The Electric Current

NEWSLETTER OF THE SEAWAY SECTION
MATHEMATICAL ASSOCIATION OF AMERICA

Volume 27, Number 1	Fall 2003

ROCHESTER INSTITUTE OF TECNOLOGY, ROCHESTER, NY, NOVEMBER 7 – 8

Outstanding Program Highlights Fall Meeting

The Seaway Section returns to one of its favorite locations, the Rochester Institute of Technology, for the Fall 2003 meeting. The meeting will be held on Friday, November 7 and Saturday, November 8. This will be the fourth time that the section has been able to take advantage of RIT's central location and excellent facilities. The section previously met there in the spring of 1970 and in the fall of 1985 and 1994.

RIT traces its origins to 1885, when a group of Rochester businessmen founded Mechanics Institute to establish "free evening schools in the instruction of drawing and such other branches of studies as are most important for industrial pursuits of great advantage to our people," and even earlier to 1829, when the city's namesake, Colonel Nathaniel Rochester established the Rochester Athenaeum. These institutions merged in 1891 to form the Rochester Athenaeum and Mechanics Institute, and comprehensive instruction in mechanical subjects became its hallmark. In 1912, then president Carleton B. Gibson implemented the system of cooperative education that has become central to an RIT education. In 1944, in recognition of the increasingly professional nature of its programs, the university adopted its present name, and in 1968 moved to its present 1300-acre campus in suburban Henrietta.

Patti Fraser-Lock, Randolph Lecturer

RIT currently enrolls over 15,000 students, including approximately 2400 graduate students. It offers associate's, bachelor's, and master's degrees, and has two Ph.D. programs in imaging science and microsystems engineering.

Friday evening's program will take place at the RIT Inn and Conference Center, located on West Henrietta Road (Route 15) just north of NYS Thruway exit 46. The activities will begin at 6:00 p.m. with the social hour and dinner.

After dinner, we will have the honor of hearing from one of the stars of the mathematical firmament, Fields Medallist **William Thurston** of Cornell University.

Dr. Thurston received his Ph.D. from University of California at Berkeley in 1972. He spent two years at the Institute for Advanced Study at Princeton, NJ, and then taught at MIT and Princeton University before returning to UC-Berkeley in 1991. In 1993, he became director of the Mathematical Sciences Research Institute in Berkeley. He comes to Cornell from UC-Davis, where he had been since 1996.

Professor Thurston's primary research area is topology, and he received his Fields Medal – mathematics' equivalent of the Nobel Prize – in 1982, for his so-called hyperbolization theorem in 3-dimensional topology. Earlier, in 1976, he won the Oswald Veblen Geometry Prize from the American Mathematical Society for his work on foliations. A member of the National Academy of Sciences, Dr. Thurston is also well known for efforts to improve the teaching of mathematics at the high school level, and for bringing more women and minorities into mathematics.

Recently, Dr. Thurston has become interested in the application of computing to certain problems in topology, and his appointment at Cornell is jointly in the Department of Mathematics and the Faculty of Computing and Information Science.

The meeting moves to the RIT campus on Saturday, with all of the program sessions taking place in the Gosnell Building (number 8 on the map).

Meeting Highlights

Gil Strang of the Massachusetts Institute of Technology will lead off the Saturday morning program with a talk entitled *Pascal Matrices and Enjoying Linear Algebra.*

Professor Strang was an undergraduate at MIT and a Rhodes Scholar at Balliol College, Oxford. He earned his doctorate at UCLA and has spent his entire career at MIT. He has been a Sloan Fellow and a Fairchild Scholar and is a Fellow of the American Academy of Arts and Sciences. Dr. Strang is a past president of SIAM (1999-2000) and is Chair of the U.S. National Committee on Mathematics for 2003-2004.

He has written a number of popular and influential textbooks, including Linear Algebra and Its Applications, Wavelets and Filter Banks (with Truong Nguyen), and Introduction to Linear Algebra, the third edition of which just appeared this year.

The section's own **Sandy Segal** will next offer a change of pace with *Helmut Hasse and Wilhelm Blaschke: Nazi Sympathizers?*

Dr. Segal is Professor of Mathematics at the University of Rochester. He received his Ph.D. from the University of Colorado in 1963. While at Rochester he has held visiting positions at the University of Vienna (as a Fulbright Fellow) and the University of Nottingham.

From 1979 to 1987 he served as department chair, and during the last four of those years he led a group of faculty interested in the "social studies" of science. He has been active in Rochester-area programs in mathematics education, and has served on numerous committees of both the AMS and MAA, recently chairing the MAA's Membership Committee. He is on the editorial boards of Mathematics Magazine and the Spectrum Series.

