



Mathematical Association of America Southwestern Section

Newsletter

Volume 27 Issue 2 | Spring 2014

Section News

Section Officers Meeting at JMM 2014

Most of the time at the Section Officer's Meeting was spent talking about activities leading up to the Centennial Celebration at MathFest in 2015. MathFest 2015 will be held in Washington, DC, and an extra day will be added to the conference – to give us more time to celebrate.

In the past two issues of this newsletter, I mentioned that we need to find our "section flag", last used at MAA's 75th birthday. It seems we are not the only section with a missing flag, so there will be a completely new set of sections flags commissioned for the Centennial. This new set will be kept by the Association, and will be used as part of a parade of flags at the opening reception at MathFest 2015 as well as put on display behind invited speakers.

At our 2015 section meeting, MAA would like us to take a "group photograph" so that a montage can be displayed at MathFest. They are encouraging us to have a "birthday party" at that meeting – so it is time for all of us to put our thinking caps on, about what to do. We can discuss ideas at the upcoming April section meeting. Hope to see you at the meeting!!!! —*Joanne Peeples, El Paso Community College*

Section T-Shirt Competition

At our centennial celebration in DC, there will be a section t-shirt competition, and a day designated at the conference where everyone wears their section t-shirt. Three prizes will be awarded for:

i) Highest sales per capita (where MAA will divide the number of t-shirts ordered by the official count of membership of the section in June 2015).

ii) Best design as judged by the Committee on Sections.

iii) Most notable presence on t-shirt day at the Centennial MathFest in 2015.

The prizes will be:

a) An additional 5% of proceeds to the section at the section book sale following the centennial.

b) One additional section visitor available to speak at section meeting in one of the two years following the centennial.

c) A registration to MathFest 2016 for the section to give away or raffle off at its pleasure.

(I don't know which prize is for which contest).

So—we need to be thinking about t-shirt designs, do we want to have some sort of contest???? We will need a t-shirt in place for our 2015 section meeting.

—*Joanne Peeples, El Paso CC*

Southwestern Section Spring Conference

April 4–5, Phoenix, Arizona

More information is on p. 3

HOM SIGMAA in the SW Section?

With the 2015 MAA Centennial celebration, MAA is planning on displays, montages, etc. celebrating the history of MAA and the history of individual sections of MAA. HOMSIGMAA (History of Math Special Interest Group of MAA) is encouraging sections to start (and continue) this celebration of the History of Math at their section meetings.

In November of 2001, HOMSIGMAA was approved as MAA's fourth SIGMAA. It has steadily grown since that time. There are many contributed paper sessions at both the JMM's and MathFest, as well as a reception, with an invited speaker, at the JMM meeting. It's a chance for the Math History people to gather and talk – and to find out what's happening in this field.

You should check out both the HOMSIGMAA web site: <http://historyofmathematics.org> and the online journal convergence: <http://www.maa.org/publications/periodicals/convergence>. You can find articles to read and articles for your students to read. Or if you are like me, and have no history of math course at your college/university, you can at least check the calendar and tell your students what happened, mathematically, on various days in history – for example, April 4, the first day of our spring section meeting, is the anniversary of John Napier's death. He died in 1617, in Edinburgh, Scotland. Consider joining HOMSIGMAA, it's a well spent \$20!

At our section meetings, would it be possible to have a section version of HOMSIGMAA? It's probably too late to do much at the April meeting, but at the 2015 meeting, let's try to do something. We have a new member of our section who has retired to the Phoenix area – Chuck Straley – who has taught history of math at Wheaton College (back east), and has said he would be willing to help promote HOM in our section. Also, we need to update our

section history (both for our 2015 section meeting and for MathFest 2015).

– Joanne Peeples, El Paso CC

Volunteer needed: Section Webmaster

We are seeking volunteers to be the new Section Webmaster.

The Section has its own area on the MAA national web site and is responsible for its own content. The national office is responsible for keeping the web site running. Content support is bare-bones; the webmaster must prepare HTML files (either directly or as the output of a word-processing or other program), or use an authoring program such as Adobe Dreamweaver, and upload them via FTP. This is not hard, but does require some degree of comfort with these types of tools. The site is currently authored in BBEdit and uploaded by Fetch.

The web site carries primarily news about upcoming meetings, requests for nomination for Section prizes, and a lot of archival material (past newsletters and past Section meeting materials). There is also some fun stuff such as photos from section meetings.

The webmaster job is not labor-intensive and probably takes about 2 days per year in total. Most of the activity occurs after the annual section meeting, for updating the archives and the information on the next meeting. Throughout the year people will occasionally send in news items to be posted on the web site.

