The Electric Current

ELECTRONIC NEWSLETTER OF THE SEAWAY SECTION MATHEMATICAL ASSOCIATION OF AMERICA

Volume 25, Number 2 **Spring 2002**

SUNY BROCKPORT, BROCKPORT, NY, APRIL 19 – 20

Spring Meeting May Be Largest Ever!

Location, location, location! Whenever the section meets in the Rochester area, we seem to have excellent attendance. This spring, with an attractive program and perhaps the largest number of contributed talks ever, we may beat the all-time attendance record of slightly over 200 participants, attained when the Fall 1994 meeting was held at the Rochester Institute of Technology.

SUNY Brockport will host this spring's meeting on Friday, April 19 and Saturday, April 20. The section previously met at Brockport in the fall of 1981.

Brockport is a small college town of 9700 residents located on the historic Erie Canal, 16 miles west of Rochester and 45 miles east of Buffalo. Founded in 1867 as one of New York's first four normal schools, SUNY Brockport has grown to become one of the largest of the university colleges, with over 6700 undergraduates and close to 1900 graduate students. The 435-acre campus with 66 buildings is spacious, yet well planned, with the academic and residence halls occupying the northeast quarter.

Alan Taylor, Gehman Lecturer

Friday evening's activities will be held on campus in Cooper Hall. Beginning at 6:00 p.m., participants will enjoy a social hour, dinner, and an after-dinner talk by **Luise-Charlotte Kappe**. Dr. Kappe will present *It's a Wonderful Life! Observations on a Career as a Mathematician*. Also after dinner, the 2002 Seaway Section Distinguished Teaching Award will be presented to **Norman Rice** of Queen's University (see article on page 12).

Luise-Charlotte Kappe is a native of Germany, where she studied at the Universities of Erlangen and Freiburg. She obtained her Ph.D. under Theodor Schneider in the area of transcendental numbers, and is now working in group theory. In 1963, she and her husband Wolfgang immigrated to the U.S. They came to SUNY Binghamton in 1969, after five years at Ohio State.

In addition to two sons, Dr. Kappe is very proud to have "raised" a dozen Ph.D. students. Her interest in helping graduate students become successful faculty members led her to apply for and receive an NSF grant in 1999 for the Preparing Future Faculty (PFF) program, and she was recently appointed to the MAA Committee on Graduate Students.

Dr. Kappe is an active member of the section, serving as section chair from 1997 to 1999, and presently chairing both the Nominations and Gehman Lecture committees. During her tenure as chair she initiated the Seaway Section NExT/PFF program.

On Saturday, the meeting returns to SUNY Brockport, with the morning session and most of the afternoon sessions taking place in Edwards Hall.

The program on Saturday morning features the annual Harry M. Gehman Lecture, to be given this year by **Alan Taylor**. The title of his address is, *Is Honesty the Best Policy?*

Dr. Taylor is Marie Louise Bailey Professor of Mathematics at Union College in Schenectady, New York. He received his Ph.D. in 1975 from Dartmouth, and his fields of interest include set theory, logic, game theory, social choice, and mathematical political science.

Dr. Taylor has served as chair of the mathematics department and chair of the science division at Union. He is a recipient of the college-wide Stillman Prize for Excellence in Teaching and the Alumni Council's Faculty Meritorious Service Award.

See **Meeting Highlights** *Page 7*

SEAWAY SECTION MATHEMATICAL ASSOCIATION OF AMERICA

2002 SPRING MEETING

April 19 – 20
SUNY Brockport
Brockport, New York

PROGRAM

Friday Afternoon, 208 Seymour College Union

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

Friday Afternoon, 220 Seymour College Union

12:00 – 5:30 Seaway NExT Lunch and Meeting

Friday Evening, New York Room, Cooper Hall

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

8:30 – 8:45 *Presentation of the Seaway Section Distinguished Teaching Award*

8:45 – 9:30 *It's a Wonderful Life! Observations on a Career as a Mathematician*
Luise-Charlotte Kappe,
SUNY Binghamton

Saturday Morning, Edwards Hall

08:00 – 11:00 Registration

Saturday Morning, 100 Edwards Hall

08:40 – 08:45 *Welcome*
Paul Yu, President, SUNY Brockport

08:45 – 09:35 *Search for the Mean Value Theorem*
Bob Rogers, SUNY Fredonia

09:45 – 10:35 *Statistics and Mathematics of Baseball*
Ken Ross, University of Oregon

