.

Barrera, Roberto
Roberto Barrera of Austin Texas earned his Ph.D. from Texas A&M University then returned here to his alma mater as a lecturer. His mathematical interests are in combinatorics and commutative algebra while he spends his spare time going to the movies, skateboarding and running.

Chakraborty, Pritha
A native of Kolkata, West Bengal, India, Pritha Chakraborty received her Ph.D. in Mathematics from Texas Tech University. Her research interests include complex analysis, extremal problems in Bergman spaces, complex-valued analytic function spaces and their applications in operator theory and potential theory. Outside of mathematics, she enjoys painting and photography.

Cheshire, Dan
Originally from Virginia Beach, Virginia, Dan Cheshire earned his M.S. in pure mathematics then his Ph.D. in Mathematics Education at Texas State University. Off-campus, he is building his own home, studying Aikido and enjoying time with his new daughter.

Corrigan, Sean
New lecturer Sean Corrigan of St. Louis, Missouri, received his Ph.D. in Mathematics from Saint Louis University. His research interests are algebraic and differential topology, specifically in regards to smooth orbifolds. Outside of mathematics, he likes to play the guitar and drums as well as cook.

Hardison, Hamilton
New lecturer Hamilton Hardison from Macon, Georgia, received his Ph.D. from the University of Georgia in Mathematics Education. He has interests in how students construct quantities and how these initial constructs change with time. In his spare time, he enjoys anything dealing with water – swimming, fishing, kayaking.

Hashmi, Bahaudin
A native of Lahore, Pakistan, Bahaudin Hashmi received his Ph.D. in Applied Mathematics from Colorado State University. His research interests involve the pattern formation of nonlinear partial differential equations. Away from campus, he enjoys cricket, running, hiking and swimming.
**Rasche, Alexander**

From San Marcos, Alexander Rasche earned his B.S. in Mathematics and Physics then his Ph.D in Mathematics Education at Texas State University. He enjoys spending time outdoors with his wife and two children and also demonstrating Viking-age fighting.

**Oeda-Ruiz, Ivan**

New lecturer Ivan Oeda-Ruiz, a native of Puerto Rico, received his Ph.D. in Mathematics from The University of Texas at Arlington. His research interest is numerical linear algebra. He has been recognized for his work with the Society for Advancement of Chicanos and Native Americans in Science to establish a chapter at The University of Texas at Arlington. In his spare time, he plays the cuatro, dances to Latin music and plays video games competitively.

**Robinson, Ellen**

Ellen Robinson of Seabrook, Texas, received her B.S. and M. S. in Mathematics at Texas State University before accepting a position as a lecturer. Her research interests are in graph theory and combinatorics. In her spare time, she can be found playing competitive billiards.

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**Recently Retired Faculty:**

Dr. Nathaniel Dean, January 2017
Dr. John Edgell, May 2017
Dr. Zhonghong Jiang, May 2017

**Recently Tenured Faculty:**

Dr. Shuying Sun - Associate Professor
Dr. Ray Treinen - Associate Professor

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**Blue Ribbon Winner**

How many of us can say we won a blue ribbon at a county fair? Lecturer Dr. Elizabeth Balmer can. She won for origami - the art of paper folding. She began January 2008 by folding the pages on her Origami Page-A-Day calendar while a student at Washington State where she and other origami-oriented students decorated the student lounge, math office and tutoring center, just as she has decorated the math department here at Texas State.

She fell in love with modular origami after seeing a book by Tomoko Fuse. She has expanded her origami abilities through books of patterns, folding from 3-piece triangular boxes to 120-piece spheres the size of small soccer balls.

Her folding at Bobcat Days has drawn extra visitors who then stayed to learn about the math program. Last March, she gave her first workshop for the math club. This past fall at the New Braunfels Science Fair, she had young students lined up to learn how to fold index-card jumping frogs, a task made more complicated due to the need to find index cards with an adequate spring constant.
Math Department Award Winners -- Spring 2017

Undergraduate Recognition for Academic Achievement
This award is presented to undergraduate mathematics majors who have completed at least 30 hours of college level course work at Texas State and have a Texas State grade point average of at least 3.00 but less than 3.25.

Elisha D. Aldana
Andrew Arroyo
Ashley M. Briceno
Alexander E. Bush
Amanda I. Cagle
Alyssa L. Campos
Chaz O. Chism
Robert C. Espinoza
Alexandra L. Farrar
Eamonn F. Kent
Gene Kim
Nicholas B. Montefusco
Rebekah G. Murrell
Hailey D. Pardy
Jason H. Pham
Leonel Ponce
Brittany Rister
Adrian B. Smith
Mykaela C. Steinburg
Rylee M. Taylor
Ryan J. Zamora

Undergraduate Recognition for Academic Distinction
This award is presented to undergraduate mathematics majors who have completed at least 30 hours of college level course work at Texas State and have a Texas State grade point average of at least 3.25 but less than 3.6.

