

# Allegheny Mountain Section Newsletter

Volume XXIX, Issue 1

Spring 2006

## **Greetings from Our Chair...**

*Michael L. Berry, West Virginia Wesleyan College*

Greetings from snowy Buckhannon. Now that Steeler euphoria has begun to fade, it is time to start looking ahead. I hope you and others in your department are making plans to attend the spring section meeting at Juniata College on April 7-8.



Local co-organizers John Bukowski and Gerald Kruse have been very

busy putting together what is certain to be a very exciting and worthwhile meeting. Complete information about the meeting can be found elsewhere in this newsletter and on the section web site at [www.maa.org/alleghenymtn](http://www.maa.org/alleghenymtn). The registration forms are now available on the site.

See you at Juniata.

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## **...and Our Governor**

*John Bukowski, Juniata College*

Greetings! I hope that you are all having a good spring semester. It was good to see many friends from the Section at the Joint Meetings in San Antonio. This year's meeting was another good one, filled with too many worthwhile activities to be able to attend them all!

The Board meeting was a relatively easy and painless one, about an hour shorter than the one in Albuquerque. We learned about the current activities of the MAA, and we voted on several issues. The MAA continues to do well financially, and we now have an operating budget of about nine million dollars. However, members should see a slight increase in dues throughout a four-year period beginning in 2007, because the core dues-paying members do not currently cover the costs of the journals. This plan was developed by the Budget Committee over a period of at least a year and was approved by the Board. We also approved a Code of Ethics,

including a Whistleblower Policy. We also learned that renovations to the Carriage House in Washington, DC, are coming along nicely, and that the building is expected to be finished by the end of the summer. The MAA is also excited about improvements to its web site, MAA Online, at <http://www.maa.org>, including a new Members Only section. Check it out!

MathFest 2006 will be held August 10-12 in Knoxville, TN, while the 2007 Joint Meetings will be in New Orleans next January. We anticipate no problems with our meeting in the city of New Orleans, and the MAA and other mathematics organizations want to show their support for New Orleans as it recovers from the devastation of Hurricane Katrina. Looking further down the schedule, I can now officially tell you that MathFest 2010 will be in Pittsburgh!

*(continued on page 2)*

**From the Governor***Continued from Page 1*

The MAA is also beginning to plan for its centennial celebration in 2015.

I want to thank our Section's own Barbara Faires, Westminster College, who has just completed her term as MAA First Vice-President. Barbara has served the



MAA in many ways at both the Section and national levels, and I'm sure that she will continue to do so for many years.

Finally, I look forward to welcoming all of you to my own institution, Juniata College, in the beautiful mountains of central Pennsylvania, for our Spring Meeting on April 7 and 8. I hope to see you there!

**Final Calls for Nominations****Section Service Award***Donald Platte, Mercyhurst College*

The Allegheny Mountain Section Service Award is a consistent record of excellence in service to the section over a period of time. At this time we have not received any nominations for the service award. I know that there are many members of our section worthy of this award so considering nominating a deserving colleague. The deadline for nominations is **Feb. 28**. Further detail is available at the Allegheny Mountain Section web site.

**Section Teaching Award***Ron Harrell, Allegheny College*

So far there have been no nominations for the 2006 Allegheny Mountain Section Award for Distinguished Teaching of College or University Mathematics, but surely there are deserving individuals. Nominations are due **March 1, 2006**, and will be read and judged by this year's Allegheny Mountain Section Selection Committee, consisting of Ron Harrell (chair), Kim Roth, and

Jim Reynolds. The winner will be honored during the dinner at the Annual Meeting of the section on April 7, 2006. The winner then also becomes eligible for the national MAA Deborah and Franklin Tepper Haimo Awards for College or University Teaching of Mathematics. Three of the latter are awarded each year and recipients will be honored at the Joint Annual Meeting scheduled to be held in New Orleans, January 4-7, 2007.

