



Allegheny Mountain Section of the Mathematical Association of America

Allegheny Mountain Newsletter

Student News

We know students in our section have been up to many great things (39 student talks at our meeting shows that). Please share student activities with the newsletter.

Four students from W&J participated in research this past summer. **Hope Snyder** worked on estimation of the maximum of a polynomial at a REU at Kent State University. **Samantha Taylor** did biostatistics research on APC mutations in colorectal cancer at the University of South Florida. **Zoe Levenson** and **Casey Hansen** participated in the ITLAB Junior Summer Institute at CMU. They worked on security and information system management.

Clarion senior **Jordan Awan** participated in an R.E.U. with Dr. Liz McMahon at Lafayette College this summer where he studied the affine geometry AG(4,3). At MathFest he gave a talk on his work titled "Geometry and Other Mathematics in the Card Game Set©" which won an MAA Outstanding Presentation Award.

In this issue:

Reports from the Governor and the Chair of the Section.

What our faculty are accomplishing.

Highlights of the spring Section Meeting.

Call for nominations: Teaching, Service and Mentor Awards.

Upcoming Allegheny Mountain Section Meetings:

April 4-5, 2014 at Westminster College

April 10-11, 2015 at Washington and
Jefferson College

2016 at Gannon University

2017 TBD

If your school is interested in hosting a Section meeting, please contact Pam Wovchko (wovchko_p@wwvc.edu) for more information.

Fall Section NExT Activities

The fall meeting of the Section NExT was September 21 at Slippery Rock University. Zahava Willstein of Berry College in Rome, Georgia, an expert on using technology in the classroom, led a discussion on Inquiry-Based Learning techniques entitled "Experiment, Explore, Develop: Using Technology and Inquiry-Based Learning to Get Students to Act Like Scientists."

After lunch, **Ryan Higginbottom** of W&J presented "Non-lecture methods in introductory courses."

If you are interested in attending a future meeting, please contact Jacqueline Jensen-Vallin (co-Section NExT Coordinator with John Thompson) at jacqueline.jensen@sru.edu.

News from the Governor: Tamara Lakins, Allegheny College

Greetings from a wet and gloomy Meadville!

The Board of Governors voted on several items at MathFest in Hartford last July. Of particular interest was the long breakout session for the Governors to discuss the MAA's declining membership numbers. Sections are being encouraged to form an action plan for attracting new members. For example, our own section has the policy that the spring section meeting registration fee is waived for "new" and "new to our section" MAA members. In what other ways can our Section, and those of us who are members of the MAA, encourage our colleagues to join? Chairs of departments were seen as essential to encouraging members of their departments to join the MAA. Outreach to high school teachers, especially those who teach AP calculus, was also suggested. The new membership structure is meant to be more transparent, with clearer benefits of membership, and the new website is key in helping to deliver

those benefits. If you have an idea for how the Section could attract new MAA members, please let me, or any member of the Executive Committee, know.

The Board of Governors also approved the proposed 2014 budget with a deficit of \$294,802. As a reminder, we expect that investments in MAA infrastructure, such as moving customer service "in-house" and the new website, will eventually yield significant yearly savings in the operating budget. It is anticipated that the projected savings will be realized by 2016.

Preparations are well underway for the Spring Section Meeting at Westminster College, which promises already to be an exciting and successful meeting. You will find more information about the section meeting later in this newsletter, including the advice to book your hotel room early! I have already begun making plans to attend the



Joint Meetings in Baltimore this January, and I hope to see many of you there.

As always, I invite you to consider looking for opportunities to participate in our MAA section. The Executive Committee always welcomes questions, ideas, volunteers, candidates for section officers, and award nominations! Please feel free to contact any of us. I can be reached at tlakins@allegheny.edu, and I look forward to hearing from you.

From the Chair: Pam Wovchko, Juniata College

Thanks to those of you who have volunteered for committees or offices! I am very excited to have participation from a variety of schools across the section.

Do you know of someone whose efforts with students or service to the section is underappreciated or insufficiently lauded? If so and you would like to recognize the hard work of an MAA member in our section, please nominate that individual for one of the Section Awards. More information about the nomination process is included in another part of this newsletter.

Our 2014 Spring Section Meeting at Westminster College will take place on April 4th and 5th. As always, we have several activities for students, particularly on Friday. Other exciting events that weekend include the Section NExT Workshop, invited addresses, faculty talks, and much more. If you require housing for the meeting, please book your hotel room before March! Housing

information and other details about the meeting may be found on the section website (<http://sections.maa.org/allegheny/>).