10:35 – 11:00 Business Meeting

11:10 – 12:00 **Harry M. Gehman Lecture**
Is Honesty the Best Policy?
Alan Taylor, Union College

Saturday Afternoon, NewYork Room, Cooper Hall

12:00 – 1:30 Lunch

Saturday Afternoon, 103 Edwards Hall

1:30 – 2:25 *Reforming the Mathematical Preparation of Elementary Teachers: Report from a National Workshop*
Sergei Abramovich, Peter Brouwer, Victoria Klawitter, Blair Madore, and Bev Smith, SUNY Potsdam

2:30 – 3:55 Panel Discussion: *Reconciling Conflicting Conceptions of Proof: Doers', Teachers', (Undergraduate) Students'*
Organizers: Olympia Nicodemi, SUNY Geneseo
Morris Orzech, Queen's University
Panelists: Margaret Morrow, SUNY Plattsburgh
Walter Whiteley, York University

4:00 – 4:25 *Unanswered Questions and Incorrect Proofs*
John Donnelly, SUNY Binghamton

Saturday Afternoon, 104 Edwards Hall

1:30 – 1:55 *Group Exams in the First-Year Calculus Sequence*
Inga Johnson, University of Rochester

2:00 – 2:25 *Making Calculus Computer Labs Meaningful for Students Through Laboratory Reflections*
Melissa Sutherland, SUNY Geneseo

2:30 – 2:55 *Computing Jordan Forms Using Elementary Row and Column Operations*
Norman Rice, Queen's University

3:00 – 3:25 *Gateway to Graduate School: The Undergraduate Algebra Seminar*
Ivonne Ortiz, SUNY Binghamton

3:30 – 3:55 *Inverse Problems in Differential Equations*
Andrzej Kedzierawski, SUNY Geneseo

4:00 – 4:25 *On-line Instruction Management*
Dawn Jones, SUNY Brockport

Saturday Afternoon, 105 Edwards Hall

1:30 – 1:55 *Fugue in D12 Minor: The Mathematics of Scales and Chords*
Michael Bacon, SUNY Oneonta

2:00 – 2:25 *A Geometrical Classification of Wallpaper Patterns*
George Baloglou, SUNY Oswego

See **More Program and Abstracts**, *Next Page*

More Program and Abstracts

continued from page 2

2:30 – 2:55 *A Distant Cousin of the Mandelbrot Set*
David Brown, Ithaca College

3:00 – 3:25 *The Quest for Triangle-Free Colorings of the Complete Graph*
Susan Fettes, SUNY Oswego

3:30 – 3:55 *Let's All Go with the Flow*
Hossein Shahmohamad, RIT

4:00 – 4:25 *Reflection and Transmission of Elastic Waves with Applications to Earthquake Detection and Prospecting for Oil*
Rich Marchand, SUNY Fredonia

Saturday Afternoon, 102 Edwards Hall

1:30 – 1:55 *Finding Equations of Tangents to Conics*
Michel Helfgott, SUNY Oswego

2:00 – 2:25 *On Apollonian Circle Packings*
Sam Northshield, SUNY Plattsburgh

2:30 – 2:55 *Refined Arithmetic and Geometric Mean Inequalities*
Peter Mercer, Buffalo State

3:00 – 3:25 *Another Approach to Statistical Independence with Applications*
Munir Mahmood, RIT

3:30 – 3:55 *Dichotomy and Monotonic Character of Positive Solutions of a Ricatti Difference Equation*
Michael Radin, RIT

4:00 – 4:25 *A Probabilistic Proof of Stirling's Formula*
James Marengo, RIT

Saturday Afternoon, 205 Dailey Hall

1:30 – 2:25 *WeBWorK*
Michael Gage and Vicki Roth,
University of Rochester

2:30 – 3:25 *Calculus Meets Interactive Multimedia: The 'Journey Through Calculus' Software*
Bill Ralph, Brock University

3:30 – 4:25 *Making Calculus Come Alive Using Dynamic Graphics in Microsoft EXCEL*
Paul Seeburger, Monroe CC

Saturday Afternoon: Student Program

12:00 – 1:50 **Presidential Dining Room, Cooper Hall**
Lunch and Panel Discussion: *Career Options for Math Majors*
Danielle Brahm, Eastman Kodak
Peter Castro, Eastman Kodak
Bret Johantgen, Excellus Benefit Corp.
Tim Rich, Corning Tropel Corp.

