



Fall 2011

## MAXIMA: News and Highlights from the Department of Mathematical Sciences

The University of Texas at El Paso <http://www.math.utep.edu> <http://facebook.com/utepmath> <http://twitter.com/utepmath>

### From the Chair

My goal as Chair is to maintain excellence in academic programs and research, and continue our mission of creating educational opportunities for non-traditional students and promoting student success.

I am very pleased with our latest accomplishments and growth. Our proposal for a Statistics PhD was approved by the College of Science. The Department is very active in research, with over \$4 million in grants and 200+ peer-reviewed publications over the last 5 years. From 2008 to 2010, our undergraduate program enrollment increased from 152 to 241 majors and our master's program enrollment went from 44 to 59 students. Our undergraduate and graduate majors are 90% and 62% Hispanic, respectively.

I am also delighted to welcome administrative coordinator Rachael Konrardy, administrative assistant I Charlotte Polando, and the following new lecturers (most of whom are UTEP alums): full-timer Mohamed Ait Nouh and part-timers Sharbanoo Daneshtalab, Jennifer Del Valle, Victor Jimenez, Yi-Yu Liao, Alexandra Macedo, and Indika Mallawaarachchi.

Most of all, I thank Alumni and Friends for last year's generous contributions. The Gladman Fund helps our most talented undergraduates, the Gregory Fund helps graduate students in statistics, the Miculka Fund (named for former instructor Vladik "Chuck" Miculka) helps Math/Physics undergraduates, and our Excellence Fund supports student travel to meetings and other items not covered by our budget.

– Dr. Christina Mariani

### BIOINFORMATICS IS UPBiT!

The UPBiT (Undergraduate Participation in Bioinformatics Training) program is now in its third school year with 25 trainees, mainly mathematics and biology majors. The program aims to enhance undergraduate education and training at the intersection of the biological and mathematical sciences and to better prepare undergraduates to pursue graduate studies and careers that integrate these fields.

UPBiT is supported by PI Dr. Ming-Ying Leung's grant from the NSF's Interdisciplinary Training for Undergraduates in Biological and Mathematical Sciences program. Other funding sources have allowed additional majors (e.g., chemistry, computer science) to be accepted.

UPBiT trainees participate in individualized 3-year training programs starting in the sophomore year. Activities include communication workshops, lab training, research rotations, field trips, conferences, and specialized research projects. Trainees from two different disciplines work with joint mentorship by two faculty mentors in collaborative research. For more information, see [www.bioinformatics.utep.edu/UPBiT](http://www.bioinformatics.utep.edu/UPBiT).

UPBiT students played a major role in a Bioinformatics Symposium, along with students supported by the NIH-funded Minority Access to Research Careers program. This symposium featured research seminars by four distinguished speakers (including one from England) as well as research project posters presented by five UTEP undergraduate majors in biology and mathematics, and nine UTEP graduate students in bioinformatics, computational science, and statistics (see <http://www.bioinformatics.utep.edu/Symposium/2011> for abstracts).

### TOP TEACHING RECOGNIZED

Dr. Lawrence Lesser extended a unique streak for the Department by winning a 2011 Regents' Outstanding Teaching Award from the nine-university University of Texas System. This is the third straight year the Department had a winner in the Tenured Faculty category (Dr. Art Duval, 2009; Dr. Mourat Tchoshanov, 2010).

Also, Dr. Hamide Dogan-Dunlap won the Southwestern Section of the Mathematical Association of America's 2011 Award for Distinguished College or University Teaching of Mathematics, starting another departmental streak (since Dr. Lesser won this award in 2010).

## TALLMON ENDS 3+ DECADES OF DEDICATED SERVICE

On May 31, Mrs. Lanna Tallmon concluded 34 years of service at UTEP, including 32 in our department to “begin a new chapter” in her life, including more time with family and pursuing various projects and interests such as gardening and quilting. Tallmon’s good work here has received recognition such as the College of Science’s Award for Distinguished Service to Students by Classified Staff in 2006.

