SOUTHWESTERN SECTION NEWSLETTER

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1. **CONGRATULATIONS TO BILL VELEZ, AWARDEE OF THE MATHEMATICAL ASSOCIATION OF AMERICA CERTIFICATE OF MERITORIOUS SERVICE**

Professor William Yslas Vélez from the University of Arizona was selected by the Southwestern Section to receive the MAA Certificate of Meritorious ServiceAward. The citation submitted to the MAA by Bill Stone, section governor, and the selection committee (Hamide Dogan-Dunlap (University of Texas at El Paso), Thomas Gruszka (Western New Mexico University) and John Hagood (chair, Northern Arizona University)) appears below.

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Nomination of William Yslas Vélez for the
Mathematical Association of America Certificate of Meritorious Service

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The Southwestern Section of the Mathematical Association of America is pleased to nominate Professor William Yslas Vélez of the University of Arizona for the Mathematical Association of America Certificate of Meritorious Service.

Those who know Bill are well aware of his high quality service to the MAA and the mathematics profession in general, but even those who have served alongside Bill may be surprised by the extent of his work. His longstanding passion has been opening the doors to mathematics and the sciences for underrepresented groups and attracting students to the mathematics major, but he has

also has taken initiative to advance the discipline in other ways, and he has generously served elsewhere when asked.

Early in his academic career, Bill presented papers dealing with minority participation in mathematics and the sciences, evidence of his interest that was to blossom by the late 1980s in the form of grants, publications and regular participation on national boards and committees. The 11 grant projects related to minority participation that Bill has either directed or co-directed have provided scholarships, funded REU programs, and supported minority recruiting and retention efforts. He has written a dozen articles discussing strategies for attracting students to the mathematics major and for increasing minority participation. His tireless efforts have resulted in several awards, including five advising and mentoring awards, the President's Award for Excellence in Science, Mathematics and Engineering Mentoring Program (Washington, DC, September 1997) and two NSF awards.

He is widely recognized as a leader in minority participation in mathematics and the sciences. He has served as President of the Society for the Advancement of Chicanos and Native Americans in Science, and as Governor-at-Large for Minority Interests on the MAA Board of Governors. This year, he will present the James R. C. Leitzel Lecture at MathFest 2005 in Albuquerque on "Increasing the number of mathematics majors: lessons learned from working with the minority community."

Bill's leadership is evident in other roles as well. He served a term as Program Director of the NSF Algebra and Number Theory Program and he has been a member of five MAA committees, four AMS committees, and 18 other national advisory boards or committees (including one as chair) dealing with mathematics, diversity in the profession, and education.

Bill has organized three annual meetings of the Southwestern Section of the Mathematical Association of America, one of which included the Sociedad Matematica de Sonora, and another of which he organized together with a regional AMS meeting. Those who have similarly led the arrangements for section meetings know the work this involves. Bill is the only person to have organized three meetings of our section going back at least thirty years. He has also contributed to the organization of several national MAA and AMS meetings as a member of Organizing Committees and a Program Committee, and as chair of a Local Arrangements Committee.

Words on a page do little to capture the dynamism and passion of his work. In reference to this, his colleague Bill McCallum speaks of "the truly phenomenal energy that Bill puts into recruiting minority students into the math major at the University of Arizona. Each year he gets a list of every minority taking calculus or expressing interest in a science career and sets up personal interviews with them. He encourages them to take more mathematics - in fact he practically writes their schedules for them. He is tireless and forceful, and this has really paid off in both minority recruitment and recruitment in general into the math major."

Bill Vélez 's role in service can be characterized as unselfish, generous, passionate, high quality and inspiring. His presence and insights have been witnessed and appreciated by many. This is a fitting time to honor his outstanding contributions with the Mathematical Association of America Certificate of Meritorious Service.

