

**The Mathematical Association of  
America**

**Meeting of the New Jersey Section**



**College of Saint Elizabeth  
Morristown, NJ**

**Saturday, November 7, 2009**

## **Acknowledgments**

The MAA New Jersey Section thanks the Department of Mathematics, College of Saint Elizabeth for their kind hospitality in hosting this meeting. They also thank PLUME (Penguin Group) and John Wiley & Sons, Inc for donating books for our fall meeting.

## Committees

**Organizing Committee** Carol Avelsgaard, Middlesex County College; Zhixiong Chen, New Jersey City University; Karen Clark, The College of New Jersey; Amy Cohen, Rutgers University; Larry D'Antonio, Ramapo College; Yi Ding, New Jersey City University; Srabasti Dutta, College of St. Elizabeth; Bonnie Gold, Monmouth University; Thomas Hagedorn, The College of New Jersey; Olcay Ilicasu, Rowan University; Mark S. Korlie, Montclair State University; Aihua Li, Montclair State University; David Marshall, Monmouth University; Theresa C. Michnowicz, New Jersey City University; Hieu D. Nguyen, Rowan University; Beimnet Teclezghi, New Jersey City University; Dirck Uptegrove; Elizabeth Uptegrove, Felician College; Paul VonDohlen, William Paterson

**Hosting Committee** Faculty: Srabasti Dutta, Peter Merrill, Virginia McGlone, Paul Rossi, Jesse Yu,; Students: Irene Capers, Stefane De Semone, Jannette Marine, Marta Marques, Bukky Orija, College of St. Elizabeth

**Awards Committee** Larry D'Antonio, Ramapo College; Mark Korlie, Montclair State University; Reggie Luke, Middlesex County College; Theresa C. Michnowicz (chair), New Jersey City University

**Nomination Committee** Carol Avelsgaard, Middlesex County College; Mark Korlie, Montclair State University; Theresa Michnowicz (chair), New Jersey City University; Hieu D. Nguyen, Rowan University

**Teaching Award Committee** Janet H. Caldwell, Rowan University; Amy Cohen (chair), Rutgers University; Roger Pinkham, Stevens Institute of Technology; Arthur Schwartz, Mercer County Community College; Kenneth Wolff, Montclair State University

**Selection Committee for Contributed Papers** Carol Avelsgaard, Middlesex County College; Lawrence D'Antonio, Ramapo College; Yi Ding New Jersey City University; Theresa C. Michnowicz, (Chair), New Jersey City University

## Abstracts and Biographies of Speakers

### Why Eisenstein Proved the Eisenstein Criterion and Why Schoenemann Discovered it First.

**David Cox, Amherst College**

Abstract: Eisenstein published his irreducibility criterion in 1850 in Crelle's journal, five years after Theodor Schoenemann published an equivalent result in the same journal. My lecture will discuss why we seem to have forgotten Schoenemann and explain the very different mathematical problems that led Eisenstein and Schoenemann to discover this basic irreducibility criterion. As background, I will describe the work of Gauss and Abel that inspired Eisenstein and Schoenemann. The lecture will include extracts from the original papers to give an idea of what mathematics looked like in the 19th century.

**David Cox** is the William J. Walker Professor of Mathematics at Amherst College. He presently serves as Chair of the Mathematics Department and is also affiliated with Amherst's Environmental Studies Program. Professor Cox earned his Ph.D. at Princeton University working with Eric Friedlander and a B.A. from Rice University. He is the author or co-author of five mathematics books, an upcoming sixth book on Toric Varieties, and numerous research and expository articles. He currently serves as a member of the editorial board for the AMS's Graduate Studies in Mathematics Series and the Journal of Symbolic Computation. His research interests are in algebraic geometry, most recently toric varieties, number theory, and the history of mathematics.

### Industrial Mathematics, Undergraduate Research, and Service Learning

**Martha J. Siegel, Towson University**

Undergraduate research projects in applied mathematics undertaken with a team can expose more students to realistic mathematical problems while serving industry, government, and business. Faculty and students will get new and exciting perspectives on mathematics. The talk will focus on a few models of such programs that have proven successful over the years.