The only current faces in the department who preceded Tallmon are Drs. Guthrie, Marcus, and Liguori. Since the forming of a separate mathematics department in 1965, the department has been served by a senior secretary from the same family! Mrs. Bonita Henry (who served 1969-79) is the mother of Mrs. Anna Lane (1965-69) and Mrs. Lanna Tallmon (1979-2011).



*Lanna Tallmon, at her Department farewell potluck  
(more event photos at facebook.com/utepmath)*

## HITTING THE MaRCS!

In fall 2007, the Math Resource Center for Students (MaRCS) was created (from the former Tutoring and Learning Center) to provide free walk-in, face-to-face tutoring for all undergraduate mathematics and statistics courses. In 2010, MaRCS became coordinated by Dr. Joe Guthrie to maintain a close connection with the Department.

Guthrie made important changes, including having 20 Department TAs allocate 2-6 of their weekly work hours to the center. This has improved the content expertise of the tutoring offered as well as given the TAs valuable experience in one-on-one teaching. MaRCS tutors also include a dozen undergraduate tutors who each work up to 19 hours/week.

Guthrie notes, “There are lots of places on the web to get math help, but I think it is the personal interaction that makes MaRCS special.” The Center (<http://marcs.utep.edu>; Library room 218) is open 48 weekly hours, including some on Saturday and Sunday.

## STUDENT SPOTLIGHT: ANDRES ORTIZ



*Andres Ortiz  
(photo by Edgar Picazo)*

Math major Andres Ortiz won an award in the debut research competition sponsored by the newly-created College of Science Office of Undergraduate Research Initiatives (COURI; [science.utep.edu/couri/](http://science.utep.edu/couri/)). (Also, COURI awardees from other majors included Club Zero members Eduardo Cervantes, Luis Berumen, Eric Chaidez.)

At the 2011 COURI Research Symposium, Ortiz presented his award-winning research entitled “Mathematical Analysis of Quantum Mechanical Model of the Hydrogen

Atom,” mentored by his Matrix Algebra instructor Dr. Snehanshu Saha. Ortiz learned to solve part of the Schrodinger equation analytically and the other part numerically, using finite difference methods in Fortran to simulate the solution for given eigenvalues. This technique might be generalized to atoms more complicated than hydrogen, where there is no easy analytic solution.

Ortiz plans to graduate in 2013 as a math/physics double major and then pursue a Ph.D. in pure mathematics. At the 2011 SUnMaRC conference, Ortiz presented on another project – a generalization of Bernoulli’s inequality that will be his undergraduate thesis under Dr. Wojciechowski. Ortiz is in his second year in the UPBIT program and landed a summer biomedical research internship with Novartis, where he wrote code to simulate a molecular pathway associated with colon cancer. He says, “I love math and love talking to others who like math.”

---

## CLUB ZERO NEWS

The same four Club Zero members who received COURI awards (see Ortiz’ story above) also gave well-received talks at the 2011 SUnMaRC undergraduate research conference at Northern Arizona University, and the road trip (which included a visit to the Grand Canyon) was supported by COURI, Dodson Funds, the Math Department, SUnMaRC sponsors, and the driving of Dr. Sewell.

The club also received recognition as a group when they won second place at UTEP’s Earth Week WATT Dog competition, cooking 7 hot dogs in 5 minutes using a solar energy hot dog cooker. The club also had an information booth at Earth Day where they gave out homemade recycled paper bookmarks. Also, this spring the club launched a lounge/meeting space (by the Bell Hall colloquium room) to support the important goal of giving our students a dedicated space to work together, network, and hang out.

### **MAXIMA Staff**

**Editor: Larry Lesser**

**Production: Art Duval**

**MAXIMA logo: Natalia Rodriguez**

*Layout and production by  
Paydirt Printing*



**Priyangi Bulathsinhala** (MS Statistics, 2011) is in the statistics PhD program at Southern Methodist University.

**Sam Collier** (BS Math, 1973) is now retired. He earned his MSBA in operations research management at Northern Colorado in 1977. After Army retirement in 1979, he worked for LTV Aerospace and Defense as an engineering specialist. He left the industry in 2003 as a systems engineering consultant at Lockheed Martin Aeronautics, working on the F-35 Joint Strike Fighter Program.

