



# MathFest

## 2005

MAA  PI MU EPSILON

Student Paper Sessions

August 4-6, 2005

**PI MU EPSILON**

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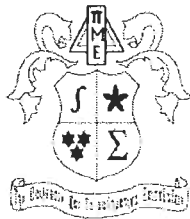
Robert Smith, *ex officio*  
Miami University

James Tattersall, *ex officio*  
Providence College



## MAA Student Chapters

The MAA Student Chapters program was launched in January 1989 to encourage students to continue study in the mathematical sciences, provide opportunities to meet with other students interested in mathematics at national meetings, and provide career information in the mathematical sciences. The primary criterion for membership in an MAA Student Chapter is "interest in the mathematical sciences." Thus, the Student Chapter program supplements, but does not compete with, the chapters of Pi Mu Epsilon. Currently there are approximately 225 active Student Chapters on college and university campuses nationwide. Students are also members of the MAA Sections in their geographic region. Many of the MAA Sections provide special activities for students at their regularly scheduled meetings.



## Pi Mu Epsilon

Pi Mu Epsilon is a National Mathematics Honor Society with over 300 chapters throughout the nation. Established in 1914, Pi Mu Epsilon is a non-secret organization whose purpose is the promotion of scholarly activity in mathematics among students in academic institutions and among staffs of qualified non-academic institutions. It seeks to do this by electing members on an honorary basis according to their proficiency in mathematics, and by engaging in activities designed to provide for the mathematical and scholarly development of its members. Pi Mu Epsilon regularly engages students in scholarly activity through its *Journal*, which has published student and faculty articles since 1949. In addition, the society awards monetary prizes for mathematics contests and awards established by chapters. Since 1952, Pi Mu Epsilon has been holding its annual National Meeting in conjunction with the summer meetings of the Mathematical Association of America.

## Schedule of Student Activities

Except where noted, events are in the Albuquerque Convention Center

### Wednesday, August 3

5:30 pm - 6:30 pm MAA/PME Student Reception Fiesta 1, Hyatt Hotel

### Thursday, August 4

8:00 am - 11:30 am PME Council Meeting Fiesta 1, Hyatt Hotel  
9:00 am - 5:00 pm Student Hospitality Center Ballroom A  
1:00 pm - 2:57 pm MAA Session #1 Taos Room  
1:00 pm - 2:35 pm PME Session #1 Picuris Room  
1:00 pm - 2:57 pm MAA Session #2 Cochiti Room  
1:00 pm - 2:35 pm PME Session #2 Santa Ana Room  
3:00 pm - 5:35 pm MAA Session #3 Taos Room  
3:00 pm - 4:35 pm PME Session #3 Picuris Room  
3:00 pm - 5:15 pm MAA Session #4 Cochiti Room  
3:00 pm - 4:35 pm PME Session #4 Santa Ana Room  
5:00 pm - 5:45 pm MAA Special Session on *Math Horizons* Picuris/Santa Ana Rooms

### Friday, August 5

9:00 am - 5:00 pm Student Hospitality Center Ballroom A  
1:00 pm - 2:57 pm MAA Session #5 Taos Room  
1:00 pm - 2:15 pm PME Session #5 Picuris Room  
1:00 pm - 2:55 pm MAA Session #6 Cochiti Room  
1:00 pm - 2:15 pm PME Session #6 Santa Ana Room  
3:00 pm - 4:57 pm MAA Session #7 Taos Room  
3:00 pm - 4:57 pm MAA Session #8 Cochiti Room  
3:00 pm - 4:55 pm MAA Session #9 Picuris Room  
3:00 pm - 4:55 pm MAA Session #10 Santa Ana Room  
6:00 pm - 7:45 pm PME Banquet Grand Pavilion, Hyatt Hotel  
8:00 pm - 9:00 pm J. Sutherland Frame Lecture Grand Pavilion, Hyatt Hotel

### Saturday, August 6

9:00 am - 2:00 pm Student Hospitality Center Ballroom A  
1:00 pm - 2:50 pm MAA Student Workshop Brazos Room  
3:00 pm - 3:50 pm MAA Student Lecture Brazos Room  
4:00 pm - 5:00 pm Student Problem Solving Competition Brazos Room  
5:00 pm - 6:15 pm MAA Modeling Contest Winners Brazos Room

8:00 - 9:00 PM

Friday August 5, 2005

Grand Pavilion, Hyatt Hotel

## **J. Sutherland Frame Lecture**

### **PROOFS THAT REALLY COUNT THE ART OF COMBINATORIAL PROOF**

**Arthur T. Benjamin**  
Harvey Mudd College

Mathematics is the science of patterns, and mathematicians attempt to understand these patterns and discover new ones using various tools. In this talk, we demonstrate that many number patterns, even very complex ones, can be understood by simple counting arguments. You will enjoy the magic of Fibonacci numbers, Lucas numbers, continued fractions, and more. You can count on it! This talk is based on research with Professor Jennifer Quinn and many, many undergraduates.

