The ILLINOIS SECTION of the
MATHEMATICAL ASSOCIATION OF AMERICA

announces

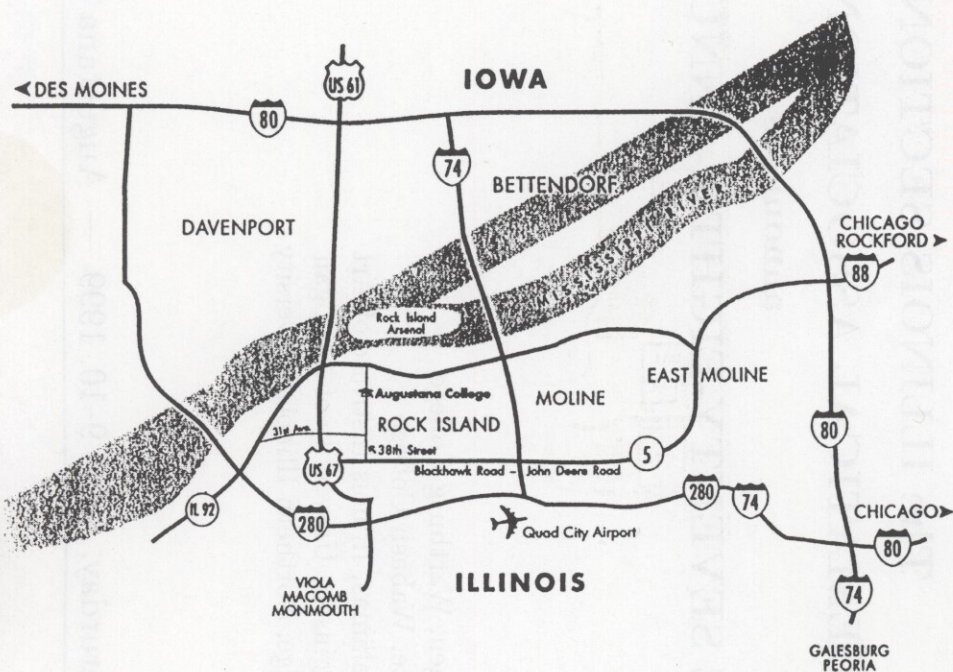## THE SEVENTY-EIGHTH ANNUAL MEETING

Featuring:

Mariah Birgen, Wartburg College
Robert Foote, Wabash College
Stefanos Gialamas, Illinois Institute of Art
Robert Megginson, University of Michigan
John Selfridge, Northern Illinois University

Friday and Saturday, April 9–10, 1999 — Augustana College, Rock Island, Illinois
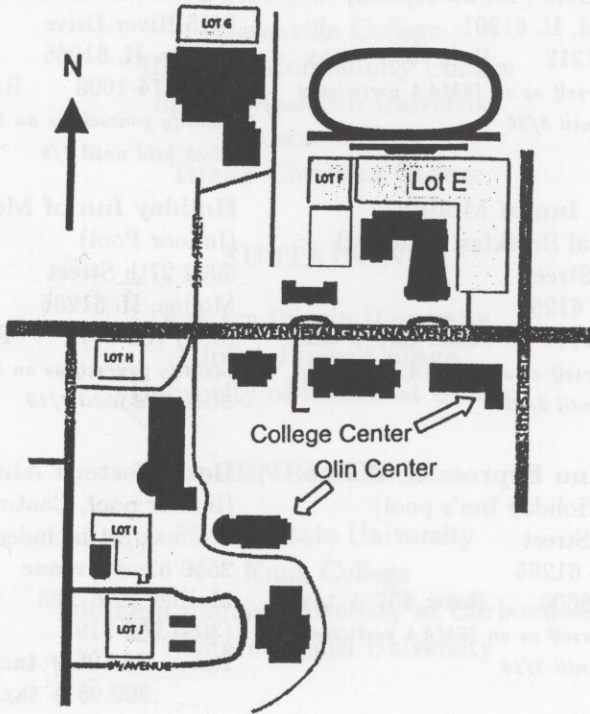
GENERAL INFORMATION

Location of Meeting

The meeting is on the campus of Augustana College, 7th Avenue and 38th Street in Rock Island. Be sure that you are in Rock Island before looking for the street address. Sessions are held in the F.W. Olin Technology Center. The Friday Banquet and Saturday Breakfasts are in the College Center.

Parking

Lot E at the intersection of 7th Avenue and 38th Street is recommended, though any lot shown on the map may be used. It is a short walk on campus to the Olin Center.

Housing Information

Participants are responsible for making their own hotel/motel reservations. No hotel/motel is within walking distance of campus.