Exemplary teaching should not go unacknowledged. If you have a colleague whom you believe is an excellent teacher of mathematics, then we encourage you to nominate that person. In past years the selection committees have always commented on the lack of nominations, which should not be the case. We all know of people whose teaching should be recognized for its superiority and effectiveness. See the section webpages for more information and nomination forms, or go directly to the site:

[http://www.math.psu.edu/sellersj/alleghenymtn/teachingaward\\_call.htm](http://www.math.psu.edu/sellersj/alleghenymtn/teachingaward_call.htm)

**Spring Meeting Deadlines:****To register: March 31, 2006****To give a talk: March 31, 2006****To book a room: March 7 or 20, 2006**

## **SECTION NExT**

Barbara Faires, Westminster College

**Friday, 7 April 2006, 1 – 3:30 pm,  
including lunch**

This is a wonderful opportunity for new faculty in the Allegheny Mountain Section. Faculty who are new to our Section and relatively new to teaching mathematics at the college and university level are invited to join Section NExT. Names should be sent to John Bukowski (bukowski@Juniata.edu) and then those faculty should join current Section NExTers for the Friday activities beginning with lunch at 1 pm. Lunch is provided by the Section, with some support from Exxon Foundation.

Following lunch and opening discussions, our own James Sellers will continue our attention to undergraduate research with his talk *Mathematics Research with Undergraduates: Stories of Personal Success*. James is Director of Undergraduate Mathematics and Associate Professor at Penn State. Those who have heard James know that we're in for an exciting and informative talk.

It is at this Spring Meeting that we begin planning for the fall workshop, so ideas for that will also be

on the agenda. Questions and suggestions should be directed to John Bukowski or to Barbara Faires (fares@westminster.edu). In particular, if you are interested in Section NExT and have issues with funding the travel involved, you should contact Barbara.

**ALL NEW FACULTY IN THE SECTION  
ARE INVITED TO JOIN SECTION  
NExT!**

*Editor's note:*

*The deadline for applying to National Project NExT for this year is April 17, 2006. Faculty for whom the 2006-2007 academic year will be the first or second year of full-time teaching at the college/university level (after receiving the Ph.D.) are invited to apply to become Project NExT Fellows. Approximately sixty Project NExT Fellows will be selected for the 2006-2007 year. If you have questions about whether you are eligible to apply to Project NExT, please consult the NExT applicants' FAQ. For more details, see the Project NExT web site at <http://archives.math.utk.edu/projnext/>*

### **Welcome to new members**

The Executive Committee extends a special invitation to all new MAA members and all members of the MAA new to the Allegheny Mountain Section to become involved in the section and attend the Spring 2006 section meeting. As our welcome to you, we will waive your registration fee for this meeting! Please refer to the meeting registration form (available in this newsletter and electronically on the section website [www.maa.org/alleghenymtn](http://www.maa.org/alleghenymtn)) to see how to take advantage of this offer.

**Spring Meeting****April 7-8, 2006****Juniata College****Tentative Schedule****Friday, April 7**

|             |                              |
|-------------|------------------------------|
| 11:30-12:30 | Section officers meeting     |
| 1:00-3:30   | Section NExT program         |
| 2:00-5:00   | Registration                 |
| 2:00-5:30   | Book exhibits                |
| 3:55-4:00   | Welcome from Juniata         |
| 4:00-5:00   | Invited talk, Aparna Higgins |
| 5:30-6:45   | Dinner                       |
| 7:00-8:00   | Student breakout session     |
| 8:15-10:00  | Student talks                |
| 10:15-??    | Pizza party, Comfort Inn     |

**Saturday, April 8**

|             |                              |
|-------------|------------------------------|
| 7:30-8:45   | Breakfast                    |
| 8:00-8:45   | Business meeting             |
| 8:00-9:00   | Registration                 |
| 9:00-12:00  | Book exhibits                |
| 9:00-10:00  | Invited talk, James Reynolds |
| 10:10-11:30 | Faculty talks                |
| 11:45-12:45 | Invited talk, Carl Pomerance |
| 12:45       | Closing remarks              |

*A finalized schedule will be included in your registration packet at the meeting registration desk in the lobby of the von Liebig Center for Science, which is located along the 18th Street brick walkway in the middle of campus.*



**Join Us April 7-8!**

**Directions to Juniata College**

Juniata College is located in Huntingdon in the scenic mountains of central Pennsylvania, near the junction of Routes 22 and 26.

**From Points West:**

Take US 22 East to Huntingdon. Turn left at the traffic light intersection of 4th St. and US 22. Cross the Juniata River and the railroad tracks. Turn left at the traffic light onto Penn St. Turn right onto 6th St. Turn left onto Moore St. Juniata College is located along Moore St. between 17th and 19th Sts. Follow Event Parking signs to parking lots. Parking is also available on borough streets near campus.

