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# MAA FOCUS

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**Washington, D.C.**  
**January 5 – 8, 2009**

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to Dr. Stadat.

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Cover photograph courtesy of iStockphoto.com

<b>MAA FOCUS Deadlines</b>			
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## Haimo Award Winners to Speak at the Joint Meetings

Michael Bardzell, David Pengelley, and Vali Siadat are the winners of this year's Haimo Awards for distinguished teaching. They will receive the MAA's most prestigious teaching award at the Prize Session during the Joint Mathematics Meetings. The winners will give talks at a special session to be held on Wednesday, January 7, from 2:30 to 4:00.

**Michael Bardzell** has had a pronounced impact, both locally at Salisbury State University and well beyond. At Salisbury State, he has involved many students with a variety of backgrounds in research. Over the last ten years, his students have presented their work at various venues, including the National Conference on Undergraduate Research, regional undergraduate conferences and local meetings, and national and sectional meetings of the MAA. Several of his students have won awards for their presentations, and a variety of publications have resulted.

Bardzell, together with faculty from five institutions, has received two grants from the CCLI program of the NSF Division of Undergraduate Education. The second of these was on visualizing abstract mathematics and included his organization of two summer undergraduate research retreats at New College of Florida, where students spent a week learning and investigating various aspects of mathematics. The grants have also led to a set of laboratory exercises that help students to visualize concepts in abstract algebra, including normal subgroups, quotient groups, and subnormal series, and similar exercises in dynamical systems and number theory, as well as two computer programs that allow for mathematical visualization, and the collection of related data for student exploration.

Bardzell's talk at the Joint Meetings will be *From Groups to Graphics – Stories of Undergraduate Research in Visualizing Abstract Mathematics*.

For the past 20 years, **David Pengelley** has been continually reinventing his teaching, and the mathematical community has benefited greatly from those

innovations. At the beginning of the calculus reform movement, Pengelley and colleagues developed a program of student projects. Major multi-step problems were used to engage students in imaginative thinking, challenge them to integrate ideas, and express them in a written report. This work led to *Student Research Projects in Calculus*, an MAA best seller.

Pengelley is passionate about using primary historical sources in teaching. He feels that studying primary sources fosters motivation, broadens perspective, reveals context, hones verbal and deductive skills, provides excitement, brings students closer to the practice of research, shows the genesis and progression of ideas, and displays the human face of mathematics. Moreover, knowledge of difficulties of the past can help students better understand the problems of today. At New Mexico State University, Pengelley developed honors courses based on primary sources leading to two co-authored textbooks of guided primary sources, *Mathematical Expeditions: Chronicles by the Explorers* and *Mathematical Masterpieces: Further Chronicles by the Explorers*, both published by Springer.

More recently, Pengelley has been developing a student-centered inquiry-based teaching method as an alternative to lecturing. Students prepare in advance via guided reading, writing assignments, and warm-up exercises. Thus, their first contact with new material never occurs via lecture, allowing class time to be spent more productively and at a higher intellectual level.

Pengelley's talk at the Joint Meetings will be on *How to Beat the Lecture/Textbook Trap! An Active Classroom via Advance Student Reading and Writing*.

**Vali Siadat** is a teacher who cares deeply about the success of his students, and does whatever it takes to help them achieve their educational goals. He is best known for the development of the Keystone Method, a synergistic teaching

program that focuses on frequent assessment, constant feedback and student support. His project, supported by nearly one \$100,000 grant from Gabriella and Paul Rosenbaum Foundation, has improved student outcomes not only in mathematics but also in reading comprehension. He has also been a leader in Project Access, a nearly \$1,000,000 NASA funded mathematics-based summer program for low-income and minority students from middle and high schools. Each summer from 1996-2004, 80-100 students were recruited from 52 middle schools and high schools in Chicago to explore engineering as a career option. Siadat not only directed the local program but was a key figure in developing curriculum related to mathematical logic and computer science for the national program.