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This electronic newsletter is published twice annually, usually around October 15 and February 15. Please send news items about your department and announcements to the editor:

Pam Peters, San Juan College

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Section web site:

<http://maa.org/Southwestern>

This issue edited by Allen Stenger.

MAA Southwestern Section Meeting in Spring 2014

The annual meeting of the Southwestern Section of the MAA, held jointly with the annual meeting of the Arizona Mathematical Association of Two-Year Colleges, will be happening Saturday–Sunday, April 4–5 on the Paradise Valley Community College campus in Phoenix. PVCC and Arizona State University are the sponsoring institutions. Proposals for talks are due by March 1. Registration is open now. More information is at the conference web site: http://arizmatyc.org/wp/?page_id=631. Conference co-chairs are Scott Surgent (surgent@asu.edu) (MAA) and Stephen Nicoloff (Stephen.nicoloff@pvmail.maricopa.edu) (ArizMATYC).

Interested? The job is available in June 2014, but you could take over earlier if interested. Contact Allen Stenger (current Webmaster) or Joanne Peeples (Section Secretary) if interested. Thank you! — *Allen Stenger*

MAA National News Board of Governors Report

The Board of Governors met at the Joint Math Meetings in Baltimore. The new membership dues structure is now in place. A description of the membership dues can be found at the following website.

<http://www.maa.org/membership/membership-categories>

Please check with your department to see if it has paid its departmental membership.

MathFest will be held in Portland, Oregon (August 7–9, 2014) and the Joint Math Meetings will be held in San Antonio, Texas (January 10–13, 2015).

As you all know, the MAA is run by its members and the committees of the MAA are an important part of the MAA. To get a look at the committees of the MAA, please visit the following website:

<http://www.maa.org/community>

More importantly, think about recommending one of your colleagues to serve on an MAA committee or you can nominate yourself. The Committee Nomination Form is on that webpage.

The Meetings Management Committee decided to stop offering short courses after

JMM 2014. The reason for this is that short courses took a good amount of staff time and served very few MAA members.

Attendance at JMM and MathFest has seen increases lately. The attendance at JMM 2013 was 6672 and at MathFest 2013 it was 1505. We hope this trend continues.

Budget, as usual, was a point of discussion. When 2013 concludes the MAA will have had nine consecutive years of annual operating deficits, with a total over nine years of \$1,300,000. Steps have been taken to change this pattern of loss and it is hoped that within a year or two we will see operating surpluses. The operating budget of the MAA is negatively impacted by the decline in membership. Several efforts are underway at the MAA to better understand how to market the MAA and to increase membership.

I suggest encouraging your colleagues that they join the MAA.

The 2015 summer meeting will be the MAA's Centennial Meeting and planning has been under way for several years. An ad hoc committee, chaired by Deanna Haunsperger and Stephen Kennedy, is planning the program. The meeting will be held in the Marriott Wardman Park Hotel, where the Joint Mathematics Meetings have been held in the past. The plan is to expand the program with additional invited addresses and several other special events that commemorate the centennial.

— *William Yslas Vélez, University of Arizona*

Student Paper Contest in History

All students know about the Cartesian coordinate system, but how much do they know about Rene Descartes? L'Hôpital's Theorem is a favorite of Calculus students, but have they ever asked about Guillaume de L'Hôpital? Now is the chance to satisfy that intellectual curiosity - it's time for the annual History of Math Student Paper contest, presented by the History of Math Special Interest Group of the MAA (AKA HOMSIGMAA). All students are eligible to enter, whether or not your school offers Math History and whether or not the student has taken it. The deadline is March 19. Information and criteria are at the HOMSIGMAA web site <http://historyofmathematics.org>, or contact your section HOMSIGMAA reps (Joanne Peoples, jpeoples@epcc.edu, or Pam Peters, petersp@sanjuancollege.edu) for further information. —*Pam Peters, San Juan College*

Department News

New Mexico Tech

Professor Ivan Avramidi became the chair of the NMT math department in July of 2013. Oleg Makhnin is on sabbatical leave for the spring 2014 semester at the Statistical and Applied Mathematical Sciences Institute (SAMSI). —*Brian Borchers*

Northern Arizona University

The 9th International Conference on Teaching Statistics will be held in Flagstaff July 13–18, 2014 at Northern Arizona University's High Country Conference Center. Two of our statistics faculty members, Brent Burch and Roy St. Laurent, serve on the local arrangements committee. The theme of the conference is Sustainability in Statistics Education. The previous conference, held in 2010 in Ljubljana, Slovenia, had more than 550 participants from 60 countries and more

than 220 invited papers and 120 contributed papers.