In 1988, Professor Segal received a grant from the Alexander von Humboldt Foundation that provided the opportunity for the initial research that culminated in his book, Mathematics under the Nazis, published by Princeton University Press this past July.
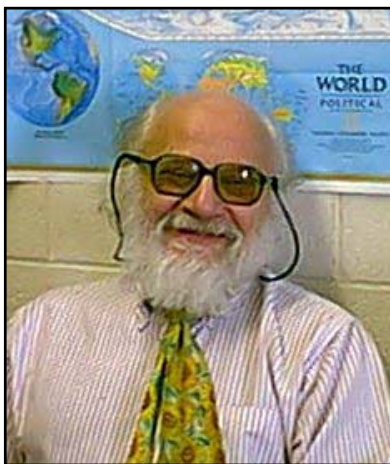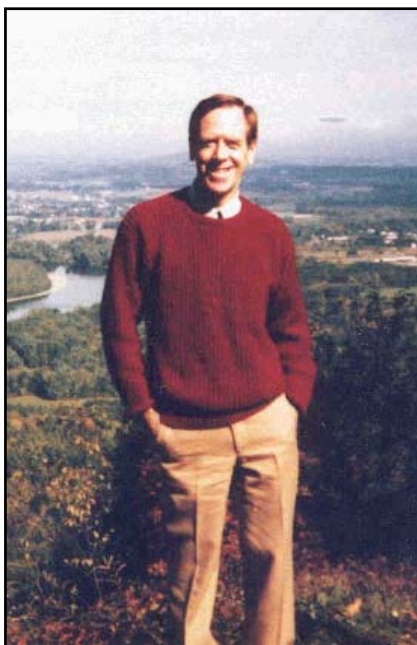
A highlight of the Saturday morning program at our fall meetings is the annual John F. Randolph Lecture in Mathematics Education. This year's lecture will be given by **Patti Fraser-Lock** of Saint Lawrence University, who will speak on *Making Mathematics Meaningful.*

Dr. Fraser-Lock has been at St. Lawrence since earning her Ph.D. in 1981, and currently serves as department chair. Her area of interest is graph theory, particularly hamiltonian-connectedness properties, and she enjoys involving undergraduates in her research.

She is also very interested in mathematics education, and her work in this area has focused primarily on the calculus sequence. She is a member of the Calculus Consortium based at Harvard, and has conducted calculus reform workshops across the country. Dr. Fraser-Lock says, "I love to teach, and always enjoy the challenge of helping my students understand and appreciate mathematics."

After lunch in the Fireside Lounge in the Student-Alumni Union, the program returns to Gosnell for a full lineup of parallel sessions on Saturday afternoon. These will include a session of talks by undergraduates, as well as a session of discussion and sharing of ideas by faculty who took part this past summer in the PMET – Preparing Mathematicians to Educate Teachers workshop at SUNY Potsdam.

One final program note: On Friday afternoon, there will be a workshop given by Professor **Richard B. Thompson** of the University of Arizona. Entitled "Mathematics for Business Decisions," it will focus on a new two-course sequence developed by Profesor Thompson and colleagues from the Department of Finance at Arizona that is intended for students majoring in business administration and related areas.

Student Program Update

Here is the tentative schedule of talks by undergraduates at the fall meeting. The talks will take place in 08-2355 Gosnell Building. A final schedule, together with abstracts, will be available at the meeting.

1:30 – 1:55	*Iterated Clasp Move and Upper Bounds for 2-bridge Links* Timothy Nawojski, SUNY Geneseo
2:00 – 2:25	*The Power of Cubic Spline Interpolation* Tamara Farmer, Nazareth College
2:30 – 2:55	*Optimal Management of Noxious Activities with Costly Technology Adoption* Gregory DeAngelo and Jeffrey Wagner, RIT
3:00 – 3:25	On Some Selection Problems with Applications to Lifetime Data Thomas T. John, Syracuse University

**SEAWAY SECTION
MATHEMATICAL ASSOCIATION
OF AMERICA**

2003 FALL MEETING

**November 7 – 8
Rochester Institute of Technology
Rochester, New York**

PROGRAM

Friday Afternoon, 08-1300 Gosnell Building

3:00 – 6:00   Meeting of the Executive Committee

Friday Afternoon, 08-1305 Gosnell Building

3:00 – 5:30   ***Workshop:***
Mathematics for Business Decisions
Richard B. Thompson,
University of Arizona