The 2014 Joint Meetings are being held in Baltimore, so please take advantage of the close proximity and attend if possible. Hope to see you there!



News from Around the Section

West Virginia Wesleyan College

West Virginia Wesleyan College is pleased to welcome Dr. Timothy Banham as an Assistant Professor in the mathematics department. Dr. Banham joins us from the University of California, San Diego, where he completed his Ph.D. in applied mathematics.

Juniata College

Juniata College is very pleased to welcome **Jackie Kaminski** to the mathematics faculty for a one-year position. She earned her Ph.D. this summer from Binghamton University with her thesis entitled, "Classification of Factored Gain-Graphic Hyperplane Arrangements."

Jerry Kruse is serving as Juniata's Interim Assistant Provost for the 2013-14 academic year. In August, he was on the "National Assessment Instruments" panel at MathFest, and in June, he presented the poster "**Using Performance Tasks in a Full-Cycle Assessment to Improve Quantitative Reasoning**" at the International Institute for SoTL Scholars and Mentors (iiSSAM) in Los Angeles.

Henry Escuadro is on sabbatical at Ateneo de Manila University in the Philippines. He sat in on four classes in financial mathematics, taught parts of two graduate classes, and worked with their graph theory research group. He co-wrote the paper "Total Detection of Complete Bipartite Graphs," which was accepted by *Discrete Mathematics* and is now available online.

Juniata alumnus **Justin Schultz '08** and **Cathy Stenson** published "Let pi be a function" in the June 2013 issue of *Mathematics Magazine*. Cathy is looking forward to her sabbatical in Spring 2014.

Kim Roth was on sabbatical last year, during which time she took more graduate statistics classes towards her Master's in Applied Statistics at Penn State. She also helped to write some exhibit descriptions for the Museum of Mathematics, and she gave a colloquium talk, "Variations on a Fractal Theme: The Mandelbrot Set and Multibrot Sets," at the Budapest Semesters of Mathematics while on a study abroad site visit for Juniata.

John Bukowski taught a two-week short course, "Systems of Ordinary Differential Equations and Applications," at Institut Supérieur de l'Electronique et du Numérique (ISEN) in Lille, France, in May. He won Juniata's Beachley Award for Distinguished Academic Service for 2013. This November he will perform on the piano with violinist/mathematician Dave Kung (St. Mary's College of Maryland) when Dave comes to give a math and music talk at Juniata.

Saint Vincent College

Michael Botsko has several recent pieces published in MAA journals. He created questions (and answers) number 1021, 1025, and 1032 for *Mathematics Magazine* and solved problem 11555 in the *American Mathematics Monthly*.

Daniele Arcara and Aaron Bertram published "Bridgeland-stable moduli spaces for K -trivial surfaces" and "The minimal model program for the Hilbert scheme of points of P^2 and Bridgeland stability" in the *Journal of the European Mathematical Society* and *Advances in Mathematics*, respectively.

Christina Safranski and 8 co-authors wrote "Describing free groups" published in *Transactions of the American Mathematical Society*.

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Clarion University

Dr. Carey Childers earned tenure and gave the talk “High School Mathematics Competition – Females versus Males” at MathFest.

Dr. Kate Overmoyer’s paper “Examples of non-synthetic diagonal operators acting on the space of functions analytic on the unit disk” appeared in *The Rocky Mountain Journal of Mathematics*.

Dr. Dip Bhattacharya’s paper “A journey to the origin of Chaturanga (chess)” will appear in the *Indian Science Cruiser*.

Dr. Dan Shifflet spoke on “Calculus Group Projects to Motivate Sequences and Series by Major” at MathFest and had his paper “Sharing the treats of mathematics in a senior capstone course” published by *PRIMUS: Problems, Resources, and Issues in Mathematics Undergraduate Studies*.

Washington & Jefferson College

Dr. Ryan Higginbottom received tenure in May. This fall semester he is on sabbatical.

Slippery Rock University

Dr. Rachelle (Shelly) Bouchat earned tenure at the university.

Dr. Robert Vallin presented many talks this year including “From the Gilbreath Principle to new types of numbers” at the inaugural MOVES Conference and John Wiley & Sons published his text “Elements of Cantor Sets – with Applications” in July.

Dr. Jacqueline Jensen spoke on “A Student-Centered Approach to Intermediate Algebra” at MathFest.

Dr. Rich Marchand earned promotion to Full Professor.

Point Park University

Dr. Matthew Pascal recently joined the faculty. He earned his PhD in 2006 at American University.

Allegheny College

Craig Dodge was hired in a tenure track position. He earned his PhD in 2012 from SUNY Buffalo. His research area is representation theory of finite groups.