**Martha Siegel** is Professor of Mathematics at Towson University. Professor Siegel earned her Ph.D. at the University of Rochester working with Johan Kemperman, and a B.A. from Russell Sage College. She did a post-doc at The John Hopkins University School of Hygiene and Public Health in Operations Research and Mental Health. Her mathematical interests are in probability, applied mathematics, and modeling. She is a co-author of *Finite Mathematics and Its Applications*, and *Functioning in the Real World: a Precalculus Experience*. Professor Siegel has served as Department Chair, Editor of Mathematics Magazine (1991-1996), a member of the Executive Committee of the MAA since 1991, and as Secretary for the MAA since 1996. She is the founding member of the Maryland Mathematics and Science Coalition and the recipient of the President's Award for Outstanding Service to Towson University.

### **Spinning Heads and Spinning News: The Use and Abuse of Statistics in The Media** **Rebecca Goldin, George Mason University and STATS**

News increasingly depends on a careful dissection of numbers. Statistics are everywhere, from how many people are not covered by health insurance to whether Vitamin E is good for you or not. Yet for being so prevalent, statistics are badly understood by the general public.

In this talk, I'll illustrate how the press often misuses statistics with examples from recent coverage. Since news sources are the main avenue by which the public understands many public health issues, these misguided representations of science can actually shape public policy, legislation, and individual choices. We will see why it is so important that media writers understand basic concepts from statistics, epidemiology and even toxicology.

I will also show how powerful the work can be when the press goes beyond politics and morality to get the science right.

These examples come from my experience as the research director for Statistical Assessment Service (STATS), a nonprofit media education and watchdog group affiliated with George Mason University, where I am a professor of mathematics as well. STATS takes critical aim at the poor use of statistics to justify false claims or to back-up ideological agendas, while serving as a resource for journalists and producers who want to engage in high-level responsible reporting that takes into account what the science says, what it doesn't, and what it can't.

## **News from NJ Departments**

**New Jersey City University** The NJCU Mathematics Awareness Lectures will be held at New Jersey City University on Thursday, April 22, 2010. The theme of the program is Mathematics and Sports, [www.mathaware.org](http://www.mathaware.org). If you are interested in giving a contributed paper, please contact Theresa C. Michnowicz', [tmichnowicz@njcu.edu](mailto:tmichnowicz@njcu.edu)

## **MAA-NJ Section Officers**

<b>Chair</b>	Hieu D. Nguyen, Rowan University
<b>Chair Elect</b>	Bonnie Gold, Monmouth University
<b>Vice Chair for Speakers</b>	Thomas Hagedorn, The College of New Jersey
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<b>Governor</b>	Mark Korlie, Montclair State University
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<b>GSUMC Co-Directors</b>	Srabasti Dutta, College of St. Elizabeth Thomas Hagedorn, The College of New Jersey Alhua Li, Montclair State University
<b>Project NJ-NExT Co-Directors</b>	John Saccoman, Seton Hall University Kaaren B. Finberg, Ocean County College

In addition to the current options now available to members, the Board of Governors approved the option of electronic membership for 2010. The benefits for an electronic membership include electronic versions of MAA FOCUS, American Mathematical Monthly, Mathematics Magazine, and College Mathematics Journal. Dues for electronic membership are \$190 for Regular, \$152 for Discounted, and \$95 for Retired members. Note that these are the same dues for ordinary, non-electronic members receiving only the Monthly and MAA FOCUS in 2010.

The Board of Governors approved the following renaming. Institutional membership was renamed Departmental membership. The renaming is intended to remove the implication that the membership is meant for the entire institution; thereby, helping to eliminate the practice of forwarding the journals to the institution library. The benefits include copies of MAA FOCUS, American Mathematical Monthly, Mathematics Magazine, College Mathematics Journal, and Horizons. Furthermore, a department with this membership has the right to buy student departmental nominee memberships at \$30 apiece, with one free student membership for every five that are purchased. The Departmental membership due for 2010 is \$370.

Undergraduate and graduate student memberships will be converted to all electronic memberships for the academic year 2010-2011. Each group benefits will include electronic versions of MAA FOCUS, Math Horizons, American Mathematical Monthly, Mathematics Magazine, and College Mathematics Journal.

Sections are encouraged to send short articles about Section meetings and activities for publication in MAA FOCUS. In addition, ideas for professional development or workshop should be sent to Michael Pearson, Director of Programs and Services including meetings of the MAA. According to Pearson, such a professional development or workshop could be held at a Section meeting as an MAA Professional Enhancement Program (PREP).