Friday Evening, RIT Inn and Conference Center

6:00 – 7:00   Social Hour (cash bar)
7:00 – 8:30   Dinner

8:30 – 9:30   *Title to be Announced*
William Thurston,
Cornell University

Saturday Morning, RIT Inn and Conference Center

7:15 – 8:15   Department Chairs' Breakfast

Saturday Morning, Gosnell Building

08:00 – 11:00   Registration

Saturday Morning, 08-1250 Gosnell Building

08:40 – 08:45   *Welcome*

08:45 – 09:35   *Pascal Matrices and Enjoying Linear Algebra*
Gil Strang, MIT

09:45 – 10:35   *Helmut Hasse and Wilhelm Blaschke: Nazi Sympathizers?*
Sandy Segal,
University of Rochester

10:35 – 11:00   Business Meeting

11:10 – 12:00   ***John F. Randolph Lecture***
Making Mathematics Meaningful
Patti Frazer-Lock,
St. Lawrence University

Saturday Afternoon, Fireside Lounge, S-A Union

12:00 – 1:30   Lunch

Saturday Afternoon, 08-1300 Gosnell Building

1:30 – 1:55   *A Report from the Trenches: Using Online Quizzes*
Jeff Suzuki, Bard College

2:00 – 2:25   *Head TA: What Is It and Do You Need One?*
Joshua Palmatier,
SUNY Binghamton

2:30 – 2:55   *Can Grading Be Made Consistent?*
Marlo Brown,
SUNY Binghamton

3:00 – 3:25   *Just in Time Teaching in Calculus*
Chris Leary, SUNY Geneseo

3:30 – 3:55   *Finding Matrix Representations*
Daniel Birmajer, Nazareth College

4:00 – 4:25   *Dynamic Calculus Tools for Visualizing Multivariate Calculus*
Paul Seeburger,
Monroe Community College

Saturday Afternoon, 08-1305 Gosnell Building

1:30 – 1:55   *Square Roots of 2 by 2 Matrices*
Sam Northshield,
SUNY Plattsburgh

2:00 – 2:25   *DNA Codes*
Anthony Macula,
Air Force Research Lab, Rome, NY

2:30 – 2:55   *The Dynamics of Energy Harvesting*
Carl Lutzer, RIT

3:00 – 3:25   *Some Interesting Connections Between Statistics and Differential Geometry*
Marvin Gruber, RIT

3:30 – 3:55   *The N-Jug and Water Problem*
Thomas Pfaff,
Ithaca College

4:00 – 4:25   *Real-World Applications of Higher Mathematics*
Darren Narayan, RIT

Saturday Afternoon, 08-2300 Gosnell Building

1:30 – 1:55   *Can Two Rectangles Be Multiplied?*
Omar Saldarriaga,
SUNY Binghamton

2:00 – 2:25   *Cut-sets in k-critical Graphs*
Margaret Sherman,
Buffalo State College

Program and Abstracts

Saturday Afternoon, 08-2300 Gosnell Building (cont.)

2:30 – 2:55   *On Periodic Rings and Related Rings*
Howard Bell,
Brock University

3:00 – 3:25   *From Matrices to Oriented Matroids*
Cristina Ruiz,
SUNY Binghamton

3:30 – 3:55   *Julius Petersen: The Graph and the Man Behind It*
Hossein Shahmohamad, RIT

4:00 – 4:25   *The Extremal Types Theorem*
James Marengo, RIT

Saturday Afternoon, 08-2305 Gosnell Building

Special Session: *Preparing Mathematicians to Educate*
1:30 – 3:20   *Teachers*
Organized by Jack Narayan,
SUNY Oswego

3:30 – 3:55   *Teaching with Technology*
Dawn Jones, SUNY Brockport

Saturday Afternoon, 08-2355 Gosnell Building

Student Program: See previous page for information.

ABSTRACTS

Gil Strang

This is joint work with Alan Edelman of MIT and a little bit with Pascal. They had all the ideas.

Use the famous Pascal triangle to form a square matrix. This can be done so that the resulting matrices L, L', and S are lower-triangular, upper-triangular, or symmetric, respectively. The amazing thing is that $LL' = S$. It follows that S has determinant 1. These matrices have other unexpected properties, too, that give beautiful examples in teaching linear algebra. The proof that $LL' = S$ comes three ways, and I don't know which you will prefer: (1) by induction, using Pascal's identity; (2) by an identity for $C(i+j, j)$; (3) by applying both sides to the column vector $[1\,x\,x^2...]$. The third way also gives a proof that $S^3 = -I$, but we doubt that result. Moreover, the rows of the "hypercube matrix" L^2 count vertices, edges, and faces (and other things) in the n-dimensional cube.