**From Northwestern PA:**

Take I-80 East to Exit 123 (Woodland). Follow PA 970 South to US 322 East to 350 South to I-99 South, Exit 48 (Tyrone). Follow PA 453 South to US 22 East to Huntingdon. Follow Directions from Points West above.

**From State College, PA:**

Take PA 26 South to Huntingdon. Turn right at the traffic light onto Penn St. Turn right onto 6th St. Turn left onto Moore St. Juniata College is located along Moore St. between 17th and 19th Sts. Follow Event Parking signs to parking lots. Parking is also available on borough streets near campus.

*Additional information can be found at <http://www.juniata.edu/about/where.html>. A campus map can be found at <http://www.juniata.edu/tour/campusmap.html>.*

**Lodging at the Meeting**

Blocks of rooms have been reserved for meeting participants at the following nearby hotels:

**Comfort Inn**

814-643-1600 (2 miles from Juniata College)  
Just off Route 22 on 4th Street, Huntingdon  
\$65.65 (single), \$72.86 (double), plus tax  
Reserve by **March 20, 2006.**

The pizza party will be held at this location.

Mention "MAA" or "Juniata" to receive the rates

quoted above.

**Days Inn**

814-643-3934 (2 miles from Juniata College)  
At Route 22 and 4th Street, Huntingdon  
\$65 (double) plus tax  
Reserve by **March 7, 2006.**

Note: You may be able to get better rates at the Days Inn web site.

A list of other area hotels can be found at <http://www.juniata.edu/about/accommodations.html>.

**Election of Officers**

One task at our Saturday morning business meeting is the election of four new officers. Recall that last year, we approved changes to our Section By-Laws that would separate the old combined office of Secretary-Treasurer into two distinct offices. Thus, we will be electing a Secretary this year for a standard two-year term, as well as holding a special election for Treasurer to serve a one-year term in order to establish the alternating schedule for election of these two officers. Furthermore, we will be electing a Chair-Elect and a Second Vice Chair. To review the duties of these officers, please see the *Section Officers: Call for Nominations* article in our Spring 2005 newsletter. The Nominating Committee of John Lattanzio, John Thompson, and Dean Morrow has put forward the following slate of candidates:

For Chair-Elect:

**Bud Boman** of Penn State-DuBois

For Secretary:

**Bob Fliess** of West Liberty State College

For Treasurer:

**Ben Freed** of Clarion University

For Second Vice Chair:

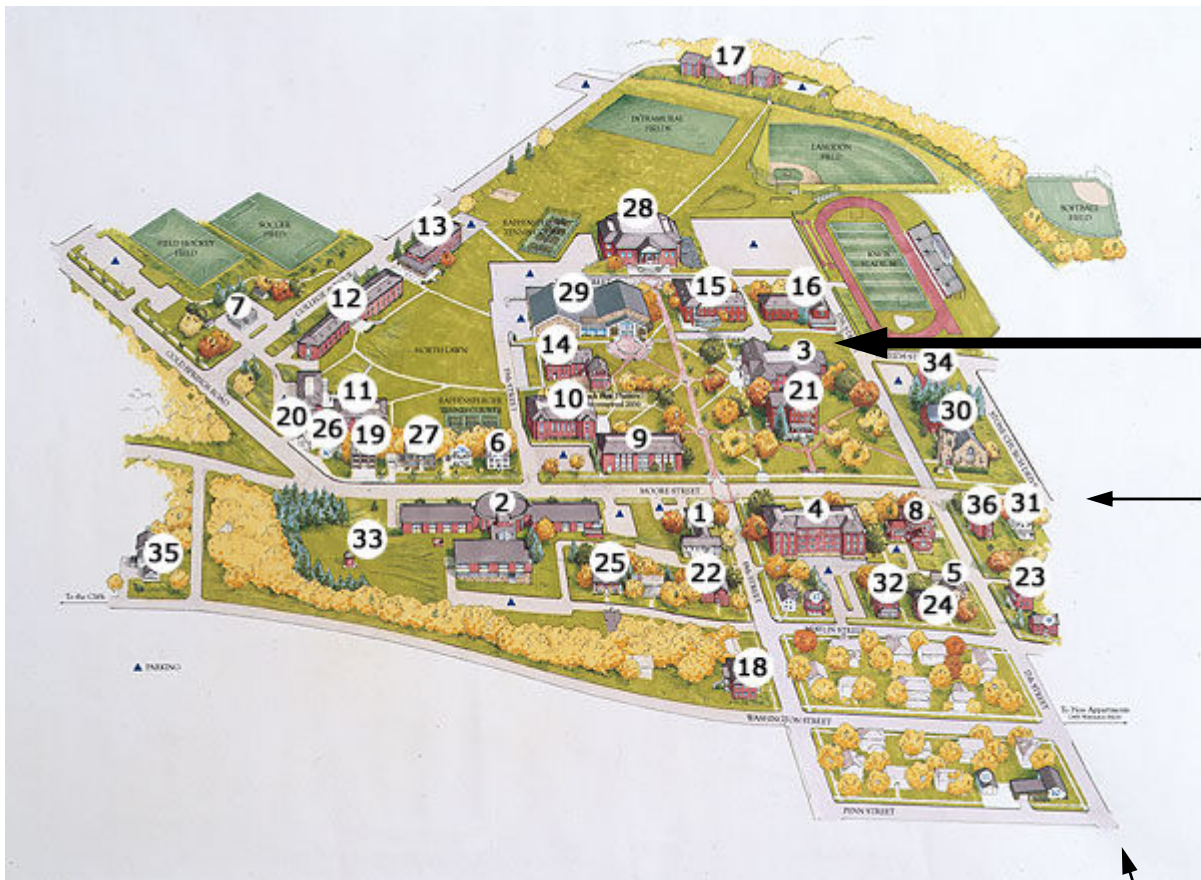
**Kim Roth** of Wheeling Jesuit University