Taylor B. Baumgard
Hannah M. Brown
Deacon L. Coldren
Ashraf F. G. Demian
Haley K. Entingh
Leah R. Erenwert
Alfredo Garcia
Elizabeth A. Geisinger
Enrique A. Gomez-Leos
Blake B. Hillier
Traci L. Hollister
Kendall P. Homoky
Rebecca L. Kovar
Osvaldo Marquez Rubio
Nick D. Montana
Timmy A. Nguyen
Sanora D. Owens
Joseph G. Powell
Josephine E. Reynes
Jose M. Rocha
Gisell Salinas
Benjamin D. Schneider
Kiley L. Smith
Taylor J. Soliz
Evan S. Spake
Nathan E. Tropiano
Brianne Tufuga
Sierra K. Turney
Trinity N. Vassberg
Diana H. Vu
Madeleine J. Werran

Undergraduate Recognition for Academic Excellence
This award is presented to undergraduate mathematics majors who have completed at least 30 hours of college level course work at Texas State and have a Texas State grade point average of at least 3.6.

Undergraduate Recognition for Academic Distinction
This award is presented to undergraduate mathematics majors who have completed at least 30 hours of college level course work at Texas State and have a Texas State grade point average of at least 3.00 but less than 3.25.

Lora E. Blanco
Sedric L. Bostic
James Brooks
Andrew Byram
Yesenia Cardoza
Keagan L. Dennis
James D. Douthitt
Zach C. Drogosch
Michael A. Flores
Lino R. Guajardo
Carissa J. Harris
Thomas R. Hawthorn
James A. Hazzard
Paul Hernandez
Katelyn R. Klassen
Madison M. Kuyawa
Lindsey B. Malchoff
Taylor P. McGee
Angela L. Mitchum
Ashley A. Myer
Amber J. O’Donnell
Ryan L. Pescaia
Kelly Poore
James Rehler
Laura M. Rice
Ethan R. Roberts
Sharisse A. Robinson
Courtney A. Sanders
Miriam M. Sanders
Scott A. Shive
Alyssa C. Smith
Hailey M. Stinieman

Graduate Recognition for Academic Excellence
This award is presented to graduate mathematics majors at the Master’s level who have completed at least 15 hours of 5000+ level mathematics courses at Texas State and have a Texas State grade point average of at least 3.75.

Richard J. Clancy
Terra Hyde
Charles Reich
Ellen B. Robinson
Martin T. Schmidt
Joshua L. Trejo
Mario Yepes Lopez

Graduate Recognition for Academic Excellence
This award is presented to graduate mathematics majors at the Ph.D. level who have completed at least 36 hours of 7000 level mathematics courses at Texas State and have a Texas State grade point average of at least 3.75.

Nichole A. Armand
Sonalee Bhattacharyya
Daniel C. Cheshire
Xiaowen Cui
Joshua B. Fagan
Zachariah B. Hurdle
Alexander N. Rasche
Alana A. Rosenwasser
Teresa L. Salazar
Joni J. Schneider
Zhaochen Song
Monica J. Sustaita
Brittany A. Webre
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Monica J. Sustaita
Brittany A. Webre
Joshua B. Wilkerson
Give back -- Support the Department of Mathematics

Contributions to our scholarship funds are always welcome. As Texas State University and the Department of Mathematics grow, more and more students rely on your generous gifts to support their education. Please consider giving support to our majors in one of these scholarship funds.

_____ Department of Mathematics Discretionary Fund  
_____ Mathworks Fund  
_____ Robert and Brita Northcutt Scholarship Fund – awarded to Texas State student majoring in mathematics with Texas State GPA of at least 3.0 on at least 30 hours of coursework at Texas State.

_____ Lynn H. Tulloch Math Scholarship Fund – awarded to full time Texas State student majoring in mathematics and pursuing teacher certification. Preference should be given to athletes. The student should have a Texas State GPA of at least 3.0 on at least 30 hours of coursework at Texas State.

To contribute, mark the scholarship fund you wish to donate to then complete the form below:

Name: ____________________________________________________________________________________________
Address: _____________________________________________________________________________________________
City: ________________________________________________ State: ________________ ZIP: ____________________
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Email: ____________________________________________________________________________________________
Signature: _________________________________________________________________________________________
Check Number: _________________________________ Amount: ___________________________________________

Please return to
Donor Services
JCK 480
601 University Drive
San Marcos, Texas  78666

Alumni Connections
We’d like to hear from you -- our treasured alumni! We’ve made it easy for you to reconnect with Texas State University and the Department of Mathematics. Go to the website below and register your information so you’ll be able to stay connected with all the happenings here in San Marcos.

www.math.txstate.edu/resources/alumni-connections.html

Connect on Twitter: @TxEStateMath
Connect on Facebook! Search for Texas State University: Department of Mathematics
Peoples' Choice
Megan Fairchild & Esther Conrad
Texas State University Graduate Students

Math in the Picture Contest Winners 2017

Judges' Choice
Joni Lindsey
Texas State University Graduate Student

Texas State University
Department of Mathematics
601 University Drive
San Marcos, Texas 78666-4684

Return Service Requested