In an independent part of the talk, we look for the "right" proof of a know result about the inverse of any tridiagonal matrix: Every 2 by 2 submatrix above the diagonal (or below) has determinant zero!

Sandy Segal

Wilhelm Blaschke and Helmut Hasse were two of the most distinguished mathematicians of the first half of the 20th century. Each lived through and beyond the Nazi period in Germany. Sometime after World War II, each received an award from the DDR (East Germany).

Yet both Blaschke and Hasse in very different ways accommodated themselves to the Nazi regime and became spokesmen for it. Hasse became Chair at Gottingen, two years before arguably the leading mathematics department in Germany (if not the world). Blaschke was Chair at Hamburg, the most important department after Gottingen and Berlin. The department at Hamburg, founded in 1919, was guided by Blaschke and Erich Hecke to this successful status, though Blaschke and Hecke viscerally hated one another.

This lecture will discuss the attitudes and behavior of Blaschke and Hasse during the Nazi period – not to wash "dirty linen" in public, but in an attempt to understand their motivation and behavior in an undeniably difficult time.

Patti Frazer Lock

We will discuss fun and easy ways to add meaning and conceptual understanding to mathematics courses at a variety of levels.

Jeff Suzuki

Recently, many web-based learning tools have become available for teachers, among them WebCT, Blackboard, and CourseInfo. I have been working with these tools for several years, and have come to appreciate their potential and limitations. The following "report from the trenches" is based on my experience of what works, what doesn't, and how to keep yourself sane and happy while preparing web resources for your students. I will focus on the use of "online quizzes" and how they can be used to significantly enhance proficiency in mathematics.

Joshua Palmatier

Recitation sections for large lecture classes can sometimes be hard to control, especially when there are many teaching assistants involved. One solution is to have a Head TA there to act as a "go-between" between the coordinator of the large lecture and the TAs themselves. In this talk, some of the responsibilities of the Head TA will be discussed, as well as the pros and cons of being a Head TA, and whether your large lecture class needs one. Topics will include how to handle quizzes in the recitation sections, attendance, web pages and their uses, and mass grading sessions. An extension of this talk by Marlo Brown will follow.

More Abstracts

Marlo Brown

At SUNY Binghamton, several freshman courses are taught using the large-lecture format, with the class broken into smaller discussion sections that meet once per week and are led by graduate TAs. Quizzes are given in the discussion sections. We have found that there is a wide discrepancy in the way different TAs grade. How can we fairly compensate the students who are in the sections with the harder graders? This talk will illustrate the statistical procedures that we used in our elementary statistics course to make the grading consistent across sections.

Chris Leary

Gregor Novak and Evelyn Patterson presented a workshop at Geneseo on Just-in-Time Teaching. This teaching/learning strategy utilizes web technology in order to drive active classroom discussion by forcing students to think about the material to be covered before it is talked about in class. Believing that some of the advantages of this pedagogical technique are well suited for first semester calculus, I am utilizing some of the Just-in-Time techniques this term. I will give a brief discussion of my experiences.

Daniel Birmajer

In this talk, we will propose an algorithmic approach to the problem of finding matrix solutions to systems of polynomial equations in non-commuting variables. In the research literature, such solutions are referred to as "representations." The main focus of the talk will be on introducing the concept of "polynomial test" and describing its applications for finding particular types of matrix representations.

Paul Seeburger

I will demonstrate several software visualization tools I have developed using Visual Basic. These tools allow students to create and freely rotate graphs of functions of two variables, contour plots, vectors, space curves generated by vector-valued functions, regions of integration, and vector fields. Many other concepts from multivariate calculus, including directional derivatives, gradient vectors, and tangent planes, will also be demonstrated using this visual software. I will discuss how I use this software to present material in class and how my students make use of it themselves.

Sam Northshield

We investigate several questions involving square roots of 2 by 2 matrices. In particular, how do you find them? How many are there? Does Newton's method work to approximate them? When does an integral matrix have an integral square root? Do continued fractions of square roots of integral matrices eventually repeat? In addition to these questions (which I hope to answer), I plan to present some questions indicating possible directions for undergraduate research.

Anthony Macula

This research addresses the development of an enabling technology for DNA computing and other biological assay applications. It is focused on the construction of a biomolecular architecture designed to employ new algorithmic paradigms based on the massively parallel computational power of DNA hybridization. In this research, we developed methods of generating of large collections (libraries) of single stranded DNA sequences called a $\text{DNA}(n,d)$ code. $\text{DNA}(n,d)$ codes serve as universal components for biomolecular computing. $\text{DNA}(n,d)$ codes are closed under reverse-complementation. The strands in a $\text{DNA}(n,d)$ code have such binding specificity that a code strand will only hybridize with its reverse-complement and will not cross hybridize with any other code strand in the $\text{DNA}(n,d)$ code (i.e., avoid unintended cross hybridizations.) Such collections of strands are crucial to the success of Adleman-style DNA computing. The collections also have important applications in many other biological assays. Some of the other applications are single nucleotide polymorphism (SNP) genotyping, gene expression profiling, DNA chip development and self-assembly.