**Dan Look** of Indiana University of Pennsylvania

Nominations will also be taken from the floor at the business meeting on Saturday, April 8.

**Map of Juniata College**

A sharper PDF version can be found at <http://www.juniata.edu/tour/campusmap.html>.  
*Beware that building numbering is different on the printable version at this site.*



**Von Liebig Center for Science** is the building marked “3” at the end of the thick arrow.

**Moore Street** is indicated with the thin horizontal arrow, **17th Street** with the thin oblique one.

### *Information on our Invited Speakers!*

#### Aparna Higgins, University of Dayton

**Title:** *Demonic Graphs and Undergraduate Research*

**Abstract:** My work with undergraduates on mathematical research has been one of the most satisfying aspects of my teaching career. This talk will highlight some of the beauty and depth of the research done by my former undergraduate students on line graphs and pebbling on graphs. We will consider iterated line graphs, some pioneering results in pebbling graphs, and pebbling numbers of line graphs. The results of some of the later students built on work done by the earlier ones, and have spawned some of my own recent research.

**Biography:** Dr. Aparna Higgins received a B.Sc. in mathematics from the University of Bombay in 1978 and a Ph.D. in mathematics (universal algebra) from the University of Notre Dame in 1983. She has taught at the University of Dayton, Ohio, since 1984. Although Dr. Higgins enjoys teaching the usual collection of courses, her most fulfilling experiences as a teacher have come from directing undergraduates in mathematical research. Dr. Higgins has been the recipient of four teaching awards -- from the College of Arts and Sciences at the University of Dayton, the Alumni Award (a University-wide award), the Ohio Section of the Mathematical Association of America, and in 2005, the Deborah and Tepper Haimo Award for Distinguished College or University Teaching, which is the Mathematical Association of America's most prestigious award for teaching. Dr. Higgins serves on many MAA committees and was a founding member of the Committee on Student Chapters; she is also a co-director of Project NExT (New Experiences in Teaching). Aparna Higgins is married to Bill Higgins, a mathematician who teaches at Wittenberg University, in Springfield, Ohio; they have two sons.

#### Carl Pomerance, Dartmouth University

**Title:** Primal Screens

**Abstract:** Prime numbers, the very building blocks of the integers, remain an enigma. Yet we make progress in our quest to understand these very basic objects. This non-stressful talk will highlight recent progress and some of the many problems that are still unsolved.