One of the duties of a Governor is to bring communication from the Section to the MAA. If you have any ideas that you think would be helpful to the MAA or issues that you want the MAA to address, please send them to me.

Many of the MAA reports are posted on its website, particularly on the site for members only. The MAA encourages you to look at these reports and other information posted on its website.

**Rebecca Goldin** is an Associate Professor of Mathematical Sciences at George Mason University and Director of Research for STATS (Statistical Assessment Service), an educationally oriented media watch-dog organization affiliated with George Mason University. Professor Goldin earned her Ph.D. at M.I.T. working with Victor Guillemin and an A.B., *cum laude*, from Harvard University. She is the author of eighteen research publications and over one hundred online articles for STATS. Professor Goldin is currently a Research Member of MSRI and this year's Sherwood Ebey Lecturer at the University of the South.

## Abstracts for Workshops

### Dissecting the News Using Mathematics (and Common Sense) Rebecca Goldin, George Mason University and STATS

This workshop's aim is to identify a list of basic mathematical or statistical concepts that come up in news coverage. After a short discussion of how statistics (and, more generally, quantitative analysis) is used in media coverage, we will break into small groups looking at several different news articles from a critical and educational angle. Each group will attempt to identify in the article any statistical concepts referenced either implicitly or explicitly -- and whether the journalist did a good job describing it. We will create a master-list of concepts essential to understand the described research in these articles. Each group will also explore if/when opinions (for example, political or moral) are driving the coverage. Finally, each group will ask what information provided in the article was really useful and appropriate, and what easily-available information would have made the article much more interesting, nuanced or powerful. The workshop will provide the newspaper articles, but you are also welcome to bring your own!

### Duality in Self-Study Martha Siegel, Towson University

The workshop will view department program review from two aspects: preparation of a self-study by the department and the role and perspective of the consultant chosen to do the review. MAA materials and guidelines will be available.

## **Lunch Discussion Tables-Fall 2009 Meeting**

Organized by Theresa C. Michnowicz, New Jersey City University

There will be 5 discussion tables at lunch

1. Using History in Math Courses, led by David Cox, Amherst College
2. Should calculus be the entry-point to mathematics and hard-Sciences? Has data-driven science changed our notion of the basics? led by Rebecca Goldin, George Mason University
3. What is the future of professional science master's degree program? led by Martha Siegal, Towson University
4. What can we do to help undergraduates to obtain internships, summer jobs, or acceptance in REUs related to statistics? led by Dexter C. Whittinghill III, Rowan University
5. Mathematics and Sports, led by Kaaren Finberg, Ocean County College and John T. Saccoman, Seton Hall University

Those who pre-registered have priority at these discussion tables. We look forward to a set of lively and interesting discussions!

## **Book Sales at the Meeting**

The discount meeting price of MAA books also applies to books not currently on display. Further, when you order such books at the meeting no shipping cost will be charged.

## **Call for Nomination of the MMA-NJ Award for Distinguished College or University Teaching**

The MAA-NJ Section Distinguished Teacher Award Selection Committee is seeking nominations for the 2010 Award. There are many excellent teachers in our section. Please be sure to nominate one. Information about the simplified nomination process and eligibility requirements are posted at <http://www.maa.org/newjersey>. Award nominations are due by **Dec, 7 2010**

(Continued on page 9, after the schedule)

According to the report of the Committee on the Deborah and Franklin Tepper Haimo Awards for Distinguished College or University Teaching, there were 24 nominations for the 2010 Haimo awards; these nominations came from 20 MAA Sections. The Committee recommended three nominations from two Sections for the Haimo awards. The Board of Governors accepted the committee's recommendation. Sections are encouraged to actively recruit nominations for MAA Section Teaching awards, to recognize outstanding teachers, and nominate these teachers for the Haimo awards.

John Kenelly, Treasurer of the MAA, reported that the total value of the MAA investment portfolio declined in the past year. The amount that was lost was from recent gains in the value of the portfolio. Overall, when compared with others, the MAA losses were smaller. He also added that the MAA is financially stable.

As the new Governor of our Section, I participated in the New Governors Orientation in Portland, OR on August 4, 2009. During the orientation, Tina Straley, the Executive Director of the MAA, emphasized that the MAA is a member-run organization. Martha Siegel, the Secretary of the MAA, reported that there are over 130 committees in the MAA, and that a lot of the work is done through committee activities by volunteers. More volunteers are needed to serve on these committees. If you are interested in serving on an MAA committee, please let me know so that I can forward your name to the MAA for consideration. The list of committees is available on the MAA website at [maa.org](http://maa.org).

