A *f* t e r m α t h

Milton and Bonifasi-Lista Honored at Engineering Conference

Graeme Milton and Carlos Bonifasi-Lista were honored at the 44th annual Technical Meeting of the Society of Engineering Science held at Texas A&M University in College Station, Texas, October 21-24.

Elena, Graeme, and Carlos at the SES conference.
Photo courtesy of J. Patton.

Graeme Milton was awarded the 2007 Prager Medal, which is awarded for outstanding research contributions in either theoretical or experimental solid mechanics. Quoting from the program, "Graeme Milton has been making ground-breaking contributions to solid mechanics within the theory of micro mechanics of heterogeneous media for the last 25 years. He has made significant contributions in many aspects in the field of composite materials." Milton has done pioneering work on rigorous bounds and homogenization of solid composites, cross property correlations, and more recently on cloaking in elasticity and electromagnetism. Named for William Prager, famous for his work in vibrations, plasticity and the theory of structures and first Director of the Brown University Institute for Applied Mathematics, the medal comes with a cash prize of $2,000. Graeme presented a plenary lecture, "On Modifications of Newton's Second Law and Linear Continuum Elastodynamics."

Carlos Bonifasi-Lista won the "Student Abstract/ Presentation Competition" for the best student paper. As one of the 16 finalists of 38 who submitted papers, Carlos was awarded a trip to the conference and given the opportunity to present his paper "Recovering Porosity of Cannelous Bone from Measurements of Effective Complex Shear Modulus," in which he studies an inverse problem in linear viscoelasticity using the work of D. Bergmann, G. Milton, K. Golden and E. Cherkaev. Carlos, who is a graduate student of the Bioengineering Department, is completing his dissertation "Forward and Inverse Modelling of Biological Tissue with Microstructure" under the direction of Elena Cherkaev.

Moore Receives Teaching Award

The Sigma Chi fraternity selected Anna Moore to receive one of twelve Distinguished Teacher Awards presented by the chapter this year. Anna was chosen from a field of fifty nominees, and was recognized for being a teacher of high character who provides a positive influence and displays passionate instruction in the field of mathematics. She was the only graduate student among the award recipients. Congratulations, Anna!

Collins and Hiskey Receive 30 Year Service Awards

Eleen Collins has dedicated over 30 years (31 to be exact) of service to the University of Utah. She first worked for the School of Medicine, then for Computer Science and Geology. She joined the Math Department 20 years ago and has been with us ever since. Eleen has contributed some unique skills to our department. For many years she did technical typing, and she currently works with Adobe Photoshop and Illustrator to produce our photo gallery and various posters. Eleen married the love of her life, Phil Garn, last year and is enjoying married life. She loves animals, and is particularly partial to cats (she currently has 3) and walking her neighbor's dog, Ringo. She also loves music and is taking both piano and recorder lessons. She sews, crochets, and does cross stitch. Eleen is truly a woman of many talents and we appreciate having her in our department.

Sandy Hiskey has given 30 years of service to the University of Utah. She began her tenure in 1977 while she was a student (received her BA in 1985), and has been working on campus ever since. She transferred to the Mathematics Department in March 2006. She is currently working as the

Sandy and Eleen

Graduate Program Coordinator and is doing a marvelous job working with the students. Her enthusiastic and positive attitude brings great confidence to not only our students but the entire department and university community. Sandy has a 10 year old son and she is a terrific mother. She loves gardening, camping, fishing and collecting large rocks for her yard. She travels to Teasdale, Utah as often as possible to visit family and friends as well as her own little "plot" of heaven on earth. Sandy has always been involved with many community programs and has served on several university committees.

Congratulations, Sandy and Eleen, on 30 years of outstanding service.

Teachers' Math Circle
Emina Alibegovic

This semester has seen a very successful beginning of another program run by the Mathematics Department. It is a younger elder of our Math Circle: Teachers' Math Circle. The goal of this program is to broaden the mathematical horizons of middle and high school math teachers and specialists. We focus on open-ended explorations of mathematical techniques and problems, with a view toward potential applications in the classroom. Another important aspect of the program is to provide a venue for interactions between teachers, math specialists and mathematicians. In the first few meetings, the reactions from our participants have confirmed that this program fills a needed spot in teachers' professional life and development.

So far we had about 20 teachers from all over the valley participate in each of our meetings. Some of the schools whose teachers are regular participants are West High, East High, Waterford, Artec, Utah County Academy of Science, Bryant Intermediate, etc. We even have a participant who travels from Cedar City and back in a day just to be able to participate in the circles. We start our meetings with a dinner provided by our department. Initially this was a wonderful opportunity for us to get to know each other, but it is now becoming a chance to catch up with each other before embarking on a mathematical

journey of the day. Peter Trapa kicked off our first session with a study of discrete dynamical systems dressed in a candy sharing problem. While the teachers were busy working, future circle leaders were busy worrying how to follow up Peter's excellent performance. In the following Circles teachers investigated connections between polyhedra, tessellations of a sphere and Euler's formula followed by an unusual way of looking at Fibonacci numbers. The last two sessions were led by Emina Alibegovic and Hugo Rossi. There is one meeting remaining on November 12 that will be led by Aaron Bertram.

Next semester we will continue with the program and we invite faculty and graduate students to consider both participating in and leading the circles. Encouraged by the reception our program received we are planning a summer workshop for teachers who live farther away and can not easily participate during our regular year. But more about that in another issue of Aftermath.

Ndahoo'ah
Kelly MacArthur

Ndahoo'ah (pronounced en-da-HOE-ah) is a Navajo word which roughly translates into re-learning/new learning. Our department is involved in the Ndahoo'ah program every June down in southern Utah on the Navajo reservation, specifically at Monument Valley High School. This three-week program seeks to explore educational objectives through a format that teaches, respects and jointly develops both traditional and modern skills for 7th through 12th grade students. We send two to three teachers down to Monument Valley to teach Logo programming (a basic, geometric computer programming language tool) as well as mathematics, mostly geometry. The students spend two hours every day with our teachers, and two hours a day with the Navajo elders learning one of the traditional crafts. Each student produces their craft design both in Logo, using mathematical and programming principles, and within the physical craft. The intention is to help bridge the gap between mathematics and art. This last summer, we had great success with the program. Our Ndahoo'ah teachers published a fascinating and colorful report which you can find online at http://www.math.utah.edu/~macarthu/Ndahooah/Ndahooah_index.html or a hard copy in the faculty lounge. If you'd like more information about or would like to be involved with this program, please contact Kelly MacArthur, macarthur@math.utah.edu.