2:00 – 3:25 **101 Edwards Hall**
Student Workshop: *Fun with Knots*
Jeff Johannes, SUNY Geneseo
Julia Wilson, SUNY Fredonia

3:30 – 4:25 **Edwards Hall**
Parallel Sessions of Student Talks

ABSTRACTS

Luise-Charlotte Kappe

We all have our doubts off and on if life is really so wonderful. But that is not what I want to address here. Watching the Jimmy Stewart movie with this title, there was one scene that captured my imagination: the Guardian Angel shows George Bailey how the world would have been without him.

Personally, I never had much need to know how the world would have looked without me. However, all other things equal, the question, "How would life have been if I had lived in a different time and place?" would be something of interest to me. This is the stuff of movies and fairy tales. But at least it is possible to play this as an intellectual game.

I was born and raised in Germany before WWII. After getting my Ph.D. in 1962, I married Wolfgang Kappe, a fellow mathematician, and we immigrated to the US one year later, where we have been teaching at a university ever since. What would life have been like had I stayed in Germany, had not gotten married, or had been born fifty or one hundred years earlier, or had been born in this country? Looking at actual and potential role models over the centuries helped me answer some of these questions. In essence, it got me back to the roots of what shaped my life.

Bob Rogers

The Mean Value Theorem is often presented in a freshman calculus class as the foundation for the proofs of a number of important results, which curiously predate the theorem, itself. This talk presents how calculus was done before the Mean Value Theorem was conceived and where this theorem fits in the subject's historical development. I will also discuss how this history affects the way I teach both calculus and real analysis.

Ken Ross

This talk is a report on a freshman seminar that I gave at the University of Oregon in the spring of 2000. For many, a great appeal of baseball is its emphasis on statistics. In the seminar we analyze some of the statistics used with an emphasis on methods from the theory of statistics. Batting averages, streaks and other records are studied. Criteria for membership in the Hall of Fame are examined. We study some examples of Simpson's Paradox. Finally, we interpret some of the mathematical theory of elementary "game theory" in terms of baseball.

See **More Abstracts** *Next Page*

More Abstracts

continued from page 3

Alan Taylor

We will consider a number of procedures that arise in contexts such as auctions, fair division, and voting. For each, we will ask two questions: (1) Is honesty the best policy? (2) If not, can we change the procedure, while retaining the spirit of the original, so that disingenuous behavior is no longer advantageous?

Sergei Abramovich, et. al.

The Potsdam Mathematics program has always encouraged faculty to teach for "profound understanding," to use the words of Liping Ma, as opposed to breadth of content. This principle is being tested as we try to accommodate our new elementary education program, which requires 9 hours of mathematics content classes. It is further expected these classes will meet state requirements while reflecting national standards including the new CBMS report on the Mathematical Preparation of Teachers.

To assist in this venture we sought and received a grant from AASCU to participate in the *Improving the Mathematics Subject-Matter Preparation of Elementary School Teachers* conference, held in San Diego, June 4-8, 2001. Cooperatively, the Mathematics Department, the Education Faculty and the Provost's office developed a plan which includes identifying key topics that facilitate forming a "deep understanding of elementary mathematics" and building rich activities that will lead students to a deep understanding of these topics. Math Education faculty members intend to build upon the students' deeper knowledge in future Math Methods classes.

In this talk we will tell the story of our experience in this venture and discuss some of the rich activities we have adopted and used. We will also show how our own understanding of the term "profound understanding of elementary mathematics" has developed as we put our ideas into practice.

Saturday Afternoon Panel

The panelists will begin the session with a review of and commentary on a theme that emerged during the session at the Fall 2001 section meeting on the role of proof in undergraduate teaching: there is not always good alignment between how we teach about proof, how we rely on it in our mathematical investigations, and how students view the process and its role. This orientation to our theme will be followed by a moderated round of audience responses and observations. We invite people to prepare a short (five-minute) focused example, anecdote, or comment on the session theme for presentation during the audience-participation part of the event.

John Donnelly

The speaker will discuss the value of both unanswered questions and incorrect proofs in the teaching of mathematics. Included in the talk will be a discussion of the speaker's own experiences when trying to solve various unanswered questions posed to him in an undergraduate geometry course.