Carl Lutzer

In this talk, I will present research on the dynamics of a micro-electrical mechanical system that is designed to act as an energy harvester, changing incidental mechanical energy into usable electrical energy.

Marvin Gruber

There are many results in statistics that correspond to results in differential geometry. For example, using the central limit theorem, the gamma family can be shown to converge in distribution to the normal distribution as the index of the distribution tends to infinity.

Using Fisher information, a family of probability distributions viewed as a surface or manifold can be endowed with a distance function. Furthermore, using Gauss' Theorem egregium, the gaussian curvature can be obtained for the family of gamma distributions. It can then be shown that as the index of the gamma distributions tends to infinity the curvature tends to that of a family of normal distributions.

An outline will be presented of how the connection between the limiting behavior of the gamma family and its gaussian curvature may be demonstrated.

Additional Abstracts

Thomas Pfaff

A special case of the 2-Jug and water problem is as follows: If we have 3-liter and 5-liter jugs, along with an ample supply of water, can we obtain 4 liters of water (in the 5-liter jug)? This problem even obtained some fame in the movie Die Hard II. In this talk, we generalize the problem: Given N jugs and an ample supply of water, what water amounts can be obtained?

Darren Narayan

The talk will include specific examples of real world applications of mathematics, including some from *Avaya Communications*, *JetBlue Airways*, *Level* 3 *Communications*, and *Microsoft Research*. We will investigate how methods from graph theory can be used to model flight destinations for an airline, design fiber-optic lines for a communication company, and assist in the formulation of high-resolution computer graphics. We will also explore applications of computational geometry and Voronoi diagrams to problems involving resource allocation, as well as the use of integer linear programming in the formulation of portfolio management models.

Omar Saldarriaga

In this talk, we will discuss multiplication of rectangles, and how to extend this concept to a wider class of geometric objects called Young Tableaux. We will also discuss applications of this idea and the types of problems it solves.

Margaret Sherman

If H is a subgraph of order n of a k-critical graph G then the number of components of $G - H$ is bounded by the number of $(k-1)$-colorings of H, where two colorings are considered the same if they differ only by a permutation of the colors. The number of $(k-1)$-colorings $M(n,k)$ of an independent set I of n vertices is the number of equivalence relations on a set of n objects into $k-1$ or fewer classes. In this talk, I will prove that, for each $k \geq 3$, there are k-critical graphs G containing an independent set I for which $G - I$ has exactly $M(n,k)$ components. More generally, if H is a proper subgraph of some k-critical graph, then there exists a k-critical graph G for which the number of components of $G - H$ is equal to the number of $(k-1)$-colorings of H.

Howard Bell

A ring R is called periodic if each element of R has only finitely many distinct powers. Periodic rings have a particularly nice commutativity theory – for example, if R is periodic and all nilpotent elements are central, then R must be commutative. We present some recent commutativity results for periodic rings, and we discuss several generalizations of periodic rings, including quasi-periodic and generalized quasi-periodic rings.

Cristina Ruiz

Oriented matroids are a combinatorial abstraction of linear algebra. They are a natural concept, and have applications in areas like topology, combinatorics and algebraic geometry, to name a few. In this talk, I will introduce oriented matroids by using points, vectors, and lines in the plane. As an example, we will use oriented matroids to read off the faces of a high dimensional polyhedron. This talk is accessible to undergraduates; however, some knowledge of linear algebra is required.

Hossein Shahmohamad

A short biography of the Danish mathematician Julius Petersen, along with major milestones in his life, will be presented. The graph named after Petersen, by far the most famous of all, has many properties that make it the perfect example or counterexample for many properties and definitions. Some recent equivalences of the Petersen graph will also be discussed.

James Marengo

The extremal type theorem states that there are precisely three possible types of limiting distributions for normalized maxima of independent and identically distributed random variables. Associated theory gives necessary and sufficient conditions on the underlying distribution of these random variables for each of these three limit laws. We will examine this striking result in the context of some examples.

Dawn Jones

This past summer, I was an instructor at a summer workshop for teachers from the Rochester, Brighton, and Brockport School districts, to help them integrate technology into their classrooms. In this talk, I will give a brief overview of the project and a brief overview of some of the tools the participants were exposed to.