The Board of Governors approved the appointment of Barbara Faires of Westminster College to the position of MAA Secretary for a term of five years, beginning after the Joint Meetings in January 2010. The term is renewable. She will serve as Secretary-Elect until the conclusion of the Joint Meetings in 2010.

Officers elected in the 2009 MAA National Election are as follows. Paul Zorn of St. Olaf College was elected president, Francis Su of Harvey Mudd College was elected First Vice-President, and Doug Ensley of Shippensburg University was elected Second Vice-President. Paul Zorn will become President-Elect after the Board of Governors meeting in January 2010 and serve as president in 2011 and 2012.

Tina Straley of the MAA reported that there is a decline in the number of students taking the AMC (American Mathematics Competition), but the number of schools participating has increased. It was recommended that MAA members should be involved in putting a local face on the AMC.

### Dinner Honoring the Invited Speakers

The Section will honor the invited speakers at dinner following the meeting. Everyone is cordially invited to attend.

### Why I Joined the MAA

If you would be willing to have your 2-3 paragraph statement, "Why I Joined the MAA", be posted on the MAA website, contact Bob Anastasio, Director of Marketing and Management, [ranastasio@maa.org](mailto:ranastasio@maa.org).

JOIN THE MAA: [http://www.maa.org/subpage\\_1.html](http://www.maa.org/subpage_1.html)

### Governor's Report Mark Korlie, Montclair state university

This was the first MAA Board of Governors meeting that I have attended, and it was my pleasure meeting other members of the Board of Governors and participating in the deliberations and decision making process of the MAA. There were many items on the agenda for the meeting including reports of officers, strategic planning working groups' reports, reports from the Washington office, reports of MAA journals editors, reports of the committees, and decisions for prizes, elections, and nominations. Some of the decisions reached and reports presented at this meeting are highlighted in this report.

Christine Stevens of Saint Louis University stepped aside as Director of Project NExT on August 16, 2009. She spent sixteen years on Project NExT. In her report to the Board of Governors, she indicated that the funding prospects for Project NExT are good. A resolution in recognition of her valuable contributions to the MAA, particularly her work with Project NExT, was adopted at the meeting. Aparna Higgins of the University of Dayton is the new director.

### Mathematical Association of America

#### New Jersey Section Fall 2009 Meeting Program

All talks and the workshops will take place in the Annunciation Center

8:30 – 9:30	<b>Registration and Coffee</b> , Annunciation Center
8:30 – 1:30	<b>Book Exhibits</b> , Annunciation Center, down stairs
9:30 – 9:40	<b>Welcome by Dr. Jacqueline McGlade</b> , Dean of graduate Programs, College of St. Elizabeth
9:40 – 10:30	<b>Spinning Heads and Spinning News: The Use and Abuse of Statistics in the Media</b> , Rebecca Goldin, George Mason University and STATS Presider: Dexter C. Whittinghill III, Rowan University
10:30 – 11:10	<b>Intermission</b> , (Coffee and Book Exhibits), Annunciation Center
11:10 – 12:00	<b>Industrial Mathematics, Undergraduate Research, and Service Learning</b> , Martha J. Siegel, Towson University Presider: Hieu Nguyen, Rowan University
12:00 – 1:15	<b>Lunch</b> , Cafeteria, Student Center (Book exhibits end at 2:00.)
1:30 – 2:45	<b>Workshops</b> <ul style="list-style-type: none"><li>• <b>Dissecting the News Using Mathematics (and Common Sense)</b>, Rebecca Goldin, George Mason University</li><li>• <b>Duality in Self-Study</b> Martha Siegel, Towson University</li></ul>
2:45-3:15	<b>Intermission and Refreshments</b> , Annunciation Center (Silent auction bidding ends at 3:15)
3:15 – 3:30	<b>Business Meeting</b> , Annunciation Center, Dolan Performance Center
3:30 – 4:20	<b>Why Eisenstein Proved the Eisenstein Criterion and Why Schoenemann Discovered It First</b> . David Cox, Amherst College Presider: Elizabeth Uptegrove, Felician College
4:20 - 5:00	<b>Prizes</b> : Drawing of door prizes and announcement of silent auction winners (must be present to win)
5:00	<b>Dinner</b>

### Future MAA-NJ Meetings

The spring 2010 MAA-NJ Section meeting will be held in conjunction with the eighth annual Garden State Undergraduate Mathematics Conference, at Middlesex County College on Saturday, April 10. The speakers for this event are: Mary Lou Zeeman, Bowdoin College; Thomas Hales, University of Pittsburgh; and Robert Bradley, Adelphi University

The fall 2010 MAA-NJ Section Joint meeting with EPADEL will be held at La Salle University, Philadelphia.