NAU is gearing up for a Presidential search. Our current president, John Haeger, will retire at the end of the 2014-2015 academic year after serving in the position since November 2001. —*John Hagoood*



San Juan College

San Juan College Math Department is expanding our celebration of Pi Day with an opportunity to broaden the perspective of students and faculty about that most dreaded subject, Math. We are presenting a series of lectures such as Math in Art and History of Women in Math (as Pi Day falls neatly in the middle of Women's History Month) plus a classic movie, "Stand and Deliver". The culmination of the week of events is, of course, pie for all comers, with a possible visit from one of our favorite dignitaries, Albert Einstein. —*Pam Peters*

University of New Mexico

Math Contest The second round of the UNM–PNM State Mathematics Contest took place on Saturday Feb 1st, 2014. More than 200 students (5th to 12th grades) were invited to the University of New Mexico to take the exam. Students came from all over the state and were the top ranked in the first round exam that was given in November (more than 1200 students took the first round in their schools). In the

morning Professor Elizabeth Altman from University of Alaska delivered the Contest Lecture on “Mathematics and Phylogenetics”, she also gave an inspiring colloquium on Thursday Jan 31st on “An algebraic perspective on evolutionary trees and phylogenetics”. The organizers of the contest are Professors Janet and Dimiter Vassilev.

New Seminars Professor Daniel Appelo is running the new Applied Math Seminar, its inaugural talk is on “Pattern formation, application to plant patterns” by UNM faculty Matt Pennybacker. The graduate students supported by the MCTP postdocs are running the Graduate Seminar. This adds to the regular Geometry, Analysis and Statistics Seminars, and the weekly Colloquia. Only on February we have 13 talks scheduled ranging from “A beautiful connection between polynomials over the complex numbers and polynomials over finite fields” by Daniel Hernandez from University of Utah to “Vortices, vortex lattices and theta functions” by Israel Michael Sigal University of Toronto, ON, Canada, to “Spatial Extended Hazard Model with Application to Prostate Cancer Survival” by Li Li from University of South Carolina.

Conferences UNM will host 3 conferences in April 2014.

1. The Thirteenth New Mexico Analysis Seminar featuring Sergei Treil (Brown University) on April 3-4, 2014.

2. An Afternoon in Honor of Cora Sadosky featuring Rodolfo Torres (University of Kansas), Svitlana Mayboroda (University of Minnesota and first recipient of the Sadosky Prize), Jill Pipher (Brown University and Director of the Institute for Computational and Experimental Research in Mathematics (ICERM), Sergei Treil (Brown University) and Gustavo Ponce (University of California at Santa Barbara) on April 4, 2014.

These two events are co-organized by: Matthew Blair, Cristina Pereyra, Anna Skripka, and Maxim Zinchenko from UNM, and Joe Lakey and Nicholas Michalowsky from NMSU, and are sponsored by NSF. See webpage: <http://www.math.unm.edu/conferences/13thAnalysis/index.html>

3. A meeting of the AMS featuring 23 parallel sections and 4 plenary lectures, on April 5-6, 2014 to be held at UNM: http://www.ams.org/meetings/sectional/2215_program.html Fourteen of our faculty, one of our postdocs and three of our PhD graduates are co-organizing 10 of the Special Sessions.

NSF MCTP program 2012–2016 This multifaceted program is on its second year, and it builds in a prior NSF–MCTP program (2008–2012).

We hired a second postdoc Lane McConnell in the Fall, he joins Rob Niemeyer who started in Fall 2012.

Several undergraduate students are doing research projects towards an honor thesis and supported by MCTP awards.

Two graduate students, Tim Greenman and Elliot Smith, and MCTP postdoc Lane McConnell run a Teacher Training Seminar in Fall 2013. Two other graduate students, Kenny Anglin and Erik Medina, together with Postdoc Lane McConnell are running the Graduate Colloquium in Spring 2014 featuring MCTP Postdoc Rob Niemeyer as the first speaker with a talk on “Ergodic Theory and Dynamical Systems”.

Several undergraduates are working to create presentations suitable for High School as part of the outreach component of the grant.

The webpage for the MCTP program including links to each component can be found at <http://www.math.unm.edu/mctp/index.html> The main person behind all these efforts is Professor Monika Nitsche, PI of the NSF MCTP Grant that funds all these activities.