**Samson Ghebremariam** (MS Statistics, 2011) is in the biostatistics PhD program at University of Florida.

**Leila (Safi) Hobson** (BS Sciences, 1969; MEd Curriculum and Instruction, 1974) is Attorney-at-law, Partner, at Hobson, Stribling & Carson, LLP in El Paso. She has been listed the last several years in "Best Lawyers in America" in the specialty of Trusts and Estates, and has been designated a "Super Lawyer" by *Texas Monthly*.

**Indika Mallawaarachchi** (MS Statistics, 2011) continues his research work in functional data analysis with Dr. Staniswalis, is teaching part-time for the Department, and starts work in November as a Research Associate for the Texas Tech University Health Science Center (Division of Biostatistics and Epidemiology).

## 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!

Name: \_\_\_\_\_

Yes, I want to support the Department of Mathematical Sciences!

Maiden Name: \_\_\_\_\_

Enclosed is my gift in the amount of \$\_\_\_\_\_ for:

Address: \_\_\_\_\_

Mathematical Sciences Excellence Fund

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

G. G. Gregory Scholarship Fund

Home Phone: \_\_\_\_\_ Business Phone: \_\_\_\_\_

C. H. Gladman Scholarship Fund

Email Address: \_\_\_\_\_

Prof. Vladik A. Miculka Scholarship

Degree(s) and Major: \_\_\_\_\_

or you may use:  Mastercard  Visa  Discover

Year(s): \_\_\_\_\_

Card Number: \_\_\_\_\_ Expiration Date: \_\_\_\_\_

Employer: \_\_\_\_\_

Signature: \_\_\_\_\_

Position/Title: \_\_\_\_\_

**Please return to:**

The University of Texas at El Paso  
Department of Mathematical Sciences  
El Paso, Texas 79968-0514

Let us know what you have been up to  
(to be included in the Math Department newsletter or website):

---

---

---

---

---

---

---

---

# INFLECTION POINTS

(see [www.math.utep.edu](http://www.math.utep.edu) for other faculty accomplishments too numerous to list!)

**Drs. Miguel Argáez** and **Leticia Velázquez** were awarded a 1-year \$360,000 grant from the Repsol Energy Company to fund two computational science research professors and two doctoral students to work in seismic classification and 3D survey design modeling. Velázquez was also one of 2 winners of the COS Distinguished Service Award.

**Dr. Helmut Knaust** was presented in May with an award from ORSP for “Outstanding Performance in Securing Extramural Funding.” His award was one of only 5 in the college and 20 UTEP-wide. During the last five years, Knaust has been credited for research expenditures of over \$2 million. He is also co-PI in the \$600,000 grant featured in *MAXIMA 2009*.

**Dr. Larry Lesser** was elected to national offices/committees for the National Council of Teachers of Mathematics and the American Statistical Association and those positions’ terms began in 2011.

**Dr. Kien Lim** won the Scholarship of Teaching and Learning Award at the 2011 Sun Conference on Teaching and Learning for his paper “Addressing the Multiplication Makes Bigger and Division Makes Smaller Misconceptions via Prediction and Clickers.”

**Dr. Peter Moschopoulos**, director of the Statistical Consulting Lab, reports two new grants – a 5-year \$728,002 NIH-RCMI grant for the Border Biomedical Research Center and a 1-year \$76,800 grant to provide statistical consulting for the William Beaumont Army Medical Center.

**Dr. Mourat Tchoshanov** spent the fall 2010 semester on a Fulbright Scholarship at a university in Russia, training educators and presenting and conducting research on teacher content knowledge.

**Dr. Amy Wagler** landed a \$300,000 14-month grant as co-PI from Texas Higher Education Coordinating Board’s College Readiness Initiatives to train educators and administrators to use data in policy setting and program evaluation.

**Dr. Son-Young Yi** won a 2011 University Research Institute Grant for the project “Development, analysis and implementation of numerical methods for flow in deformable porous media.”

ADDRESS SERVICE REQUESTED

The University of Texas at El Paso  
Department of Mathematical Sciences  
El Paso, Texas 79968-0514