The Governor's Report

Luise-Charlotte Kappe

The MAA Board of Governors met on July 30, 2003, in Boulder, Colorado, in conjunction with the MathFest. The MathFest was well attended, with over a thousand registrants. The Seaway Section was very visible, not only in numbers. For example, one could not fail to notice that half of the six minicourses were organized by members from our section.

Further, I was pleased to learn that Olympia Nicodemi of SUNY Geneseo had been nominated for one of the three Deborah and Franklin Tepper Haimo Awards for 2004. The Board approved Olympia and the other nominees, and it was with enthusiasm that I cast one of my first votes as governor for her. Olympia will receive her award in January at the Joint Meetings in Phoenix. Congratulations, Dr. Nicodemi!

I cannot help but to add some statistics here. This is the second Haimo award for the section, for SUNY Geneseo, and for Olympia's family, as husband Gary Towsley received the award in 2000. This is definitely a first – having two Haimo awards in the same family – and Dr. Nicodemi is the first female winner of the section's teaching award. Olympia can be very proud of this accomplishment. I've always appreciated her work in the section, particularly her tireless efforts on behalf on the Seaway NExT – PFF program. I'm looking forward to working with her for years to come.

The MathFest was held at the University of Colorado and the headquarters hotel was the Millennium Harvest. The distance between the two venues made it difficult sometimes to attend all of the events one would have liked, especially for someone like myself who had to attend many meetings. But I managed to steal away for one afternoon to visit the National Center for Atmospheric Research. Its beautiful campus, an early design by I.M. Pei, blends well into the majestic landscape with the Flat Irons as a backdrop.

As a new governor, I participated in an orientation session the evening prior to the board meeting, as well as the 8-hour board meeting the next day. We moved quickly through the over 100-page agenda, and the day was not as much of an ordeal as I had anticipated. Ron Graham reflected on his first six months as President, and discussed the gift of Paul and Virginia Halmos that will allow conversion of the Carriage House at MAA Headquarters into a conference center.

Financially, the MAA is in good shape, as reported by John Kenelly, Treasurer. That could not have been said for the past few years. Kenelly said that the finance team is like a duck – it looks smooth and graceful on the surface, but is paddling like crazy underneath!

Martha Siegel, MAA Secretary, reported that the electronic voting experiment for MAA officers went very well, and electronic voting will continue to be used for national elections. Tina Straley, Executive Director, discussed the first MAA International Study Tour to Greece. The second tour will go to England this coming spring.

A Report from the Chair

Cheri Boyd

I would like to begin by congratulating Luise-Charlotte Kappe on her election as Governor and Olympia Nicodemi on receiving the Haimo Award! The Seaway Section is a dynamic group of people and we are well represented and recognized on the national level.

I also want to thank our outgoing Governor Joe Straight and our immediate Past Chair Bob Rogers for their tireless efforts on behalf of the Seaway Section. Joe continues to be a seemingly endless source of information for both the Executive Committee members and for all the members of the Section through his work producing and editing this Seaway Current newsletter. Bob approached every issue with a fresh look and boundless enthusiasm that will be hard to match.

I look forward to my term as Chair of the Section and plan to focus on several tasks. The Executive Committee will review the process and timeline of planning our meetings, and will make more information available on the Seaway Section website in an effort to improve communication with local organizers. The Section will continue involvement in outreach between mathematics teachers at the secondary and higher education levels. Finally, I would like to find new ways that the Seaway Section can serve as a resource for its members. Any and all suggestions are welcome.

I'll close by sharing that I attended my first Seaway Section meeting at Syracuse University when I was a Potsdam College mathematics major 20 years ago. It was special then, and it is perhaps even more so now. Take care, everyone!

There is a change in the deadline for the section's nominee for the Haimo Award – it is now March 1 instead of February 1. Also, there is a new teaching award for young faculty, named for Henry Alder. Further details on the Alder Prize can be found at the MAA website. So far this is only a national award, but it may be desirable to establish a sectional version as a stepping-stone to a national nomination. I will suggest that our Executive Committee look into it.

At the governors' luncheon there is always a suggested topic for the conversation. This time it was about how to increase involvement of graduate students in the MAA, a topic I had suggested as a representative of the Committee on Graduate Students. Several good ideas emerged, such as how to provide better member services for graduate students.

Unfortunately, there is actually very little done at all levels of the MAA to make the organization more attractive and affordable for graduate students. We in the Seaway Section seem to be unique in our efforts to address their needs in our programming, in particular with Seaway NExT/PFF. My presentation at the Section Officers Meeting about sectional activities for graduate students was well received, as far as I could tell. The Committee on Graduate Students is off to a good start, but there is still a long way to go.