Inga Johnson

Over the past three years I have incorporated group exams into my calculus classes. They have been a fun way to let students tackle new and challenging problems in a low-stress environment. Here is a quote from one of my students: "I appreciated that we were all treated as resources and worked together for success in the class." I will describe how (any why) I give group exams, what the students need to do to prepare for them, and how they are graded.

Melissa Sutherland

After several semesters of teaching first semester calculus with a computer laboratory component, I was frustrated with student comments that the lab was a waste of time and did not seem to relate to the material being covered in class. Students wanted to complete the lab as quickly and painlessly as possible. They got upset when they were asked to think creatively about how to use MAPLE to solve problems. In addition, since students worked together in lab, it was difficult to assess which students really understood the material and had been active in solving the problems.

To address these concerns, I incorporated a writing component to the labs. Requiring students to individually reflect on and write about their lab experiences (much like science labs have always done) has had a positive influence on my students' attitudes towards lab and their understanding of class material. It has also provided me with a window to their understanding and an opportunity for increased teacher-student communication that was not previously available. In this talk, I will discuss the details of the reflection assignment, how it developed, and lessons I have learned over the course of implementing it. I will also discuss specific positive effects that I have noticed and share supporting sample student reflections and post-class surveys.

Norman Rice

Most proofs that every square matrix is similar to a matrix in Jordan form are rather abstract. Students typically have a hard time with these proofs, and are left too uncomfortable with Jordan forms to be able to make much use of them. This talk will show how a quite-easy-to-describe systematic use of elementary row and column operations gives a very concrete (and hopefully student friendly) way to reduce any square matrix to Jordan form.

See **Additional Abstracts** *Next Page*

Additional Abstracts

continued from page 4

Ivonne Ortiz

During the last two years of my doctoral program at Binghamton, I participated in the program Preparing Future Faculty, which is designed to better equip doctoral students to enter the academic world. My participation in the program included working with students who were preparing talks for the Undergraduate Algebra Seminar. The seminar serves as acatalyst in deciding whether to go on to graduate school. In this talk, I will discuss my experiences and reflect on them.

Andrez Kedzierawski

Many mathematical problems in science, technology and medicine can be expressed by differential equations and viewed as inverse problems. Exposing students to inverse problems allows us to introduce and explore fundamental mathematical issues and provide an opportunity to integrate science with mathematics. In particular, we present some elementary inverse problems related to the heat equation to extend the range of inverse problems treated in the undergraduate mathematics curriculum.

Dawn Jones

For the past two semesters, I have used a new online course management system called Angel. In this talk, I will discuss some of the main features of this sytem and how I have used it in my courses.

Michael Bacon

Ever wonder how many scales or chords there are in contemporary western music? A classic problem in a beginning discrete mathematics course reads as follows: "How many beaded necklaces containing 4 beads can be made with beads of two colors?" This problem serves nicely as an introduction to Polya enumeration techniques. There are many applications of Polya enumeration, one such application has arisen from Bach's popularization of well-tempered tuning, that is: In western 12-tone even tempered tuning, allowing key transposition and interval equivalence, how many possible scales/chords can be constructed?

George Baloglou

The traditional classification of the 17 planar crystallographic groups (wallpaper patterns) employs the tools of group theory. Our approach uses very basic Euclidean Geometry and relies primarily on the interaction between rotation and translation, reducing the study of the "higher" groups to a deeper understanding of the rotation-free groups in terms of their translations.

David Brown

Many of us are very familiar with the Mandelbrot Set as a catalog of Julia sets of polynomial mappings, but few have seen a stunning relative of the Mandelbrot set which catalogs Julia sets of a seemingly unrelated family of functions. The Mandelbrot set lives in the world of rational functions, while the set I'll describe lives in the world of entire transcendental functions. I'll describe the dynamics of a family of exponential mappings in the complex plane, display beautiful pictures of their Julia sets, and build a bridge back to the Mandelbrot set.

Susan Fettes

The classical Ramsey number $R_k(3)$, which is the smallest positive integer n such that any edge coloring with k colors of the complete graph on n vertices must contain at least one monochromatic triangle, is discussed. A historical overview of triangle-free colorings will be presented. An algorithmic approach for computational verification of $R_4(3) \le 62$, a joint result with Richard Kramer and Stanislaw Radiszowski, will be given.