The spring 2011 MAA-NJ Section meeting will be held in conjunction with the eighth Garden State Undergraduate Mathematics Conference at Essex County College on Saturday April 9, 2011.

#### Call for Contributed Papers and Lunch Table Discussion Topics for the Spring 2010 MAA-NJ Meeting

There will be one general contributed paper session and three special sessions. All papers will be reviewed by the organizers and the selection committee. Please submit title, 3-4 line summary, and 1 page abstract in **WORD** by **February 18, 2010** to the organizer of the session.

- Statistics: Practice and Pedagogy. Organizer: Dexter C. Whittinghill, Rowan University, [whittinghill@rowan.edu](mailto:whittinghill@rowan.edu)
- Mathematics and the Sport. Co-organizers: Kaaren Finberg, Ocean County College, [baltin@optonline.net](mailto:baltin@optonline.net), and John T Saccoman, Seton Hall University, [saccomjt@shu.edu](mailto:saccomjt@shu.edu)
- Mathematics Education of Teachers. Organizer: Bonnie Gold; Monmouth University, [bgold@monmouth.edu](mailto:bgold@monmouth.edu)
- General Contributed Paper Session. Organizer: Theresa C. Michnowicz, New Jersey City University, [tmichnowicz@njcu.edu](mailto:tmichnowicz@njcu.edu)

People interested in leading a Lunch Table Discussion at the Spring 2010 meeting are asked to submit their proposals to Theresa C. Michnowicz, New Jersey City University, [tmichnowicz@njcu.edu](mailto:tmichnowicz@njcu.edu), by **February 4, 2010**.

**Call for papers at the spring, 2010 meeting of the New Jersey Association of Mathematics Teacher Educators (NJAMTE).** If you are doing research, or something innovative, in the education of preservice or inservice mathematics teachers (at any level, K-12 that you would like to share), you are invited to submit an abstract for a presentation (15 minute presentation/15 minute discussion) at NJAMTE's annual meeting on May 21, 2010 at The College of New Jersey.

Please send a one-page abstract describing what you propose to speak on to Dr. Cathy Liebars, Department of Mathematics and Statistics, The College of New Jersey, 2000 Pennington Rd, Ewing, NJ 08628, or electronically at [liebars@tcnj.edu](mailto:liebars@tcnj.edu). The deadline for submissions is March 1, 2010.

### GSUMC 2010

Mark your calendars and bring your students! The Seventh Annual Garden State Undergraduate Mathematics Conference (GSUMC) will be held on Saturday, April 10, 2010 at Middlesex County College. Over 150 students and 25 schools participated in last year's conference. There will be a team and individual mathematics competition, a student poster session, invited student talks, and a keynote address for students. We especially encourage your students to present talks or posters on their research findings from topics at any level of the mathematics or statistics curriculum such as calculus projects, real-world applications, capstone, honors thesis, and REU projects. For more information, please contact Srabasti Dutta ([srabastidutta@gmail.com](mailto:srabastidutta@gmail.com)), Aihua Li ([lia@mail.montclair.edu](mailto:lia@mail.montclair.edu)), or Tom Hagedorn ([hagedorn@tcnj.edu](mailto:hagedorn@tcnj.edu)).

### Joint Mathematics Meetings 2010

The 2010 Joint Meetings of the AMS and MAA will take place in San Francisco, CA, January 13-16. More information about the meetings can be found online at [http://www.amsmtgs/2010\\_intro.html](http://www.amsmtgs/2010_intro.html).

### MathFest 2010

The Mathematical Association of America will hold its annual MathFest in Pittsburgh, PA, August 5-7. Check MAA Online at <http://www.maa.org> for more information about MathFest.

### Other Future National MAA Meetings

- 2011 Joint Mathematics Meeting, New Orleans, LA, January 5-8.
- 2011 MathFest, Lexington, KY, August 4-6.