Committees of the Section

Program Committee:
Gary Towsley, SUNY Geneseo, Chair (4/04)
    towsleyg@geneseo.edu
Mark McKinzie, Monroe CC (4/05), ex-officio

Student Program Committee:
Victoria Klawitter, SUNY Potsdam, Chair (4/04)
    klawitv@potsdam.edu
Robert Rogers, SUNY Fredonia (4/04)
Gary Towsley, SUNY Geneseo (4/04), ex-officio

Educational Policies Committee:
Stephen West, SUNY Geneseo, Chair (4/04)
    west@geneseo.edu
Morris Orzech, Queen's University (4/04)
Joseph Straight, SUNY Fredonia (4/05)
Luise-Charlotte Kappe, SUNY Binghamton (06/06),
    ex-officio

Gehman Lecture Committee:
Harris Kwong, SUNY Fredonia, Chair (4/05),
    kwong@cs.fredonia.edu
Robert Connelly, Cornell University (4/04)
Kathryn Lesh, Union College (4/04)
Robert Rogers, SUNY Fredonia (4/04), ex-officio

Randolph Lecture Committee:
Grace Orzech, Queen's University, Chair (11/04)
    orzechg@post.queensu.ca
Maureen Cox, St. Bonaventure University (11/04)
Eric Muller, Brock University (11/04)
Mark McKinzie, Monroe CC (4/05), ex-officio

Distinguished Teaching Award Committee:
Sandy Segal, University of Rochester, Chair (4/04)
    ssgl@math.rochester.edu
Maruja Lander, Broome CC (4/05)
Olympia Nicodemi, SUNY Geneseo (4/05)
Len Malinowski, Finger Lakes CC (4/04), ex-officio

Nominations Committee:
Constant Goutziers, SUNY Oneonta, Chair (11/04),
    goutzicj@oneonta.edu
Patricia Burgess, Monroe Community College (11/04)
Michael Gage, University of Rochester (11/04)

Seaway NeXT/PFF Advisory Committee:
Joel Foisy, SUNY Potsdam, Chair (4/03)
    foisyjs@potsdam.edu
Carol Bell, SUNY Cortland (4/04)
Cheri Boyd, Nazareth College (4/05)
Maureen Cox, St. Bonaventure University (04/05)
Michael Gage, University of Rochester (4/04)
Bill Hooper, Clarkson University (04/05)
Luise-Charlotte Kappe, SUNY Binghamton (4/05)
Margaret Morrow, SUNY Plattsburgh (4/04)
Olympia Nicodemi, SUNY Geneseo (4/04)

Treasurer's Report

Len Malinowski, Secretary/Treasurer

Balance as of Dec. 31, 2002		9021.00
Food Service at Meetings	3283.20	
Program Expenses	413.00	
Misc. Expense	35.00	
Expense for MAA Book Sale	302.35	
Receipts from Meetings		3395.00
MAA Subvention		1400.00
Income from MAA Book Sale		377.17
Total Expenses/Income	4033.55	5172.17
Balance as of June 30, 2002		10159.62

Minutes of the Business Meeting April 5, 2003, Alfred University

Len Malinowski, Secretary/Treasurer

The meeting was called to order by Cheri Boyd, Section Chair. Dr. Boyd began by thanking the local organizing committee, chaired by Deborah Waugh. The facilities and food provided by Alfred University were excellent, and attendance at the meeting was very good, considering the severe ice storm that had hit much of the section.

The minutes of the business meeting of 11/2/02 and the treasurer's report were approved as published in the *Seaway Current*. It was noted that the section had increased the meeting registration fee from $10 to $15. This, and continued support for Project NExT and other programs from the MAA, we hope, will allow us to continue to deliver quality programs. We will, however, continue to monitor the section's finances.

As part of his Governor's Report, Joseph Straight noted the extension of the election period for governor of the section. Apparently, due to a delay in processing dues payments, some members who should have been eligible to vote had not initially received their ballots. The extension was to ensure that all members would have a chance to cast their ballots. Due to the extension, the result of the election was not yet known at the time of the meeting.

The Nominations Committee, chaired by Constant Goutziers of SUNY Oneonta, nominated Mark McKinzie of Monroe Community College for the position of Second Vice-Chair. There being no additional nominations from the floor, Mark was elected unanimously.

Gary Towsley, Program Chair, announced preliminary plans for the Fall 2003 meeting at RIT. The spring meeting will be held at SUNY Cortland, April 23—24, 2004.

A motion from the Executive Committee to name the section's distinguished teaching award in honor of Clarence Stephens passed overwhelmingly.