Hossein Shahmohamad

This is an expository talk on nowhere-zero flows and the flow polynomial, which counts the number of nowhere-zero flows of a graph. There is a "nice" correspondence between proper vertex colorings of a planar graph and the nowhere-zero flows of the dual graph. This is known as Jaeger's planarity result. Some definitions, examples, properties and calculations will be given.

Rich Marchand

The purpose of this talk is to demonstrate the behavior of elastic waves in regions of multiple interfaces. Initially, the talk will begin with the investigation of travelling waves on strings and their reflections at the boundaries. Then wave behavior on strings with multiple interfaces, where incident waves are repeatedly reflected and transmitted, will be considered. Finally the results will be extended to waves in three-dimensional bodies in which longitudinal and transverse waves occur simultaneously. Animations developed on a computer algebra system will demonstrate most of the concepts discussed. Many applications to geophysics will also be presented, including earthquake detection and prospecting for oil.

Michel Helfgott

Rene Descartes found a method to calculate the equations of tangents to curves. His approach is systematic but usually requires a great deal of algebraic calculation. It was soon superseded by Fermat's approach, which is the forerunner of the method used in calculus nowadays. However, a modification of Descartes' approach (MCM) can be employed with great ease when dealing with conics. This alternative has both historical and pedagogical interest. I will present an overview of MCM, based on joint work with George Baloglou.

See **Rest of Abstracts**, *Next Page*

Rest of Abstracts

continued from page 5

Sam Northshield

Descartes found a formula relating the curvature of four mutually tangent circles. It was only recently found that the centers of the circles, as complex numbers, satisfy virtually the same formula. We discuss this and other applications to a family of fascinating circle packings whose circles all have integer curvature.

Peter Mercer

Using calculus, we obtain refinements of the famous arithmetic and geometric mean inequality. In an application, we refine Ky Fan's inequality.

Munir Mahmood

This paper derives an alternative formula for statistical independence, one usually taught in a first or second year probability and statistics course. This formula is derived using the determinant of a certain matrix. It is simple and has an interesting form. We consider some applications as a consequence of this formula, particularly in contingency tables.

Michael Radin

We will show the monotonic convergence of positive solutions of the Ricatti Difference Equation:

$$x[n+1] = a \cdot x[n](1 + x[n])$$

to 0 when $a < 1$ or $a = 1$, and to $a - 1$ when $a > 1$.

James Marengo

The Central Limit Theorem will be used to evaluate certain limits from calculus that are not easily obtained by using the methods of elementary calculus or analysis. In particular, a "proof" for the well-known Stirling's formula, which gives an asymptotic estimate for factorials, will be demonstrated.

Michael Gage and Vicki Roth

WeBWorK is an internet-based method for delivering homework problems to students. It gives students instant feedback as to whether or not their answers are correct. Each WeBWorK problem set is individualized, and the students are free to try problems as many times as they want before the due date. A key benefit is that students receive feedback while the problems are fresh in their minds. We will share our experience using WeBWorK in our precalculus and calculus courses, and then the audience will have the opportunity to try WeBWorK for themselves.

Bill Ralph

Journey Through Calculus is cutting-edge multimedia software that I created to give students a new way to visualize calculus and learn it interactively. I will show how JTC has revolutionized my classroom teaching and how students are using it in labs and at home. Participants will get to see and try JTC's amazing 3D animations, some of its hundreds of interactive programs such as "The Greedy Landlord and "The Sliding Fireman," a completely interactive proof of the Fundamental Theorem of Calculus, as well as extensive testing and feedback available to students in JTC. Come prepared to have fun!

Paul Seeburger

Using EXCEL, I will present a variety of animated demonstrations I have designed that bring calculus concepts to life. These concepts include the graphical definitions of the derivative and the integral, slope fields, Euler's method, volumes of revolution, and Taylor polynomials. I will discuss how I presently use these demonstrations in my teaching and why I think they help my students gain a better understanding of the concepts. As part of my presentation, the audience will obtain hands-on experience with the animations.

Student Workshop

In this workshop, students will have the opportunity to play with strings and crayons, while in the process learning how mathematicians study and classify knots. Interested faculty are welcome, too!

