



Fall 2013

MAXIMA: News and Highlights from the Department of Mathematical Sciences

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From the Chair

This is a very exciting time for science at UTEP as we welcome our new Dean of the College of Science Dr. Robert A. Kirken. Dr. Kirken's leadership will be a huge help for the Department of Mathematical Sciences to achieve excellence in research and teaching in accordance with UTEP's goal to become the first national research university with a 21st century student demographic.

I am very pleased with our latest accomplishments and continuous growth. The Department is very active in research, with the last five years yielding nearly 350 peer-reviewed publications and \$15 million in grants. Our undergraduate program enrollment increased from 152 to 278 majors during the last five years, and the number of undergraduate degrees awarded has increased from 33 to 46 in the same period; our faculty have consistently received prestigious awards in teaching, scholarship, and grantsmanship.

Our faculty have also been very active in leadership and service to the discipline. In addition to the story in this issue on the Texas PDE Conference, I am co-organizing the 5th annual Modeling High Frequency Data in Finance Conference, sponsored by NSF, ASA, IAFE, and IMU that will be held this October at Stevens Institute of Technology, Hoboken.

I am also delighted to welcome Associate Professor in Statistics Dr. Xiaogang Su (a hire which will support the Department's proposed Statistics PhD program) as well as the following new lecturers (most of whom are UTEP alumni): full-timer Francis Biney, part-timers Christopher Dodoo, Ahmad Kashmar, John Appiah Kubi, Robert Trejo, postdoctoral fellows Reinaldo Sanchez and Kanadpriya Basu, and Cynthia Aguilar Davis (CPS Coordinator) who will collaborate as part time undergraduate advisor for our Math Majors.

Most of all, I thank Alumni, Friends and Faculty for last year's generous contributions. Page 3 lists scholarship funds benefitting our students and our Excellence Fund supports student travel to meetings and other items not covered by our budget. We are always looking to promote talent at UTEP and this is your opportunity to help. For more information about donating to the department, please contact Victoria Gutierrez, (915)747-8257 or vsutierrez@utep.edu.

– Dr. Christina Mariani

WAGLER'S TEACHING RECOGNIZED



Dr. Amy Wagler
(photo by Ron Wagler)

Dr. Wagler was selected as one of UTEP's 12 nominees for a 2013 UT System Regents' Outstanding Teaching Award. Dr. Wagler has recently given featured national statistics education talks and had her educational endeavors featured in the *El Paso Times* as well as on UTEP's Academic Technologies site. Making the official UTEP news feed in June 2013 was the student team from

her section of STAT 2480 who researched the highly practical and important question of drivers (illegally) using (handheld) cell phones in school zones, finding that 54 of 624 did, yielding a 95% confidence interval of (6.5%, 10.8%). All sections of STAT 2480 require undergraduates to collect, analyze, and report on data for a research question that they formulate.

UTEP IN TOP QUARTER ON PUTNAM!

On the 2012 Putnam competition, UTEP's undergraduate team placed higher than it ever has in the Putnam's 75 years: 136th out of 578 institutions. The team (Manuel Dosal Bustillos, Alexander Knaust, Irvin Martinez, and Andres Ortiz) was coached by the Department's Students Competitions Committee: Drs. Khamsi (chair), Moschopoulos, Sewell, and Yi. The William Lowell Putnam Mathematics Competition is a challenging six-hour, 12-question exam administered by the Mathematical Association of America each December's first Saturday.

IN MEMORIAM

Long-time faculty **Mr. Jesus R. (J.R.) Provencio** passed away on April 18. In 1967, the University initiated the Inter-American Science Program for those who had completed high school in a Spanish-speaking country. Housed in Mathematics with J. R. Provencio as Director, the program grew from the original 30 students to 400, half of whom were freshmen.

MaST ACADEMY THRIVING

In its 6.5 years, the Math and Science Teacher (MaST) Academy in the College of Science has graduated 72 students (half majored in math, half in science), who each teach math or science to some 150 high school students each year. These MAST alumni therefore will collectively reach over 10,000 high students each year and some 300,000 by the time they retire.

Undergraduate math or science majors accepted into the Academy receive a \$10,000 scholarship and professional support that includes monthly workshops and weekly field experience with a MaST Mentor Teacher in a local classroom. Designed and implemented by MaST Scholars, a summer outreach program is held each year at an area high school to offer hands-on learning in real-world math/science. This past summer's program, targeting incoming Canutillo HS students, focused on the mathematics and science in music, sound, hearing and speech. The program culminated in a field trip to UTEP with a campus tour, swimming and a math-and-music workshop by Dr. Larry Lesser.

MaST Academy is funded primarily by a 10-year commitment from ADP (Automatic Data Processing), a Fortune 500 company whose El Paso office includes a special wall featuring stories and photos from the cohorts. To support a MaST Scholar or obtain more information, visit <http://science2.utep.edu/mast/> or contact Secondary Education Program Director Ellen Esposito at 747-8468 or edesposito@utep.edu.