ISMAA Lodging Options

Plaza One
(Indoor pool)
1 Plaza Square (downtown R.I.)
Rock Island, IL 61201
(309) 794-1212   Rate: $55 + tax
Identify yourself as an ISMAA participant
Block held until 3/26

Hampton Inn of Moline
(Continental Breakfast included)
6920 27th Street
Moline, IL 61265
(309) 762-1711   Rate: $57 + tax
Identify yourself as an ISMAA participant
Block held until 3/19

Holiday Inn Express of Moline
(May use Holiday Inn's pool)
6902 27th Street
Moline, IL 61265
(309) 762-8300   Rate: $57 + tax
Identify yourself as an ISMAA participant
Block held until 3/19

Excel Inn of Moline
(Continental Breakfast included)
2501 52nd Avenue
Moline, IL 61265
(309) 797-5580
Rates: $41.99 + tax (1 person, 1 bed)
       $44.99 + tax (2 people, 1 bed
       $50.99 + tax (2 people, 2 beds)

Radissonon John Deere Commons
(Indoor pool, "Deluxe" Continental
   Breakfast included)
1415 River Drive
Moline, IL 61265
(309)674-1000   Rate: $70 + tax
Identify yourself as an ISMAA participant
Block held until 3/9

Holiday Inn of Moline
(Indoor Pool)
6902 27th Street
Moline, IL 61265
(309) 762-8811   Rate: $64 + tax
Identify yourself as an ISMAA participant
Block held until 3/19

Best Western Airport Inn
(Indoor pool, Continental
   Breakfast included)
2550 52nd Avenue
Moline, IL 61265
(309) 762-9191
Rates: $64.95 + tax (1 bed)
       $69.95 + tax (2 beds)
Talk to DeAnna, identify yourself as an
ISMAA participant

LaQuinta Inns & Suites
(Continental Breakfast included)
5450 27th Street
Moline, IL 61265
(309) 762-9008   Rate: $50 + tax
Identify yourself as part of Block #03259
Block held until 3/26

ISMAA INSTITUTIONAL
SPONSORS 1998–99

ORDINARY

Augustana College
Belleville Area College
College of DuPage
Columbia College
Elmhurst College
Greenville College
Highland Community College
Illinois Wesleyan University
Judson College
Trinity Christian College

SUSTAINING

Eastern Illinois University
Joliet Junior College
University of Illinois at Urbana

BENEFACTOR

Illinois State University
Knox College
Southern Illinois University at Carbondale
Western Illinois University

Thank you to all and a special thanks to the Benefactors for their strong commitment to the ISMAA.

Notes on the Registration Form
ISMAA Annual Conference
April 9–10, 1999

- The mini course on Friday morning requires a pre-registration fee of $30.

- Student presenters or students at schools who are Sustaining Institutional Members have their registration fee waived.

- The Friday evening reception is included in the banquet and will offer wine, cheese, and hors d'oeuvres.

- Saturday breakfast will be available and will require an individual payment at the time. It will be helpful if you indicate whether or not you are interested.

- At the conclusion of the conference, box lunches priced at $5.75 would be available. These need to be pre-ordered with choice of croissant and whether you want bottled water (16 oz) or a choice of a Pepsi product (20 oz, indicate which). These will be brought to the Olin Center at the end of the closing session.

- Campus housing will be available for students and requests should be made to Robert Johnson at majohnson@augustana.edu.

- Registration forms and checks should be mailed to Jon Johnson at the address on the form. Inquiries could be addressed to him at jonj@elmhurst.edu.

ISMAA

Call for STUDENT CONTRIBUTED Papers

for the

Annual Meeting of the Illinois Section of the MAA

April 9–10, 1999
Augustana College, Rock Island, Illinois

A session of student contributed papers is planned for Saturday, April 10 at the Annual ISMAA Meeting. Any undergraduate mathematics student or group of students may propose a 15-minute presentation on a topic dealing with mathematics or the teaching and learning of mathematics. The paper may represent a class project, a senior thesis or a research project.

Individuals interested in contributing a paper should forward a short (at most one paragraph) summary of the paper with the name(s) and address(es) of the author(s) by March 10, 1999 to:

John Haverhals
Department of Mathematics
Bradley University, Peoria, IL 61625
(309) 677-2499, jsh@bradley.edu

ISMAA

Call for CONTRIBUTED Papers

for the

Annual Meeting of the Illinois Section of the MAA

April 9–10, 1999
Augustana College, Rock Island, Illinois

Two sessions of contributed papers are planned for Saturday, April 10 at the Annual ISMAA Meeting. Anyone may propose a 15-minute presentation on a topic dealing with mathematics or the teaching and learning of mathematics.

Individuals interested in contributing a paper should forward a short (at most one paragraph) summary of the paper with the name(s) and address(es) of the author(s) by March 10, 1999 to:

Claire Krukenberg
Department of Mathematics
Eastern Illinois University, Charleston, IL 61920
(217) 581-2028, cfcek@eiu.edu

Program of the Annual Meeting

Thursday, April 8, 1999

7:00–9:00 pm   Board of Directors Meeting   Board Room,
                                                College Center
                                                3rd Floor

Friday, April 9, 1999

9:00–11:30 am   Olin 202
Mini Course: A Tour of Knot Theory
The mini course is designed for participants who are not expert in knot theory and its applications to science. Introduces concepts such as mathematical knots, links, knot equivalence, writhe number, linking number, Conway polynomial, and Jones polynomial. An introduction to the application of knot theory in DNA research will be included.

