

Allegheny Mountain Section of the Mathematical Association of America

Allegheny Mountain Newsletter

Spring Section Meeting!

This year's Section Meeting is being held **April 8-9** on the campus of **Clarion University**. As usual, we have an exciting array of invited speakers as well as faculty and student talks. There will also be a student problem competition, a book exhibit and a pizza party. Look inside for more details.

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The deadline for registering is **April 1**, which is also the deadline for submitting a talk. Special lodging rates require an early hotel reservation so act soon! Further hotel information is on page 11.



From the Governor: James Sellers, Penn State University

Greetings! I hope that all of you are enjoying the spring semester. I am writing this letter in mid-January, so there is lots of snow outside and it is a bit cold. But all in all I am excited as I think about the year to come.

I truly enjoyed the MAA Board of Governors meeting at the Joint Meetings in New Orleans. I was a bit sad when I realized that that was my sixth and last meeting as a governor. I have grown to appreciate the opportunity and privilege of serving you in this capacity, and I can honestly say that I will miss it immensely. (Let me take this opportunity to share a selfish advertisement! By now you probably know that I am one of this year's candidates for 1st vice president of the MAA. I would truly appreciate your vote! I really enjoy representing you at the national level of the MAA, and this would be a fabulous opportunity to continue to do so.) As always, I was impressed with the financial status of the MAA as reported at the Board of Governor's Meeting. More information about the MAA's financial situation is available to MAA members at <http://www.maa.org/treasurer/>. It was also a real pleasure to take part in a number of other activities while at the Joint Meetings, including serving as a panelist in a session for Directors of Undergraduate Mathematics sponsored by the AMS, moderating a focus group for CUPM information-gathering with members of various PhD granting institutions around the country, chairing my MAA Invited Paper Sessions Committee meeting, attending the CUPM Committee meeting, hearing some great talks, and "networking" with numerous people (especially over some great meals). (Speaking of networking, if you are ever in New Orleans and don't want to eat the usual fare, check out a little place called Port of Call. It's a bit off the beaten path, but the burgers and baked potatoes were extremely tasty!)

Our section's next annual meeting will be held April 8-9 at Clarion University in Clarion, PA. It promises to be a great meeting. Check out our section's website at <http://www.maa.org/alleghenymtn> for information about the meeting. The plenary speakers include Judy Holdener, Danny Otero, and Ivars Peterson. (Just a quick side note here – Danny Otero is a personal friend and fellow Penn State graduate, earning his PhD in 1987. I can't wait to see his talk, and I am more than confident that all three plenary



James Sellers of Penn State University, Section Governor

speakers will be wonderful!) Please consider attending and bring a colleague and/or some students from your institution. Also encourage a student to give a student talk, or plan to give a talk yourself. Such experiences are invaluable for your students!

Let me also mention the 2011 MAA MathFest in Lexington, Kentucky to be held August 4-6. I realize that Pittsburgh is closer to us than Lexington! But Lexington isn't all that far away, and as I have said in previous letters, I think the MathFest meetings are wonderful times to enjoy some mathematics, meet colleagues like you who are interested in teaching and research, and gear up for the upcoming academic year. Please consider attending!

I realize I probably sound like a broken record by now, but as your governor, let me encourage you to get involved in the section! Attend the meetings, encourage younger colleagues to attend the Section NExT meetings that we hold each fall semester, nominate a colleague for one of our three section awards (teaching, mentoring, and service), give a talk at a meeting, do some research with undergraduates and encourage them to speak, consider serving as an officer of the section, and so on. The list of opportunities is quite long! I realize that it can sometimes be difficult to know how to find that "entry point" in order to really get involved. Please feel free to talk with me as governor of the section and I will try to play "matchmaker" for you. I love playing such a role for the MAA!

Finally, please allow me to applaud the section officers for their leadership. It has been a true privilege and pleasure to work with these folks, and I am confident that our section will continue to thrive as we move forward.

As always, if I can be of assistance to you in any way, please feel free to contact me at sellersj@math.psu.edu. I look forward to seeing you at the meeting in Clarion!