*The J. Sutherland Frame Lecture is named in honor of the ninth President of Pi Mu Epsilon, who served from 1957 to 1966 and passed away on February 27, 1997. In 1952, Sud Frame initiated the student paper sessions at the annual Pi Mu Epsilon meeting, which is held at the Summer Mathfests. He continually offered insight and inspiration to student mathematicians at these summer meetings.*

**3:00 - 3:50 PM**

**Saturday August 6, 2005**

**Brazos Room**

## **MAA Student Lecture**

### **LIGHTS, CAMERA, FREEZE!**

**Annalisa Crannell**

Franklin & Marshall College

**Marc Frantz**

Indiana University

Director/Producer Stephen "Marc" Frantzberg teams up with the world-famous actress Annalisa Monalisa Cranberry to bring you the new blockbuster hit, Projection. Spanning the centuries between Renaissance perspective painting and modern cinematic special effects, Projection reveals the true secrets behind projecting a 3-dimensional world onto a 2-dimensional canvas (or movie screen). You'll laugh; you'll yawn; you'll cry; you'll reach the vanishing point. The movie includes a cast of thousands (or dozens, depending on how many people are in the audience).

## MAA Student Speakers

Name	School	MAA Session
Asela Acosta	Texas A&M International University	1
Ashley Askew	Clayton State University	2
Kari Barkley	Lafayette College	6
Jessica Bauman	Tufts University	10
Lisa Bishop	Occidental College	4
Jenny Buontempo	St. Peter's College	9
Nicole Casacchia	Youngstown State University	5
John Chatlos	Williams College	7
Carlos Chiquete	University of Arizona	1
Anh Chu	University of Richmond	6
Kimberly Conner	Mercer University	9
Alan Covert	Arizona State University	1
Nicholas Croll	Sam Houston State University	8
Amber De More	Austin Peay State University	2
Elizabeth Eisemann	Augustana College	5
Carl Erickson	Stanford University	4
Sarah Fritsch	Sam Houston State University	9
Justin From	Central College	10
Go Fujita	University of Florida	8
Jesse Gell-Redman	Columbia University	10
John Gemmer	Millersville University of Pennsylvania	2
Ben Gibson	Wake Forest University	2
James Godzik	University of California, Berkeley	7
Sarah Goodpaster	Augustana College	8
Ryan Grady	Colorado School of Mines	6
Andrew Harrell	Texas A&M University	2
Nicholas Johnson	Augustana College	7
Nathan Kaplan	Princeton University	4
Thomas Kindred	Williams College	6
Joesph Kolenick	Youngstown State University	8
Samuel Kolins	Bowdoin College	7
Ross Kravitz	Williams College	1
Marion Kruse	University of Richmond	6

### MAA Student Speakers (Continued)

Name	School	MAA Session
Sean Lee	Pepperdine University	4
Beverly Lytle	Allegheny College	3
Tim Major	Grand Valley State University	3
Melissa Mauck	Sam Houston State University	8
Neil Mendoza	Williams College	4
Benjamin Mitchell	Taos High School	9
Ludguier Montejo	Whitman College	3
Lorena Morales-Paredes	University of Alabama in Huntsville	1
Craig Nicholas	New Mexico Tech	8
Nicole O'Connell	St. Norbert College	5
Nnamdi Oparanozie	Sam Houston State University	8
Samuel Otten	Grand Valley State University	4
Azra Panjwani	University of California, Berkeley	3
Ammon Paquette	Augustana College	3
Mauricio Rivas	Sam Houston State University	9
Siva Sankrithi	University of Washington	5
Mary Servatius	Worcester Polytechnic Institute	3
Todd Shayler	Williams College	4
Brian Simanek	Williams College	7
Chris Smith	Grand Valley State University	9
Nicholas Stucky-Mack	Harvard College	2
Sean Sullivan	University of Texas at Austin	2
Nicholas Toombs	Montclair State University	5
Genevieve-Yvonne Toutain	Simon's Rock College of Bard	1
Timothy Trujillo	New Mexico Institute of Mining and Technology	10
Vladimir Ufimtsev	University of Nebraska at Omaha	3
Daniel Walton	Harvey Mudd College	5
Nathaniel Watson	Washington University in St. Louis	7
Lindsey Webster	Western Oregon University	10
Debbie Witczak	Benedictine University	6
Sherry Wu	Cornell University	7
Nicholas Yates	Williams College	10
Haiyun Zhao	Stevens Institute of Technology	1
Alexander Zupan	Gustavus Adolphus College	3