RIT to Host Fall Meeting

The Department of Mathematics and Statistics of the Rochester Institute of Technology will host the Fall 2003 Meeting of the Seaway Section. The local arrangements committee consists of: **Bernard Brooks**, **Carl Lutzer**, **Darren Narayan**, and **Hossein Shahmohamad**.

Located in the Gosnell Building, the department offers undergraduate programs in applied mathematics, applied statistics, and computational mathematics, and an M.S. in Industrial and Applied Mathematics. A popular program is the accelerated BS/MS option, which links each of the three undergraduate programs to a graduate program offered by RIT, enabling students to complete a master's degree with one additional year of study.

The department is home to nearly 40 full-time faculty, 110 undergraduate majors, and ten graduate students. Dr. Sophia Maggelakis serves as department head, assisted by associate head David Hart. James Halavin serves as Director of Undergraduate Programs, and Hossein Shahmohamad directs the graduate program.

The Department of Mathematics and Statistics is proud of its strong and growing undergraduate research program. Last year, three students gave presentations at the Joint Mathematics Meetings in Baltimore, and seven participated this past summer in various REU programs across the country. The department has an active undergraduate colloquium series, and last November installed New York Kappa Alpha, a new chapter of Pi Mu Epsilon.

The department likes to use a sports analogy to describe its commitment to faculty-student collaboration: At RIT, mathematics and statistics majors don't sit on the bench, they get in the game!

Registration, Lunch, and Refreshments

Registration will take place at the RIT Inn and Conference Center on Friday evening during the social hour, and on Saturday morning from 8:00 until 11:00 in Gosnell. Refreshments will be available in the registration area on Saturday morning, and following the sessions on Saturday afternoon. The Saturday Lunch will be served from noon to 1:30 in the Fireside Lounge of the Student-Alumni Union.

Directions to RIT

From the RIT Inn and Conference Center, follow Route 15 north and then Route 253 east to I-390. From the NYS Thruway, use Exit 46 for I-390. Follow I-390 North to Exit 13, Hylan Drive. Make a left onto Hylan, and follow it north to Jefferson Road (Route 252). Make a left onto Jefferson Road, and follow it west a short distance. The campus entrance will be on your left. Look for signs directing you to the parking areas.

Pre-registration Form

Name: _____

Institution: _____

MAA Member: Yes _____   No _____

Registration Fee: _____ @ $15 $ _____

Friday Dinner: _____ @ $25 $ _____

Saturday Lunch: _____ @ $10 $ _____

Please check for vegetarian selection: _____

Total: $ _____

Please pay in U.S. funds and make checks payable to **Seaway Section, MAA**. **Lunch and dinner reservations, with payment, should be received by Friday, October 24**. Note that there is no registration fee for students, and students who pre-register qualify for a free lunch on Saturday.

Mail to: Bernard Brooks
                Department of Mathematics and Statistics
                Rochester Institute of Technology
                Rochester, NY 14623-5603

Telephone: 585–475–4717
Fax: 585–475–6627
E-mail: bpbsma@rit.edu

RIT Campus Map: Jefferson Road is at the top.

Accommodations

A block of rooms has been reserved at the RIT Inn and Conference Center, 5257 West Henrietta Road, West Henrietta, NY 14586; 585-359-1800. The special conference rate is $70. It is possible to make an online reservation at www.ritinn.com.

Directions to the RIT Inn and Conference Center

The RIT Inn and Conference Center is located on West Henrietta Road (Route 15), just north of the NYS Thruway (I-90). From the Thruway, use Exit 46 (I – 390). Do not get on I-390, but instead follow signs to Route 253 (Lehigh Station Road). Turn left onto Rt. 253, heading west. At the intersection with Rt. 15, turn left, heading south. The RIT Inn is located ½ mile on the right.

Meeting Website

Additional hotels, driving directions, maps, an online registration form, and the latest program information may be found at meeting website:

<div align="center">

www.rit.edu/~cvlsma/MAA

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Special PMET Session on Saturday Afternoon

This special session will be presented by Jack Narayan, Jeff Johannes, Lyn Carlson, Margaret Morrow, and Christine Bacuta.

What background does a mathematician need in order to teach mathematics courses for future K–12 teachers? This question is being addressed by the MAA's PMET initiative. This presentation will give an overview of the program and will allow faculty participants to share some of what they have learned. This will be done via presentation and discussion. Attendees will learn about resources that PMET has developed and what is coming in the future, as well as programs in which the participants may wish to engage. PMET is funded by a grant from the NSF's Division of Undergraduate Education, with additional funding from Texas Instruments.