Seaway NExT

A great program is lined up for those participating in Seaway NExT at the Brockport meeting. The activities begin at noon on Friday, April 19 with lunch. Following lunch, Professor Ken Ross of the University of Oregon will present "Tips for Talks." After this, there will be two parallel sessions, one focusing on courses for preservice teachers, and the other on capstone experiences for undergraduates.

Seaway NExT is supported in part by a grant to the MAA from the Exxon Education Foundation. The section also supports our Seaway NExT Fellows by providing them with free registration, including the Friday banquet and Saturday lunch.

For more information about the program or to find out how to apply, see the section website at

www.math.binghamton.edu/menger/maa_seaway/NExT

Meeting Highlights

continued from page 1

Representing the Mathematical Association of America and also contributing a talk on Saturday morning will be **Ken Ross** of the University of Oregon (pictured below). His will speak on the *Statistics and Mathematics of Baseball*.

Professor Ross is a past-president of the MAA. Currently, he chairs the Carus Monographs Editorial Board and the Coordinating Council on Meetings. He was also chair of the MAA President's Task Force on the NCTM Standards.

Dr. Ross received his BS from the University of Utah and his Ph.D. from the University of Washington. His research interests are harmonic analysis and probability. He is the author of several influential textbooks, including: Abstract Harmonic Analysis (two volumes, with Edwin Hewitt), recently reprinted in paperback by Springer-Verlag; Elementary Analysis: The Theory of Calculus, the twelfth printing of which is also available from Springer-Verlag; and Discrete Mathematics (with Charles R.B. Wright), now in its 4th edition.

Completing the Saturday morning program is **Bob Rogers**, of SUNY Fredonia, whose talk is entitled *Search for the Mean Value Theorem*. Dr. Rogers is the current chair of the section and a past recipient of the section's Distinguished Teaching Award.

Luise Charlotte Kappe

Bob received his BS in Mathematics and Secondary Education from Buffalo State College, an MS from Syracuse University, and his Ph.D. from SUNY Buffalo. He has been teaching at SUNY Fredonia since 1987. His current interests include the history of mathematics, its application to teaching, and recently, he has been working with a faculty member from the Politcal Science Department on voting with population uncertainty.

The diverse program on Saturday afternoon offers a record number of parallel sessions. Of particular interest may be a panel discussion on the mathematical preparation of elementary school teachers, and a session of hands-on computer workshops, including one by **Bill Ralph**, who will again demonstrate his "Journey Through Calculus" software.

The student program will formally begin during lunch with a panel discussion on *Career Options for Math Majors*. Following lunch there will be a workshop, *Fun With Knots*, led by **Jeff Johanes** of SUNY Geneseo and **Julia Wilson** of SUNY Fredonia. The program concludes with talks by students; anyone wishing to contribute a talk should contact **Victoria Klawitter**, Student Program Chair, at pambucv@potdam.edu.

2002 Fall Meeting
November 1 – 2
SUNY Potsdam

The Fall 2002 meeting of the Seaway Section will be hosted by SUNY Potsdam and will take place on Friday and Saturday, November 1 and 2.

A highlight of the meeting will be the annual John F. Randolph lecture. Jeff Weeks will present a plenary talk on *Computer Graphics in Curved Spaces*. Reuben Hersh, Professor Emeritus of the University of New Mexico, will give the post-banquet talk on Friday evening. Also, the annual breakfast for department chairs will take place on Saturday morning.

Anyone wishing to contribute a talk should send the title and abstract to Gary Towsley, Program Chair (towsleyg@geneseo.edu). The deadline for submissions is Tuesday, September 3. Titles and abstracts for student talks should be sent to Victoria Klawitter (pambucv@potsdam.edu). Questions concerning local arrangements should be directed to Cheryl Miller (millercc@potsdam.edu) at SUNY Potsdam.

Breakfast for Liaisons and Student Chapter Advisors

Section departmental liaisons and student chapter advisors are invited to gather for breakfast and conversation on Saturday morning, April 20, at 7:30 in the New York Room in Cooper Hall.

The breakfast is free, and is intended to thank the liaisons and student chapter advisors for the valuable work they do on behalf of the section.