MCTP Summer Workshop The sixth MCTP Summer Camp will take place in July featuring minicourses by UNM Professors Janet Vassilev (on “Algebraic Structures”), James Degnan (“Coalescents in genetics and evolutionary biology”), Deborah Sulsky/Helen Wearing (on “Modeling Infectious Diseases”), and Mike Nakamaye/Kristin Umland (on “Mathematics Education”). <http://www.math.unm.edu/mctp/summer/>

Encourage your undergraduate students to apply! They should contact Professor Monika Nitsche at nitsche@math.unm.edu or apply at <http://www.math.unm.edu/mctp/summer/application.html>

SUnMaRC and Math and Stats Club

Thirteen UNM students will participate in the Southwest Undergraduate Mathematics Research Conference (SUnMaRC), to be held Feb 28–Mar 2, 2014 at Mesa Community College in Phoenix, Arizona. Professors Monika Nitsche and Matt Pennybacker will accompany them.

Four of them (Andrew Baxter, Scott Guernsey, Kirstin Harringer, and Miranda Mundt) will be presenting talks about their undergraduate research projects.

The UNM Math and Stats Club will be hosting the 3rd annual Math and Stats Club Mini Conference. The last two mini conferences have happened before SUnMaRC. This event allows the students presenting at SUnMaRC a chance to practice their talk in front of their peers.

Albuquerque Chapter of the American Statistical Association Each year the Albuquerque Chapter of the American Statistical Association (ACASA) presents “Best Use of Statistics” awards at the NM Science and Engineering Fair senior (grades 9–12) division, and follows up with the prize-winners to discuss the strengths and weaknesses of their work which has resulting in young scientist

publications: <http://www.amstat.org/chapters/Albuquerque/scifair.html>.

Statistics Professor Erik Erhardt is the current Vice-President of ACASA and has previously been the Chapter Representative and President, Statistics Professor Michael Sonksen is currently Secretary.

Illustrative Mathematics Professors Mike Nakamaye and Kristin Umland are major contributors to Illustrative Mathematics, in fact Professor Umland is the co-chair of this project. Here is the mission statement: “Illustrative Mathematics is a discerning community of educators dedicated to the coherent learning of mathematics. We collaborate at illustrativemathematics.org, sharing carefully vetted resources for teachers and teacher leaders to give our children an understanding of mathematics and skill in using it. We provide expert guidance to states and districts working to improve mathematics education.” The project itself is housed at the University of Arizona and is soon to become a non-profit.

The Albuquerque Math Teachers’ Circle Professor Mike Nakamaye is the heart and soul of The Albuquerque Math Teachers’ Circle (www.unm.edu/~mathtc/index.php) supports local teachers who desire to explore mathematical ideas in a fun, encouraging environment. Our meetings provide an opportunity for participants to work on interesting problems, developing their mathematical knowledge, skills, and intuition, with the support of leading mathematicians and scientists from the local community. This Spring three talks are scheduled the first one on “Fun with Origami” by Annette Hatch from University of New Mexico-Valencia.

Add+VantageMR The UNM Intern Program / AVMR Teacher Professional Development aims to train teachers and provide our UNM students with

opportunities to receive overview training in early number development and then serve in the classrooms of mentor teachers in APS, Moriarty and Bernallillo schools.

Dr. Cathy Briand learned about Add +VantageMR in 2005 and since then has worked tirelessly seeking funds to provide training to approximately 230 practicing teachers, and to provide overview training in early number development and mentorship opportunities to approximately 120 UNM students. This semester UNM interns are serving one middle school and eight elementary schools in Albuquerque. —*Cristina Pereyra*

Math News

VetOut Math Boot Camp

Evan Evans and I started a program called VetOut Math Boot Camp. VetOut specifically prepares students to pass the Mathematics College Placement exam and is free for active duty service members, veterans, and their families. Using the interactive social networking platform provided by Google+, students are able to

attend online classroom sessions with real-time audio, video, and screenshare over three weeks focusing on hands-on problem solving techniques required to pass the placement exam. More information is at <http://www.vetout.com>. —*Larry Huff, IZZOmath*

2014 SUnMaRC Conference

The 11th Annual Southwestern Undergraduate Mathematics Research Conference is February 28–March 2 at Mesa Community College. SUnMaRC is designed to provide opportunities for students to attend and/or present mathematics research in a supportive and fun atmosphere of creativity. Students will participate in mathematical puzzles / games, attend research presentations and interact with faculty, students, and business leaders from throughout the Southwest. Students who do not present will return to their schools excited to begin their own research projects. More information is at their web site <http://sunmarc.org>. —*Adam Avilez, Mesa CC*