As a mentor and advisor, Siadat supports students to obtain internship in scientific organizations and laboratories outside the college. He has had excellent success in arranging numerous summer research internship programs for two-year college students at the world renowned Argonne National Laboratory. A scholar with two doctorates, one in pure mathematics and another in mathematics education, Siadat continues with his research to develop innovative approaches in pedagogy and improvement of teaching of undergraduate mathematics.

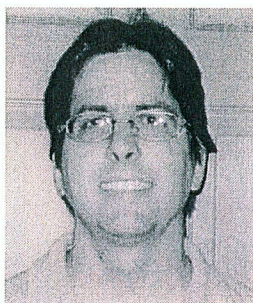
Siadat's talk at the Joint Meetings will discuss *My Teaching Philosophy and the Development of the Keystone Method: A Synergistic Model for Teaching and Learning*.

The Deborah and Franklin Tepper Haimo Award for Distinguished College or University Teaching was established by the Mathematical Association of America to honor college or university teachers who have been widely recognized as extraordinarily successful and whose teaching effectiveness has been shown to have had influence beyond their own institutions. Each year, at most three college or university teachers receive this award. See page 21 for more information on the Haimo talks.

## Presentations by the Haimo Award Recipients

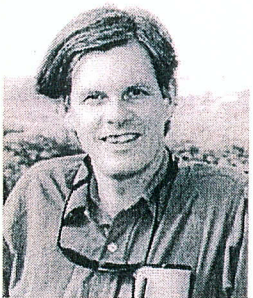
Wednesday, January 7, 2:30 pm

The Deborah and Franklin Tepper Haimo Awards for Distinguished College and University Teaching are the MAA's most prestigious award for teaching. Every year, three top teachers are honored. The awards are announced at the Joint Prize Session, but the winners of the Haimo award are also invited to give a talk "on the secrets of their success."



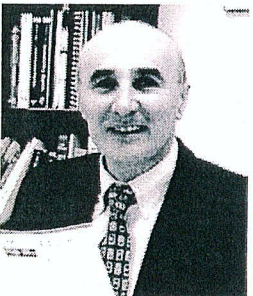
### From Groups to Graphics – Stories of Undergraduate Research in Visualizing Abstract Mathematics

Mike Bardzell  
Salisbury University



### How to Beat the Lecture/Textbook Trap! An Active Classroom via Advance Student Reading and Writing

David Pengelley  
New Mexico State University



### My Teaching Philosophy and the Development of the Keystone Method: A Synergistic Model for Teaching and Learning

Vali Siadat  
Richard Daley College

## Prize Session and Reception

Tuesday, January 6, 4:25 pm

In order to showcase the achievements of the recipients of various prizes, the MAA and AMS are co-sponsoring this event at 4:25 pm on Tuesday. A cash bar reception will immediately follow. All participants are invited to attend.

The prizes to be announced include:

**Frank and Brennie Morgan Prize for Outstanding Research in Mathematics by an Undergraduate Student** (jointly awarded by MAA, AMS, and SIAM).

### JPBM Communications Award

**Eleanor B. Blumenthal Award for the Advancement of Research in Pure Mathematics**

### MAA Prizes

Beckenbach Book Prize  
Chauvenet Prize  
Euler Book Prize  
Yueh-Gin Gung and Dr. Charles Y. Hu Award for Distinguished Service to Mathematics  
Deborah and Franklin Tepper Haimo Awards for Distinguished College or University Teaching of Mathematics  
Certificates of Meritorious Service

### AMS Prizes

George David Birkhoff Prize in Applied Mathematics  
Frank Nelson Cole Prize in Algebra  
Levi L. Conant Prize  
Ruth Lyttle Satter Prize in Mathematics  
Leroy P. Steele Prizes  
Albert Leon Whiteman Memorial Prize

### AWM Prizes

Alice T. Schafer Prize for Excellence in Mathematics by an Undergraduate Woman  
Louise Hay Award for Contributions to Mathematics Education