2. CALL FOR NOMINATIONS FOR THE 2006 SECTIONAL AWARD FOR THE DISTINGUISHED COLLEGE OR UNIVERSITY TEACHER OF MATHEMATICS

Each year the Southwestern Section forwards one nominee to the MAA as our nomination for the Distinguished Teaching Award. At this time nominations are being sought for the 2006 award from our Section. To be eligible, the nominee must be a member of MAA, must be a college or university teacher assigned at least half time during the academic year to teaching courses in the mathematical sciences in a public or private college or university in the United States or Canada, and have at least five years teaching experience in mathematical science. The nominee should be someone who is an outstanding teacher, has had influence reaching beyond his or her own institution, and can foster curiosity and generate excitement about mathematics in their students. We will recognize the winner from our Section at the April Section Meeting in Tucson, and will forward this nomination as our Section's official nominee for the Deborah and Franklin Tepper Haimo Distinguished Teaching Award.

Any member of the Southwestern Section of the MAA may nominate any other member of the SW Section for this award. More information about the award as well as the necessary nomination form can be found online at http://www.maa.org/Awards/haimo.html. Completed nomination packets should be sent to Joanne Peeples, Chair, Teaching Award Committee for SW Section of MAA, 6915 Orizaba, El Paso, TX, 79912 (ph: (915) 831-5047; email: JoanneP@epcc.edu) by January 31, 2006.

Below is a list of past recipients of the SW Section's Distinguished Teaching Award.

1992: David Lovelock, University of Arizona
1993: David Pengelley, New Mexico State University
1994: Steve Shew, Glendale Community College
1995: Bill Kaigh, University of Texas at El Paso
1996: Richard Metzler, University of New Mexico
1997: Anne Dudley, Glendale Community College
1998: Fredrick Stevenson, University of Arizona
1999: John Hagood, Northern Arizona University
2000: Julie De Pree, University of New Mexico- Valencia
2001: William D. Stone, New Mexico Tech
2002: Phillip A. Leonard, Arizona State University
2003: Janet McShane, Northern Arizona University
2004: Deborah Hughes-Hallett, University of Arizona
2005: Art Duval, University of Texas at El Paso

3. **GOVERNOR'S REPORT, Bill Stone, wdstone@nmt.edu**

As usual, the Board of Governor's met during MathFest. The MAA is doing well; the last audit had not only no reportable conditions, for the first time in many years, there wasn't even a 'letter to management' of less serious issues. MAA investments are doing well, but our unrestricted endowment is a little small for an organization of our size. The Finance committee hopes to develop the endowment to provide more of a cushion.

The Board will be discussing a restructuring of the dues structure. Right now, regular membership rates do not quite cover per member costs. There is also a suggestion of some changes in how the Discounted and Retired rates should be calculated. Possibly a special "Century Club" rate when your age plus years of MAA membership hits 100!

Planning continues for the Centennial Celebration in 2015!

The MathFest in Albuquerque was a great success. This was the first meeting where all the organizational details were handled by MAA staff. Although some had worried that Albuquerque was too far away and that attendance would be small, this was one of the larger MathFests ever!

By the time this reaches you, construction should have (finally) begun on the renovation of the Carriage House at MAA Headquarters in Washington, DC. Financed by a gift from the Halmos family, this will be a very useful facility for smaller meetings when it is finished.

4. **SECTION MEETING REPORT, APRIL 2005, Hamide Dogan-Dunlap, hdogan@utep.edu & Larry Lesser, lesser@utep.edu**

In April, the University of Texas at El Paso hosted the annual section meeting, which was widely hailed as a success in terms of organization and higher-than-usual participation (65 presentations and 123 attendees spanning 16+ institutions), and the sessions themselves. One attendee stated: "I would have to count it as one of the very best meetings we've had in the Southwestern Section and I have missed very few such meetings since 1982… All of the NAU group was very pleased with the meeting. Lots of variety and excellent invited speakers."

Invited plenary talks were given by well-known NMSU mathematics educators Drs. Annie and John Selden ("Two Research Traditions Separated by a Common Subject: Mathematics and Mathematics Education") and American Mathematical Monthly editor and UT-Austin's Dr. Bruce Palka ("Why Things Go Quasi in Higher Dimensions"). Most of the time, there were three parallel sessions of contributed paper or special sessions, including one chaired by last year's winner of the section teaching award, renowned mathematics educator and calculus text author Deborah Hughes-Hallett.