From the Chair: John Bukowski, Juniata College

Spring 2011 Newsletter
News from the Chair
John Bukowski, Juniata College

Greetings from Huntingdon! I hope that everyone is having a good semester and looking forward to some warmer weather and our annual spring meeting.

In January I attended the Joint Meetings in New Orleans and saw many colleagues and friends, some from our section. It is always good to reconnect with people and the profession in general, and of course the food in New Orleans was fantastic. I know that several of us from the Section had a difficult time getting home because of the ice storm that swept through the South on the last day of the meeting!

While in New Orleans, Pam Wovchko (First Vice Chair) and I represented the Section at the Section Officers Meeting, where we learned about many things going on at the MAA. President David Bressoud announced a couple of big changes in personnel: Executive Director Tina Straley will retire at the end of the year after twelve years of service to the MAA, and Treasurer John Kennelly plans to step down at the end of September. The MAA is currently searching for new people to fill these important positions. Tina Straley talked about the MAA's budget, which had a difficult year in 2010. Due to a budget deficit, the MAA made some difficult cuts to the budget. On the bright side, however, Straley views this situation as an opportunity to refocus the MAA's efforts and finances to build a stronger organization for the future. They are looking for ideas from MAA members! We also saw an interesting presentation on the MAA's new marketing efforts in positioning and branding, things that the average



John Bukowski of Juniata

MAA member doesn't usually think about. It is always good to attend these meetings to see that there are good, hard-working people leading our national organization.

I also attended a panel discussion, "Writing the history of the MAA's first 100 years." As the MAA prepares to celebrate its centennial in 2015, the organization is becoming more interested

in documenting its history. We heard from Carol Mead, Archivist at the Archives of American Mathematics (AAM) at the University of Texas at Austin. The MAA has selected the AAM as its official archive. They currently have old records from seven MAA sections, and I was pleased to find out that one of the most extensive collections is from our section! They have many Allegheny Mountain Section materials from 1961 to 1986. I hope to work with the AAM over the next few years, in conjunction with other members of our section, to help to preserve the history of our section.

I also attended the MAA Business Meeting, where they announced the ballot for the upcoming election of new national officers. All the candidates seem to be outstanding, but I am especially excited that our very own James Sellers is a candidate for First Vice President of the MAA. I know that he will do a fantastic job if elected. Speaking of elections, you should have received an e-mail message from the MAA concerning the election of our new Section Governor, who will begin a three-year term this July. Please remember to vote – the online election is open through March 15.

Section NExT News: John Thompson, University of Pittsburgh, Johnstown

The **Spring 2011 Section NExT workshop** will precede the Spring section meeting at Clarion University on April 8, 2011. All current and past national and section NExT fellows are invited to participate in Section NExT activities. Ivars Peterson, MAA Director of Publications and Communications, will present his workshop on “**Writing Mathematics Well.**”

Abstract: The importance of communicating mathematics clearly and effectively is evident in the many ways in which mathematicians must write—whether to produce technical reports, expository articles, book reviews, essays, referee's reports, grant proposals, research papers, evaluations, or slides for oral presentations. With a focus on exposition, this workshop offers tips for improving writing skills, from grammar and usage to organization and manuscript or slide preparation. It also suggests how participants can contribute to the public understanding of mathematics.

Bio: **Ivars Peterson** is Director of Publications and Communications at the [Mathematical Association of America](#) in Washington, D.C. For more than 25 years previously, he was a writer at *Science News*. He also served as editor of *Science News for Kids* and *Science News Online* and wrote the weekly online column *Ivars Peterson's MathTrek*.

Ivars Peterson received his education from the University of Toronto, where he earned a

degree. In 1991, he received the [Joint Policy Board for Mathematics Communications Award](#) recognizing him for his "exceptional ability and sustained effort in communicating mathematics to a general audience." During the spring semester of 2008, Ivars Peterson served as the [Basler Chair](#) of Excellence for the Integration of the Arts, Rhetoric, and Science at East Tennessee State University in Johnson City, where he taught a course on "[Communicating Mathematics.](#)" Questions about the Section NExT program should be directed to one of the Co-ordinators: Tamara Lakins (tlakins@allegheny.edu), Beverly Michael (bkm@pitt.edu), or John Thompson (jwt01@pitt.edu).