Anthony Lo Bello’s book “*Origins of Mathematical Words*” was recently published by the Johns Hopkins University Press.

Spring Meeting: A Note from Westminster College



We are very excited to be hosting the Allegheny Mountain Section Meeting on April 4 and 5, 2014. We hope that you can all join us! There are a few important things you need to know as you are making your plans for the conference.

We reserved plenty of hotel rooms, but due to the high demand in the area, the rooms will only be held until March 5, 2014. Please be sure to book – your room early! You can find information on the hotels at the Section Website

If you don't reserve your room before March 5, don't give up! Try going to a travel website and searching for available rooms in West Middlesex, Grove City, or New Castle.

If you register in advance, you will receive an email from the Westminster College IT Department during the week prior to the event containing your login information for the conference.

We will look forward to seeing you in April!

Highlights of the Spring Section Meeting

The Spring Section Meeting was April 5 and 6, 2013 at Indiana University of PA. It was the most recent in a long line of great meetings. Kudos go out to Tim Flowers and the rest of the faculty and staff at IUP.

The invited speakers were Drs. Katherine Socha of Math for America, Ravi Vakil from Stanford University, and Muhlenberg College's William Dunham.

As we can see from the title, "Sea Battles, Benjamin Franklin's Oil Lamp, and Jellybellies," Dr. Socha's talk was a far-flung adventure covering multiple topics all related by the type of mathematics involved in their modeling.



Dr. Vakil spoke on "The Mathematics of Doodling." Starting by drawing doodles on his slides, he led the audience on an investigation of patterns and shapes that led to some important ideas in geometry, topology, and physics.

The Truman Koehler Professor of Mathematics at Muhlenberg, Dr. Dunham is well-known for bringing the past to life with his talks on the history of mathematics. He did not disappoint with "Two (more) Morsels from Euler."

Over 30 faculty presented talks on a wide variety of topics. From Gary Stoudt's "Hippocrates Quadratum of a Lune and Calculus" to Terry Blakney's "Project Ideas for Teaching Statistics" to Ed Donley's "Using Fundamental Algebra and

Calculus Concepts for Image Processing" there were talks for every interest.

This is, of course a student-centered meeting and there were lots of events for them. Day 1 had the Student Problem Competition and an evening of Student Talks. Once again there was a plethora of subjects. Hadley Cesar of IUP spoke on "The Mathematics of Music", Clay Schuman from Penn State Erie talked about "Multi-Dimensional Predator-Prey Models", Laura Lee of Washington & Jefferson College presented "Deriving the Simple Continued Fraction Expansion of e without Integrals", and Slippery Rock's Scott Pitzer drew a crowd to "How Much Damage Can Your Pokémon Do?". Friday night ended with the traditional Pizza Party. On Day 2, Saturday, in addition to two invited addresses and the faculty talks, there was a graduate school panel for the students.



Friday night's banquet was a fun affair where our annual awards were given out. The winner of the Section's Teaching Award was David Miller of West Virginia University. James Sellers of Penn State University won the Service award. Jackie Jensen of Slippery Rock University earned the Outstanding Mentor Award.

The next Section Meeting is April 4 and 5, 2014 at Westminster College in New Wilmington, PA. Hope to see you there!!

Call for Nominations

Section Awards

The section gives out three awards at the annual meeting. These are the Service, Mentor, and Teaching Awards. Nominations for these awards will be accepted until early-March. Below is the criterion for each award. Please consider nominating your colleagues and honoring their hard work.

The criterion for the annual Allegheny Mountain Section Service Award is a consistent record of excellent in service to the section over a period of time. In this context "service" is interpreted in a broad sense to include holding office, coordinating contests, organizing sessions, serving as a panelist, speaking at sessions, acting as the coordinating host for a meeting, or participating in any other activity that contributes to the well-being of the organization.

The section announces the winner of this award each year at its annual meeting in the spring. Recent recipients of the award include:

2013: **James Sellers**, Penn State University
 2012: **Robert Vallin**, Slippery Rock University
 2011: **John Bukowski**, Juniata College

The service award selection committee consists of James Sellers (Penn State University), Kim Roth (Juniata College), and Alfred Dahma (Indiana University of Pennsylvania). Please send your nomination, with a description of how the nominee meets the criterion, by March 1, 2014 to:

James Sellers

Department of Mathematics
 Penn State University
 104 McAllister Building
 University Park, PA 16802
sellersj@psu.edu

Please note that electronic submissions are preferred.