The conference also featured special entertainment. Before the banquet, a group of high

school and university students performed a new play, "Count Her In!" (see related article below), about the lives of seven female mathematicians (Hypatia, Kovalevskaya, Noether, etc.). The play was directed by Sherry Lowell-Lewis and funded by an MAA Tensor Grant by UTEP's Hamide Dogan-Dunlap and EPCC's Joanne Peoples, and was subsequently performed at the 2005 MAA MathFest. At the banquet, Art Duval was surprised with the section's 2005 Award for Distinguished University Teaching of Mathematics. The banquet concluded with a "math song sing-along" with nationally-renowned "mathemusician" (and new UTEP math educator) Larry Lesser (see: www.math.utep.edu/Faculty/lesser/Mathemusician.html).

The meeting was organized by UTEP faculty Hamide Dogan-Dunlap (conference chair), Art Duval, and Larry Lesser. The meeting was supported by the El Paso Mathematics and Science Partnership (MSP), and Wolfram Inc. donated 4 copies of Mathematica for the highest-rated undergraduate and graduate presentations.

5. COUNT HER IN!

At the spring SW Section MAA meeting, the premier performance of the play, Count Her In! was performed. The play is about women in mathematics. The initial funding for this play was through a MAA tensor grant awarded to Joanne Peeples and Hamide Dogan. The idea behind the play was to have high school and college women look closely at the lives of some famous women mathematicians. There were seven high school women and three college undergraduates in the play, and three graduate students who helped stage the play and create the power point backgrounds. Sherry Louis, an adjunct drama instructor at EPCC, wrote the play using materials the students had researched.

The women mathematicians the students chose were: Hypatia (370 – 415), Gabrielle-Emilie Le Tonnelier de Breteuil, Marquese du Chatelet (1706 – 1749), Sofya Kovalevskaya (1850 – 1891), Winifred Edgerton Merrill (1862 – 1951), Emmy Amalie Noether (1882 – 1935), Paris Pismis (1911 – 1999), and Sarah Flannery (1982 -). The play takes place in the drama classroom at school, and the students play both themselves and "their mathematician." In the play the audience finds out both about the mathematics of the women mathematicians, as well as about their lives.

The play was performed a second time in the auditorium at Transmountain Campus, EPCC, where we had an audience of about 300 people. Our last performance was at MathFest this past August, in Albuquerque. The play was well received by the approximately 250 people that attended the Friday night performance. We were able to take the play on the road thanks to financial help from AWM, HOMSIGMAA, EPCC (Steve Smith, Dean of Math/Science/and Occupational Education), Houghton Mifflin Publishing Co., and Thomson Publishing Co.

We are hoping to publish both the script and a DVD of the play, so other High Schools and Colleges can use this as a guide, and do something similar.

6. SECTIONAL NEWS

Arizona Western College, Dan Russow, daniel.russow@azwestern.edu

New hires at Arizona Western College include Phong Chau (main campus), Scott Lee-Chadde (Parker campus), Paul Escoto (South Yuma campus), and David Sisson (main campus). Rita Brown has moved to the main campus from the South Yuma campus. We will be hiring at least one new instructor for Fall, 2006. Almost all of our math classes are now offered on-line, the exceptions being the Math for Elementary Education teachers courses. Our case study on assessment has been chosen to be published by the MAA. This assessment project was done during our participation in the MAA's SAUM program.

Eastern New Mexico University, Kathleen Salter Kathleen.Salter@enmu.edu

Dr. Richard Propes retired in July after teaching 24 years in the Department of Mathematical Sciences. Dr. Darin Brown, who received his Ph.D. from the University of California Santa Barbara, has joined the department, and Ms. Joan Brown (no relation to Darin Brown) has also joined the department.