**Biography:** Carl Pomerance received his B.A. from Brown University in 1966 and his Ph.D. from Harvard University in 1972 under the direction of John Tate. Currently he is a mathematics professor at Dartmouth College, after previous positions at the University of Georgia and Bell Labs. A number theorist, Pomerance specializes in analytic, combinatorial, and computational number theory, with applications in the field of cryptology. He considers the late Paul Erdos as his greatest influence. Currently he is the first vice president of the MAA.

|  |
|--|
| <b><u>Jim Reynolds, Clarion University</u></b> |
|--|

**Title:** Equal Areas, Apple Orchards, and Fun with The Fundamental Theorem

**Abstract:** One part of the Fundamental Theorem of Calculus states conditions about the differentiability of functions expressed as integrals. Because many students' first impression of this result is that it is abstract and useless, problems that utilize it in unexpected ways have always been favorites of mine. This presentation deals with two such problems. One problem starts with functions  $g(x)=kx^n$  and  $h(x)=x^n$  with  $n>0$  and  $k>1$ , then seeks to determine a function  $y=f(x)$  (passing through the origin) such that for any Quadrant I point P on g, the area bounded by g, h, and the vertical line through P is always equal to the area bounded by f, g, and the horizontal line through P. The other problem looks at a typical yield function  $Y(t)$ , in tons per year, for an apple orchard and considers when the orchard should be replanted.

**Biography:** James Reynolds got his A.B. in mathematics from Colgate University and his M.A. and D.Ed. in mathematics from Penn State. He served on the faculty at Penn State-Erie and then at Penn State-Beaver before taking a position at Clarion University in 1991. He has co-authored five texts in numerous editions, including the recently released *Mathematical Applications for the Management, Life, and Social Sciences*, published by Houghton Mifflin. Jim is actively involved in student mentoring: coaching actuarial students on Exam I, serving as a volunteer coach for MATH-COUNTS (a national mathematics competition for 7<sup>th</sup> and 8<sup>th</sup> graders), and chairing Clarion University's Sonia Kovalevsky Day, an event dedicated to encouraging young women in mathematical studies. He was also recognized for professional excellence as the 1985 Commonwealth Campus recipient of Penn State's Teresa Cohen Mathematics Teaching and Service Award and as the first recipient of the Penn State – Beaver Campus Advisory Board Teaching Excellence Award. Jim is also the 2005 recipient of the Allegheny Mountain Section Award for Distinguished College or University Teaching of Mathematics.

Have you seen these recent articles in MAA publications by members of our Section?

**George Bradley** of Duquesne's *Thirty Years and Counting: My Involvement with the MAA* appeared in the December 2005 issue of *Focus*.

**Steve Curran, Mike Ferencak, John Thompson, and Susan Wieczorek** from Pitt-Johnstown describe a new interdisciplinary course in *Mathematically Speaking: Expanding the Role of Oral Communication in Mathematics Programs*, also in December 2005's *Focus*.

**Bob Vallin** of Slippery Rock's film-noire-style *The Gangs of New Math* is in the November 2005 issue of *Math Horizons*.

**Laura Pyzdrowski** of WVU's *What I Learned from...Working in a Professional Learning Community* appears in the May/June 2005 issue of *Focus*.

**Take a look!**



***Allegheny Mountain Section Officers 2005-2006***

**Mike Berry, Chair** (2005-2007)  
West Virginia Wesleyan College  
(304) 473-8330, [berry@wwwc.edu](mailto:berry@wwwc.edu)

**George Bradley, Historian** (2005-2007)  
Duquesne University  
(412) 396-6467, [bradley@mathcs.duq.edu](mailto:bradley@mathcs.duq.edu)

**John Bukowski, Governor** (2005-2008) and  
**Section NExT Co-Coordinator** (2004-2006)  
Juniata College  
814-641-3591, [bukowski@juniata.edu](mailto:bukowski@juniata.edu)

**Barbara Faires, Section NExT Co-Coordinator**  
(2004-2006)  
Westminster College  
724-946-7293, [fares@westminster.edu](mailto:fares@westminster.edu)

**Bob Fliess, Secretary-in-Training** (2005-2006)  
West Liberty State College  
(304) 336-8048, [fliessrf@wlsc.edu](mailto:fliessrf@wlsc.edu)

**Ben Freed, Secretary/Treasurer** (2004-2006)  
Clarion University  
814-393-1930, [freed@clarion.edu](mailto:freed@clarion.edu)

**Ron Harrell, Short Course Co-Director** (2004-  
2006)  
Allegheny College  
814-332-5344, [rharrell@allegheny.edu](mailto:rharrell@allegheny.edu)

**Tamara Lakins, Past Chair** (2005-2006)  
Allegheny College  
814-332-2957, [tlakins@allegheny.edu](mailto:tlakins@allegheny.edu)

**John Lattanzio, First Vice Chair** (2005-2006)  
Indiana University of Pennsylvania  
724-357-4760, [John.Lattanzio@iup.edu](mailto:John.Lattanzio@iup.edu)