Seaway and Northeastern Sections to Hold Joint Meeting

The Seaway and Northeastern Sections will hold a joint meeting at Williams College on June 21 and 22, 2002. The program will begin on Friday afternoon with tea and the Fifth Battles Lecture by Thomas C. Hales of the University of Pittsburgh, *Computing and Proof in the Context of Discrete Geometry*. Hales recently proved both the Kepler sphere-packing conjecture and the hexagonal honeycomb conjecture. Thomas Garrity of Williams College will give the post-banquet talk on Friday, *On Writing Numbers: The Hermite Problem*, and the Saturday program will include a talk by Sean McLaughlin, a graduate student in computer science at New York University, on the *Verification of Free Choice*. There will be sessions for contributed talks by students and faculty. The meeting will close after lunch on Saturday with a modest hike or a visit to the world famous Clark Art Museum. For more information, visit the Mathematics Department website at Williams College: www.williams.edu/mathematics.

SUNY Brockport to Host Spring Meeting

The Department of Mathematics at SUNY Brockport will host the Spring 2002 Meeting of the Seaway Section. Chairing the local arrangements committee is **Dawn Jones**, Assistant Professor of Mathematics.

Located in the Faculty Office Building, the Department of Mathematics offers BS and MA degrees in Mathematics, an MS in Mathematics Education, a minor in mathematics, and a minor in mathematics/statistics. In addition, it supports a double major in mathematics and computer science, and a five-year, two-degree program in mathematics and engineering.

To complete the major in mathematics, students take nine required courses that provide a thorough foundation in several central areas of mathematics, a course in structured programming, and a minimum of three advanced courses chosen to give special depth in at least one area. The major is designed to give graduates the knowledge and skills necessary to pursue graduate study or to support career goals in a range of professions.

Currently, there are 13 full-time faculty members in the department. There are 150 majors in mathematics, and 75 minors in mathematics or mathematics/statistics. An active Mathematics Club/Student MAA Chapter sponsors several colloquia and social activities each semester, in addition to an annual mathematics competition.

For the latest program information or to register online, go to the conference website at www.brockport.edu/math.

Registration, Lunch, and Refreshments

Registration will take place in Cooper Hall on Friday evening during the social hour, and also on Saturday morning from 8:00 until 11:00 in Edwards Hall. 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 New York Room in Cooper Hall. The lunch will be buffet-style.

Directions to SUNY Brockport and Parking

Follow the directions to Brockport given on page 16. Upon entering the village, follow the signs to the campus. Enter the campus using Commencement Drive, and look for signs for MAA Parking. (Parking is unrestricted after 3:00 p.m. on Friday and on Saturday. Those arriving earlier on Friday for the Seaway NExT program should consult the conference website for parking instructions.)

Pre-registration Form

Name: _____

Institution: _____

MAA Member: Yes _____ No _____

Check here if attending the Saturday breakfast for student chapter coordinators and department liaisons: _____