El Paso Community College, Joanne Peeples, JoanneP@epcc.edu

EPCC is growing, in fact it is the fastest growing community college in the nation. This semester we have over 24,000 students on our five campuses. Because of our growth, last spring the Mathematics Discipline hired five new, tenure track, mathematics instructors – the largest number hired at one time, that I can remember. Our new faculty members are: Edith Augirre (NWC), Russell Ellwood (TM), Pilar Gimbel (VV), Gabriel Mendoza (VV), and Alfredo Rodriquez (TM). We also welcomed back Lucy Michal (RG), who has been working at UTEP on math/science grants.

In addition to all our new faculty, there has been some reorganization and what was formerly BASK MATH (Basic Skills Math) is now part of the mathematics discipline. This should make for easier transitions between math classes for our students. Along with this change Mary Alanis (RG), Diana Orrantia (TM), and Jose Tovar (VV) are also members of the Mathematics Discipline at EPCC.

We have four developmental mathematics courses taught at EPCC (the highest being Intermediate Algebra); students receive no credit for these courses. We also teach the usual complement of freshman and sophomore courses – through Calculus III, Differential Equations, Linear Algebra, etc. We are looking at the possibility of creating a Liberal Arts Math course to follow Intermediate Algebra (UTEP is putting such a course in place, and it is probably to our advantage to also have one). If any one has any guidance on texts, format of course, or any other helpful information, I'd love to hear it.

New Mexico State University, Robert Smits, rsmits@nmsu.edu

The department of mathematics at New Mexico State University, Las Cruces hosted a CBMS on the topic of "Nonlinear Dispersive and Wave Equations." The conference, which took place from June 13-17, was organized by Tiziana Giorgi (NMSU), Joe Lakey (NMSU), Cristina Pereyra (UNM) , Adam Sikora (NMSU), and Robert Smits (NMSU). The lecturer for the conference was Professor Terence Tao from UCLA. The notes from these lectures, which included an expository article on global well-posedness, will become a text in the near future, published by the AMS. The reaction of the more than 60 participants was overwhelmingly positive, a reflection of the excellent planning by those involved.

Elizabeth Gasparim gave a talk about her research at the Summer Institute in Algebraic Geometry, which was held at the University of Washington this July/August. This was a major event in Algebraic Geometry, such events occuring only once each 10 years. There were over 600 participants. From the announcement "The goals of the institute are to review the major achievements in Algebraic
Geometry of the past decade and to look forward to future developments."

The manuscript, "Factors influencing the algebra 'reversal error'" jointly written by Elaine Cohen in the Mathematical Sciences Department and Steve
Kanim in the Physics Department, has been accepted for publication in the American Journal of Physics. It will be published sometime between November 2005 and March 2006.

New Mexico Tech, Bill Stone, wdstone@nmt.edu

The New Mexico Tech Math department welcomes Art Bukowski back after two years in Kuwait. This means that Alan Sharples has re-retired (or REALLY tired, as he puts it). We also welcome one new Assistant Professor, Bixiang Wang. Bixiang's area is nonlinear PDEs and infinite dimensional Dynamical Systems. He comes most recently from KSU.

Tech was well represented at MathFest. We had three undergraduates give talks (Matt Hoffman, Craig Nicholas, and Tim Trujillo) one graduate student (Gabby Miller), and three faculty (Brian Borchers, John Starrett, and Bill Stone).

Northern Arizona University, John Hagood, John.Hagood@NAU.EDU

Professor Michael Ratliff was named 2004-2005 Teacher of the Year for the College of Engineering and Natural Sciences. Congratulations to Mike for a much deserved award. As part of university arrangements bringing 17 students and 13 faculty to NAU from institutions in the Peoples Republic of China, Professor Chen Lanqing of Fujian Normal University is sitting in on several of our graduate and undergraduate courses to observe the nature of university education in the USA. Our NSF Research Experiences for

Undergraduates program has been funded again, for three summers. The projects for 2005 are in three areas: semi-transitive and bi-transitive graphs, nonlinear partial differential equations, and operations research.   The department is hosting the Arizona Mathematics Undergraduate Conference October 28, 29 and 30.