Ivars Peterson

Section Mentoring Award: Call for Nominations



2009 Mentoring Award winner James Sellers of Penn State University

Since the year 2000 the Allegheny Mountain Section of the MAA has awarded the Distinguished Faculty Mentor of Undergraduate Mathematics Students Award. Awardees have made significant contributions to the development of undergraduate students in mathematics as scholars. Recent recipients of the award include:

2009: **James Sellers**, Penn State University

2008: **Rich Marchand**, Slippery Rock University

2007: **Mike Berry**, West Virginia Wesleyan College

2006: **Eric Rawdon**, Duquesne University

2005: **Robert Vallin**, Slippery Rock University

2004: **Lyn Miller**, Slippery Rock University

2003: **Francisco Alarcón**, Indiana University of Pennsylvania

We are soliciting nominations for this award from now through March 18, 2011.

A nominee should 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. Please send your nomination with a description of how the nominee meets the criteria to:

[James Sellers](#)
Department of Mathematics
Penn State University
104 McAllister Building
University Park, PA 16802

Section Service Award: Call for Nominations



2009 Service Award winner Tamara Lakins of Allegheny College

The criterion for the Annual Allegheny Mountain Section Service Award is a consistent record of excellence in service to the section over a period of time. The Section announces the winner of this award each year at its annual meeting in the spring. Recent recipients of this award include:

2009: **Tamara Lakins**, Allegheny College

2008: **Don Platte**, Mercyhurst College

2007: **Ben Freed**, Clarion University

2006: **Ron Harrell**, Allegheny College

2005: **Dave Wells**, Penn State New Kensington

2004: **George Bradley**, Duquesne University

In the context of this award, "service" is interpreted in a broad sense to include holding office, coordinating contests, organizing sessions, acting 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 Section.

The Service Award Selection Committee consists of Hollie Buchanan (West Liberty Univer-

sity), Tamara Lakins (Allegheny College), and Pam Wovchko (West Virginia Wesleyan College).

Please send your nomination, with a description of how the nominee meets the criterion, **by March 18, 2011** to:

Tamara Lakins,
Department of Mathematics
Allegheny College
520 N. Main St.
Meadville, PA 16335,
tlakins@allegheny.edu

Tentative Schedule for the Spring 2011 Meeting

Friday, April 8

- 11:30-12:30 Section Officers Meeting
- 12:30-1:00 Section NExT Lunch
- 1:00-3:30 Section NExT Workshop
- 2:00-5:00 Registration
- 2:00-3:45 Book Exhibits
- 3:55-4:00 Welcome from Clarion University
- 4:00-5:00 Invited Address: Judy Holdener, Kenyon College
- 5:15-6:30 Dinner & Awards
- 6:30-8:25 Student talks
- 6:30-9:30 Book Exhibits
- 8:30-9:30 Presentation from Texas Instruments
- 8:35-9:30 Student Problem Competition
- 8:35-9:30 Presentation: Your Passion, TI Technology, Student Success....What Role Do We Play? (Doyt Jones, Texas Instruments)
- 9:30-?? Pizza Party

Saturday, April 9

- 7:30-8:45 Breakfast
- 8:00-8:45 Business Meeting
- 8:00-9:00 Registration
- 9:00-10:00 Invited Address: Danny Otero, Xavier University
- 10:00-11:45 Book Exhibits
- 10:15-11:30 Faculty Talks
- 11:45-12:45 Invited Address: Ivars Peterson, Dir. of Publications and Communications, MAA
- 12:45 Closing Remarks

Invited Speakers for the Spring Section Meeting

Judy Holdener, Kenyon College

Talk Title: When Thue-Morse meets Koch

Abstract: The Thue-Morse sequence and the Koch snowflake have much in common. Both are defined iteratively. Both exhibit properties of self-similarity. Both first appeared in the early 1900's (the von Koch curve in 1906 and the Thue-Morse sequence in 1912). And both continue to appear frequently - yet independently - in popular mathematical writing today. In this talk, we will show that the commonality between these two famous objects is deeper yet. By realizing the Thue-Morse sequence geometrically as the limit of polygonal curves in the plane, we will show that the connection between the Thue-Morse sequence and the von Koch curve is much stronger than one might expect. This connection was discovered and formalized with the extensive help of undergraduate students through Kenyon's Summer Science Scholar research program.