The Allegheny Mountain Section of the MAA seeks nominations for the annual Distinguished Faculty Mentor of Undergraduate Mathematics Students Award. Awardees have made significant contributions to the development of undergraduate students in mathematics as scholars. This includes, but is not limited to, encouraging student participation in MAA activities and advising students who make presentations at the section meetings.

Recent recipients of the award include:
 2013: **Jackie Jensen**, Slippery Rock University
 2012: **Stacey Levine**, Duquesne University
 2010: **Roman Wong**, Washington & Jefferson College

To nominate a colleague for the 2014 award, please send a note by email to

jacqueline.jensen@sru.edu
 by March 1, 2014.

Nominations for the 2014 Allegheny Mountain Section Award for Distinguished College or University

Call for Nominations

Section Awards (continued)

Allegheny Mountain Section Award for Distinguished College or University Teaching of Mathematics are now being solicited. The criterion for nomination for the teaching award is on the section website http://sections.maa.org/allegheny/teachingaward_call.htm.

Each year, the Allegheny mountain section of the MAA recognizes one of its own for Distinguished College or University Teaching of Mathematics. The awardee is honored at the spring meeting of the Allegheny mountain section and is widely recognized and acknowledged within the Section. The winner will also be nominated for the national MAA Deborah and Franklin Tepper Haimo Awards for College or University Teaching of Mathematics.

Anyone is entitled to make a nomination, although self-nomination is not permitted. Even if not selected this year, completed nominations are held for three years with the permission of the nominator's.

Former recipients of the award include:

2013 **David Miller**, West Virginia University
 2012 **Rick Brazier**, Penn State Dubois
 2011 **Jerry Kruse**, Juniata

Nominations can be sent by March 1st 2014 to:

Rick Brazier
 The Pennsylvania State University
 111 Old Main, University Park, PA 16802-1501

Or by email to: rab27@psu.edu

Section Executive Committee

At the Spring 2014 Section Meeting at Westminster College, the members of the Section will elect the Chair-Elect, the Second Vice-Chair, and the Secretary. Descriptions of the responsibilities of these positions can be found in this newsletter.

We welcome nominations for these positions. Please consider nominating a colleague or even yourself. Please send your nominations to one of the following members of the Nominating Committee:

John Bukowski (Chair), Juniata College
bukowski@juniata.edu
 814-641-3591

Eric Bancroft, Grove City College
edbancroft@gcc.edu
 724-458-3844

John Thompson, University of Pittsburgh at Johnstown
jwt01@pitt.edu
 814-269-2043

The deadline for nominations is January 24, 2014. Nominations will also be taken from the floor at the Business Meeting in April.



Description of Open Positions

Chair-Elect/Chair/Past Chair

The Chair-Elect serves for one year before beginning a two-year term as Chair. The Chair-Elect has no specific duties other than to serve on the Executive Committee and to prepare to become Chair. The Chair prepares meeting agendas with input from the other officers and presides at the Business Meeting and the three Executive Committee Meetings each year. The Chair is generally responsible for the operations of the Section throughout the year which include setting dates for future section meetings, giving opening and closing remarks at the section meeting, writing a message from the chair for each newsletter and being a contact between the section and the national MAA. After completing the two-year term, the Chair becomes Past Chair for one year to maintain continuity in the Section leadership. During the years of being Chair, most of the work occurs right before the Spring Section Meeting. The term of the position is four years (one year as chair-elect, two as chair, and one as past chair).

Second Vice-Chair/First Vice-Chair

The primary duty of the Second Vice-Chair is to organize the faculty contributed talks at the Spring Section Meeting. This includes collecting the faculty talk registrations (typically sent by e-mail), coordinating with the host institution, scheduling times and rooms, and finding moderators for talks. Much of this work is done in the weeks directly preceding the Section Meeting. After one year, the Second Vice-Chair becomes the First Vice-Chair for one year. The First Vice-Chair acts as the contact person for the three invited speakers for the Spring Section Meeting. Duties include inviting the speakers who have been determined by the executive committee (usually during the summer) and confirming travel, lodging, and registration with the invited speakers. The First Vice-Chair also finds people to meet the speakers when they arrive at the meeting and to introduce the speakers. This work occurs mostly in the summer and in the month before the section meeting. The term of the position is two years total.

Secretary

The Secretary keeps minutes of the Business Meeting and the three Executive Committee Meetings each year and submits the Annual Section Report to the MAA after gathering the appropriate data (with the help of the Treasurer and others). The secretary also maintains the contact list for departments for the section and is in charge of distributing it to committees that need it. Most of the Secretary's duties occur immediately before and during the Executive Committee Meetings. The term of the position is two years with possibility of re-election for subsequent terms.

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