Pima Community College (West Campus), Paul Flasch, pflasch@pima.edu

We will host the Fall 2005 ArizMATYC meeting on October 7. For details, contact Mary Sibayan at msibayan@pima.edu.

Charles Land has retired after many years of service to Pima and the Math Department. Good luck, Charles.

We have switched to the Bittinger text for Elementary and Intermediate Algebra. Some of our faculty are using My Math Lab or/and Educo software with their classes.

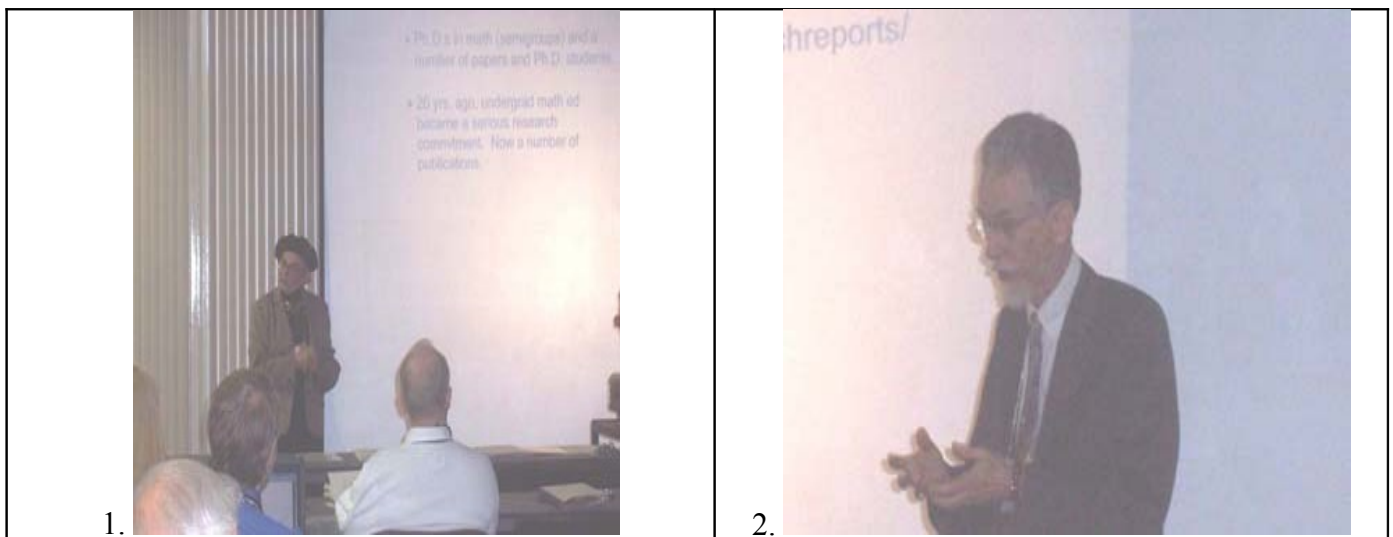We hope to see our ArizMATYC colleagues on October 7.

Western New Mexico University, Tom Gruszka, tpeter@cs.wnmu.edu

Gerald Burgess was hired in Computer Science after Lloyd Cowling retired in June.

7. THE NEWSLETTER BY EMAIL

If any member of the Southwestern Section would like to receive the sectional newsletter by email INSTEAD of through the postal service please email the editor <tpeter@cs.wnmu.edu>) with the words EMAIL PLEASE in the subject heading or the body of the message. The newsletter is published twice a year, once in the fall and once in the spring.

8. PICTURES FROM THE 2005 SECTION MEETING AT UTEP

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1. & 2. Invited speakers Annie and John Selden during their talk; 3. Deborah Hughes-Hallett delivering her talk; 4. Women in mathematics group during their performance; 5. Larry Lesser delivering his "math song sing-along" during the banquet; 6. Annie Selden and conference chair Hamide Dogan-Dunlap.