Danny Otero, Xavier University

Talk Title: Determining the Determinant (1693-1812), the Early History of a Sophisticated Idea

Abstract: The history of the development of the matrix determinant, a standard topic in college mathematics, is a complicated one. And while it has been well studied before, it is not well known in the mathematics community. This talk will review the early period of this development, spanning the 18th century (plus a few years on either end), illustrating the contributions of a variety of mathematicians -- Leibniz, Maclaurin, Cramer, Bézout, Vandermonde, Laplace, Lagrange, Gauss, Binet, Cauchy and Jacobi. It will document how the powerful notion of a determinant coalesced out of their work on many different kinds of mathematical problems, and how a multiplicity of notations were devised to represent this complex idea until it settled into a form that is recognizable to every linear algebra student today.

Ivars Peterson, Mathematical Association of America

Talk Title: The Jungles of Randomness

Abstract: From slot machines and amusement park rides to dice games and shuffled cards, chance and chaos pervade everyday life. Sorting through the various meanings of randomness and distinguishing between what we can and cannot know with certainty proves to be no simple matter. Inside information on how slot machines work, the perils of believing random number generators, and the questionable fairness of dice, tossed coins, and shuffled cards illustrate how tricky randomness can be.

Guest Presentation at Spring Section Meeting

Doyt Jones, Texas Instruments

Presentation: Your Passion, TI Technology, Student Success....What Role Do We Play?

Abstract: The importance of students achieving in STEM related subject is paramount in today's educational arena. The Nspire platform supports classroom learning environments when engaging students in refining their academic skills. Participants will preview the potential of these tools when effectively used in STEM related discussions.

Section Business

At the business meeting during the section meeting we will elect four officers: Treasurer, Coordinator of Student Programs, Newsletter Editor and Second Vice Chair. The nominating committee has put forth the following names and we remind all section members that nominations can be made from the floor at the business meeting as well. The nominating committee consisted of John Thompson from the University of Pittsburgh Johnstown, Bob Fliess from West Liberty University, and Kim Roth from Juniata College. Persons who are interested in serving as a section officer in the future should speak to a section officer about how to get involved. In particular, we are always looking for candidates for Second Vice Chair.

Two special notes:

1. This will be Ben Freed's last time standing for election for Treasurer before his retirement.
2. Natacha Fontes-Merz is stepping down from the Coordinator of Student Programs position. We thank her for her service.

Treasurer: Ben Freed, Clarion University

Ben Freed served as Secretary/Treasurer of the Section from 2001 until 2006; since then he has continued on as Treasurer. He earned his Ph.D. in geometric topology from Kent State University in 1975 and is currently interested in problem solving. Ben has also served as Second and First Vice-Chair of the section.

Coordinator of Student Programs: Pam Richardson, Westminster College

Pam Richardson is an assistant professor at Westminster College. She earned a B.S. from Bowling Green State University and a Ph.D. from the University of Virginia, both in mathematics. She is a nonassociative algebraist and truly enjoys the looks people give her when she tells them her research field. Pam is a 2005-2006 Project NExT fellow and has been the Allegheny Mountain Section "Puzzle Czar" since 2007. She is very involved in the Carleton College Summer Mathematics Program for women, most recently as an instructor for the program.

Newsletter Editor: Marc Brodie, Wheeling Jesuit University

Marc Brodie is an associate professor at Wheeling Jesuit University and the current Newsletter Editor. A truly ethical incumbent, he reports that not a dime of MAA money has been spent to fund his re-election campaign.

Second Vice Chair: Ryan Higginbottom, Washington and Jefferson College

Ryan Higginbottom is in his fourth year as an assistant professor at Washington & Jefferson College. He earned a B.S. in Mathematics from Bucknell University (1999) and both an M.S. (2001) and a Ph.D. (2005) in Mathematics from the University of Virginia. While he teaches classes from across the mathematics curriculum, he especially enjoys opportunities to mentor students in researching and communicating mathematical ideas.