**Beverly Michael, Section NExT Co-  
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412-624-8335, [bkm@pitt.edu](mailto:bkm@pitt.edu)

**Lyn Miller, Newsletter Editor** (2005-2007)  
Slippery Rock University  
724-738-2878, [lyn.miller@sru.edu](mailto:lyn.miller@sru.edu)

**James Sellers, Director of e-Communications**  
(2004-2006)  
Penn State University  
814-865-7528, [sellersj@math.psu.edu](mailto:sellersj@math.psu.edu)

**John Thompson, Second Vice-Chair** (2005-  
2006)  
University of Pittsburgh — Johnstown  
(814) 269-2043, [jwt01@pitt.edu](mailto:jwt01@pitt.edu)

**Bob Vallin, Coordinator of Student Programs**  
(2005-2007)  
Slippery Rock University  
724-738-2856, [robert.vallin@sru.edu](mailto:robert.vallin@sru.edu)

Allegheny Mountain Section Mathematical Association of America  
**Annual Spring Meeting - Talk Information Form**  
(online at [http://www.math.psu.edu/sellersj/alleghenymtn/annual\\_meeting\\_2006/talkreg.htm](http://www.math.psu.edu/sellersj/alleghenymtn/annual_meeting_2006/talkreg.htm))

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 chalkboard (or whiteboard) and a projector which displays the output of an attached MS Windows computer. In addition, there is a port where the output from a laptop can be connected to the projector. The computers in each room have PowerPoint software, the Internet Explorer web-browser, and CD-ROM drives. Overhead projectors, VCRs, etc., may be available with advance notification, but this is not guaranteed. **If you request additional technology or software, please provide a clear and comprehensive list of your needs; attach separately if needed.***

**Student Speakers:** You receive a free one-year membership to the MAA. We will have a form for you to complete at the meeting in order to initialize this membership.

**Mail student Talk Information Forms to:**

Bob Vallin  
Department of Mathematics  
Slippery Rock University  
Slippery Rock, PA 16057

**Mail faculty Talk Information Forms to:**

John Thompson  
Department of Mathematics  
University of Pittsburgh at Johnstown  
Johnstown, PA 15904

**Talk Information Forms must be received by March 31, 2006.**

Allegheny Mountain Section Mathematical Association of America

**Annual Spring Meeting – Registration Form**

(online at [http://www.math.psu.edu/sellersj/alleghenymtn/annual\\_meeting\\_2006/meetreg\\_start.htm](http://www.math.psu.edu/sellersj/alleghenymtn/annual_meeting_2006/meetreg_start.htm))

Name: \_\_\_\_\_

Institution: \_\_\_\_\_

Email Address: \_\_\_\_\_

Mailing Address:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Registration Category (check one):

**Regular Registration (\$25.00)**

\_\_\_\_\_ Faculty, 2-Year Institution  
\_\_\_\_\_ Faculty, 4-Year Institution  
\_\_\_\_\_ Faculty, University  
\_\_\_\_\_ Business, Industry, or Government  
\_\_\_\_\_ High School Teacher

**“New Person” Registration (free) \***

\_\_\_\_\_ Faculty, 2-Year Institution  
\_\_\_\_\_ Faculty, 4-Year Institution  
\_\_\_\_\_ Faculty, University  
\_\_\_\_\_ 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 program? \_\_\_\_\_yes (\$5.00) \_\_\_\_\_no

Friday Evening Buffet? \_\_\_\_\_yes (\$17.00) \_\_\_\_\_no

Saturday Breakfast Buffet? \_\_\_\_\_yes (\$8.00) \_\_\_\_\_no

Additional Information (such as 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, Clarion University, Clarion, PA 16214.**

**Deadline for submission of registration forms: March 31, 2006**

Allegheny Mountain  
Section, MAA

c/o Lyn Miller  
Department of Mathematics  
Slippery Rock University  
Slippery Rock, PA 16057

Phone: 724-738-2878  
Email: [lyn.miller@sru.edu](mailto:lyn.miller@sru.edu)

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**ALLEGHENY MOUNTAIN SECTION ANNUAL MEETING**  
**APRIL 7-8, 2006, AT JUNIATA COLLEGE**

**Details  
Inside!**

**Deadlines:**

**To register: March 31, 2006**

**To give a talk: March 31, 2006**

**To book a room: March 7 or 20, 2006**