Registration Fee: _____ @ $10 $ _____

Friday Dinner: _____ @ $25 $ _____

Entrée Choice: _____ Chicken Marsala
_____ Pasta Primavera

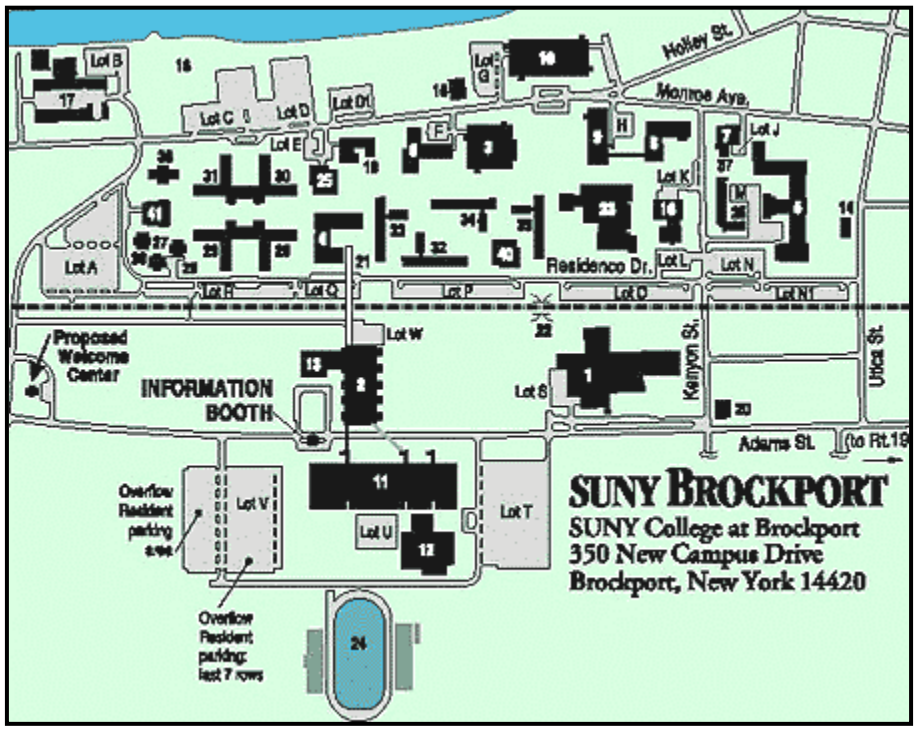
Saturday Lunch: _____ @ $10 $ _____

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, April 12**. Note that there is no registration fee or lunch charge for students, but students should still pre-register.

Mail to: Dawn Jones
Department of Mathematics
SUNY Brockport
Brockport, NY 14420
Telephone: 585–395–5174 Fax: 585–395–2304
E-mail: djones@brockport.edu

MAP KEY: C = Cooper Hall D = Dailey
E = Edwards Hall P = Parking
U = Seymour College Union



Accommodations

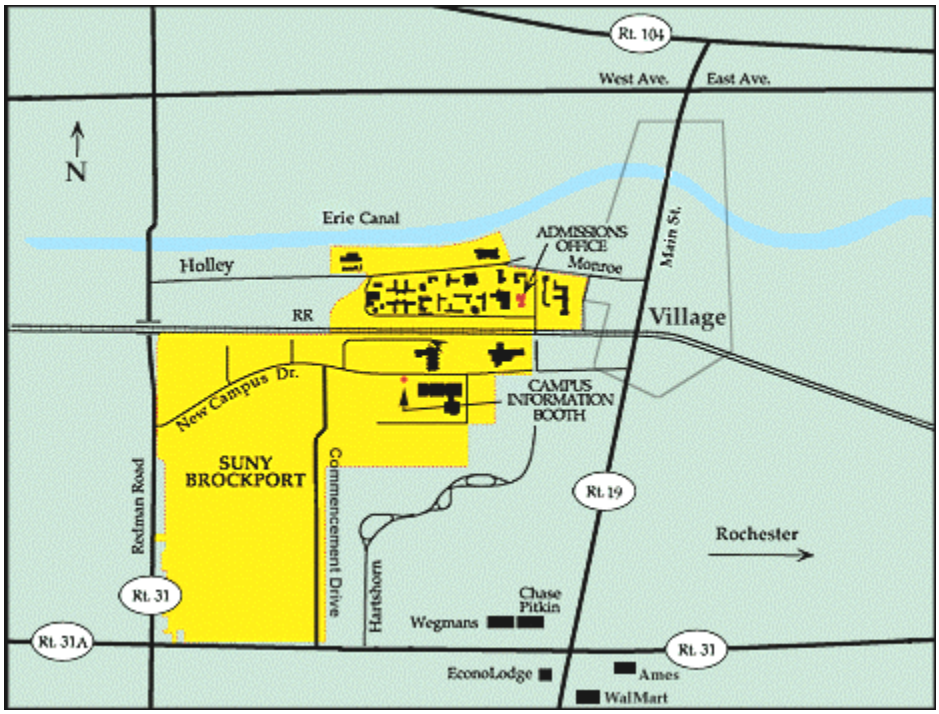
A block of rooms has been reserved at the Holiday Inn Express, 4908 Lake Road South, 585-395-1000, $44.95 single, $49.95 double. Reserve by 3/23 and mention the MAA meeting. Another area hotel is the Econo Lodge on Route 31 near Route 19, 585-637-3157; the rate is $58 for a single and $70 for a double.

Directions to the Hotels

From points east, exit the NYS Thruway at Exit 45, and follow Route 490 west through Rochester. Exit Route 490 at Exit 8, and take Route 531 to the end of Washington Street, where it meets Route 31. Follow Route 31 west to Brockport (about six miles).

From the south, follow I-390 north to I-490, and then proceed as above.

From the west, exit the Thruway at Exit 47 and follow Route 19 north to Brockport (13 miles).



Econo Lodge Holiday Inn Express

The Holiday Inn Express is on Route 19, just south of Route 31. The Econo Lodge is on Route 31, just west of Route 19.