Annual Spring Meeting - Talk Information Form

(online at http://sections.maa.org/alleghey/annual_meeting_2011/meeting2011.htm)

Note: All contributed talks are 15 minutes in length.

Mark the appropriate blank: I am ____ a student ____ faculty.

Name: _____

Institution: _____

Email Address: _____

Mailing Address: _____

Title of Talk: _____

Abstract of Talk: (Please **attach** separately if needed.)

Equipment Needs — Please read carefully: Each room is equipped with a computer projection system, document camera, and a VCR. Half of the rooms have white boards, and the other half have chalk boards. *If you request additional technology or software, please provide a clear and comprehensive list of your needs; attach separately if needed.*

Mail *student* Talk Information Forms to:

Natacha Fontes-Merz
Department of Mathematics and Computer Science
Westminster College
New Wilmington, PA 16172

Mail *faculty* Talk Information Forms to:

John Tolle
Mathematics Department
Penn State DuBois
College Place
DuBois, PA 15801

Talk Information Forms must be received by April 1, 2011.

Annual Spring Meeting – Registration Form

(online at http://sections.maa.org/allegheny/annual_meeting_2011/meeting2011.htm)

Name: _____

Institution: _____

Email Address: _____

Mailing Address:

Registration Category (check one): (Faculty members, please select based on the **highest mathematics degree** offered at your institution.)

Regular Registration (\$25.00)

- _____ Faculty, Associate’s Offered
- _____ Faculty, Bachelor’s Offered
- _____ Faculty, Master’s Offered
- _____ Faculty, Doctorate Offered
- _____ Business, Industry, or Government
- _____ High School Teacher

“New Person” Registration* (free)

- _____ Faculty, Associate’s Offered
- _____ Faculty, Bachelor’s Offered
- _____ Faculty, Master’s Offered
- _____ Faculty, Doctorate Offered
- _____ Business, Industry, or Government
- _____ High School Teacher

Special Registration (free)

- _____ Undergraduate Student
- _____ Graduate Student
- _____ Retired

* - A "new person" is defined as someone who, as of this academic year, is either a new member of the MAA or is a member of the MAA who is new to the Allegheny Mountain Section.

- MAA member? _____ yes _____ no
- Optional Contribution supporting Section NExT? _____ yes (\$5) _____ no _____ yes (\$10)
- Friday Evening Dinner? _____ yes (\$20) _____ no
- Saturday Breakfast? _____ yes (\$10) _____ no

Additional Information (such as food allergies, special diets, whether you are bringing a guest to meals):

Checks should be made payable to Allegheny Mountain Section, MAA, and sent with this form to:
Ben Freed, Mathematics Department, 840 Wood St., Clarion University, Clarion, PA 16214.

Deadline for receipt of registration forms: April 1, 2011

Local Arrangements for the Spring Section Meeting:

Driving Information:

Driving directions to Clarion University can be found at http://sections.maa.org/alleggheny/annual_meeting_2011/directions.htm

Hotel Information:

There are six hotels and one B & B located near Clarion University with special rates for conference attendees. Further information, including deadlines and amenities, can be found at http://sections.maa.org/alleggheny/annual_meeting_2011/hotel.htm Mention the Section Meeting to receive the prices below.

<u>Comfort Inn</u>	(\$64.99)	(814) 226-5230
<u>Hampton Inn</u>	(\$94)	(814) 226-4444
<u>Holiday Inn</u>	(\$75)	(814) 226-8850
<u>Microtel</u>	(\$49 One Bed; \$59 Two Beds)	(814) 227-2700
<u>Quality Inn</u>	(\$45 One Bed ; \$49 Two Beds)	(814) 226-8682
<u>Super 8</u>	(\$50)	(814) 226-4550
The Clarion B&B	(\$80 or \$90)	(814) 226-4996

Campus Map:

A campus map can be found at http://sections.maa.org/alleggheny/annual_meeting_2011/clarion.pdf