STUDENT NEWS

Computational Sciences Ph.D. student Reinaldo Sanchez Arias won second place at the 2012 Graduate Research Expo for his paper "Sparse representations and applications in classification" under Dr. Argáez.

Ariel González had a paper (co-authored with Drs. Wagler and Lesser) presented at the 2013 United States Conference on Teaching Statistics.

At the Summer and Fall College of Science Pre-commencement celebration in December 2012, several students won awards: Miguel Valles, Outstanding Undergraduate Student in Mathematics; Catherine Carson, Academic Excellence Undergraduate Student in Mathematics; Ahmad Kachmar, Outstanding Graduate Student in Mathematics; and Berenice Salazar, Outstanding Graduate Student M.A.T. Mathematics.

Also, at the Spring and Summer College of Science Pre-commencement celebration in May 2013, several students won awards: George Moreno Pineda, Academic Excellence Undergraduate Student in Mathematics; Sofia Monarrez, Research Excellence Undergraduate Student in Mathematics; Andrew Avila, Academic Excellence Graduate Student M.A.T. Mathematics; and Adel Bedoui, Academic Excellence Graduate Student in Statistics.

UTEP HOSTS TEXAS PDE CONFERENCE



Dr. Christina Mariani of UTEP, and Dr. Alfonso Castro of Harvey Mudd College (photo by Maria Salayandia)

The 36th annual Texas Partial Differential Equations Conference was held at UTEP on March 2-3, 2013 (<http://math.utep.edu/texaspde/>), the first time UTEP has hosted this conference. Organizers were UTEP department faculty (Drs. Behzad Djafari-Rouhani, Maria Christina Mariani, Osvaldo Mendez, and Son-Young Yi) and recent UTEP Postdoctoral Fellow Indranil SenGupta. The 1.5-day conference's 26 talks were given by speakers spanning seven countries and also included a talk by UTEP graduate student Maranda Bean. Thanks to the sponsorship of the UTEP College of Science and Office of the Provost, the conference provided all meals for the 80 participants.

SPOTLIGHT ON STATISTICS

The statistics graduate program had five MS graduates this past year, all moving on to good opportunities: Adel Bedoui (doctoral program in Statistics at University of Georgia), Christopher Doodoo (doctoral program in Statistics at University of Manitoba), Ivan Gatewood (doctoral program in Statistics at University of Arizona), Juana M. Herrera (full-time employment at UTEP's CIERP), and John Appiah Kubi (doctoral program in Biostatistics at University of Waterloo). Each graduating student had an opportunity to attend at least one national statistics conference during the two-year program at UTEP. Please support such opportunities for professional enrichment by contributing to the department's Excellence Fund!

During the Spring 2013 semester, the Stat 5195 Graduate Seminar conducted mini-mentoring sessions, using Skype to interface with UTEP alumni across the country: Drs. Durazo-Avizu (Loyola University Medical Center), Brisa Sanchez (University of Michigan), and doctoral students Charles Rogers (Texas A&M) and Priyangi Bulathsinhala (SMU). On-site discussions took place with Dr. Rosen's research collaborator Dr. Wes Thompson (University of California, San Diego), and with Drs. Alok Dwivedi (Biometric Division, Paul L. Foster School of Medicine) and Hao Wang (visiting UTEP's School of Engineering). Anthony Abrantes, who gave a slide presentation on his car trip tour of schools (and interviewing faculty) from the previous summer, is now enrolled in the biostatistics graduate program at University of North Carolina.

MAXIMA Staff

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Joe Dorgan (B.A. Mathematics, 1957) retired to Paso Robles, CA to spend time with his children.

Forrest L. Lane (B.S. Mathematics, 1968). His wife (Dorothy L. Lane) writes that he served 21 years in US Army; after retiring from the Army in 1966, he then worked for E-Systems in Greenville, TX. He died Sept. 7, 2011.

Jinping Wang (M.S. Statistics, 1993) is Director of Biostatistics at Eisai Pharmaceuticals.

Alumni Data Update Form Department of Mathematical Sciences

Please return this form or visit <http://www.math.utep.edu/alumni> so we can update our records!

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INFLECTION POINTS

(see www.math.utep.edu for other faculty accomplishments too numerous to list!)

Dr. Helmut Knaust received a grant from the Mathematical Association of America to fund five department undergraduates to spend six weeks researching discrete wavelet transformation applications such as image compression algorithms.

Dr. Larry Lesser, a UTEP 2013 nominee for statewide and national teaching awards, began serving as the Assistant Editor of *Statistics Education Research Journal* and as the 2013-14 Provost's Faculty Fellow-in-Residence with UTEP's CETaL.

Dr. Ming-Ying Leung, while continuing as director of the Bioinformatics program, was also tapped to direct the Computational Sciences PhD program, a cross-college program whose non-interim heads have all been faculty in our Department.

Dr. Ori Rosen was promoted to Full Professor.

Dr. Emil Schwab was promoted to Full Professor.