Participants will learn how to assign numbers and polynomials to knots and use them to distinguish different knots. They will be able to use mathematical tools to solve knot puzzles and also learn how to make fascinating knots using wires, pipe cleaners and strings.

The presentation is enhanced with slides, drawings, sculptures, animations, and creation of knots using lasers and mirrors.

Participants will receive a booklet (55 pages) titled "A tour in Knot Theory". The booklet includes theory, problems, applications, and suggestions for more than 50 projects involving knots in every day life.

Presenter: Stefanos Gialamas, Illinois Institute of Art

1:00 pm   **Registration**   **Olin, First Floor Lobby**

1:20 pm   **Welcome and Opening Remarks**   **Olin**
Speaker: Dr. J. Thomas Tredway,   **Auditorium**
            President, Augustana College
Presider: Robert Hathway,
            ISMAA Chair, Illinois State University

1:30 pm   **Olin Auditorium**
Opening Address: Isoperimetric Inequalities
A planimeter is a mechanical device used to measure plane areas. What it is, how it works, and generalizations to other results and surfaces will be discussed. This talk will be accessible to undergraduates.
Speaker: Robert Foote, Wabash College

2:30–3:00 pm   Break (snacks)   Olin, Second Floor

Friday

3:00–4:00 pm   CONCURRENT SESSION I

Session A   **Olin 306**
Innovations in Undergraduate Teaching: Internet Distance Learning Programs
Panelists, providers and users, will describe the computer-based distance education courses which have been developed and offered by the University of Illinois during the past six years.
Panelists: Debra Woods, Illinois Net Math Director
Jerry Uhl, UIUC
Lisa Novak, Undergrad Lead Net Math Mentor
David Clydesdale, Sauk Valley Com. College
Tom Anderson, Rock Falls
Several Current Students

                                                               Olin 201
Session B
Issues in Undergraduate Education: Assessment
Panelists will consider the current state of assessment for accreditation purposes and include experience from the college side and the visiting accrediting team side.
Panelists: James Olsen,
Western Illinois University
Iraj Kalantari,
Western Illinois University
Kevin J. Hastings, Knox
Herb Lyon, Blackhawk

Session C   **Olin 202**
Trends in Mathematics: Tangent Sequences, World Records, Pi, and The Meaning of Life
A calculus student's question about whether the sequences $\left\{ \frac{\tan(n)}{n} \right\}$ $\left\{ \frac{\tan(n)}{n^2} \right\}$, $\left\{ \frac{\tan(n)}{n^3} \right\}$, ... go to 0 as n goes to infinity leads to some number theory answers and HUGE integers. Come play, "I can think of a larger important integer than you" and be prepared to lose!
Speaker: Ira Rosenholtz, Eastern Illinois University

Session D   Contributed Papers   **Olin 307**

3:00–4:30 pm   Student Math Contest   **Olin Auditorium**
Arranged by: John Haverhals, Bradley University
ISMAA Student Chapter Chair Presiding

Friday

4:15–5:30 pm   **Annual Business Meeting**   Olin 306
Robert Hathway, Illinois State University
ISMAA Chair Presiding

6:30–8:00 pm   **Student Pizza Party**   College Center
                                                          Dahl Room

6:00–7:00 pm   **Reception and Social Hour**   College Center
                                                        Board Room

7:00–9:00 pm   College Center
Banquet   Wilson Center
Award: Distinguished Service to ISMAA
Banquet Address: Native American Mathematics
Though mathematics is often portrayed as a subject invented and developed (until comparatively recent times) in the Eastern Hemisphere, in fact some very good mathematics was done in the Americas prior to the arrival of the Europeans. This talk will focus on the numbering systems of the Maya and Aztecs, as well as some of the number theory implicit in the computations they did. For example, it will be shown why the Native peoples of Central America considered the natural life span of a human being to be 52 years, based on some elementary number theory.
Speaker: Robert Megginson, University of Michigan
Presider: Melvyn Jeter, 1999 ISMAA Chair

Saturday, April 10, 1999

7:30–8:20 am   College Center
Breakfast   Dining Room
Cafeteria style, available for all, payment required at the time. Special eating areas will be available for the following interest groups.
Women in Mathematics
Liaisons
Department Chairs

8:30–9:30 am   Olin Auditorium
Invited Address: Travels with Selfridge
Since retirement, the speaker for this session continues to be involved in mathematics throughout the world. Within the past year or so he has been spotted at conferences from San Antonio to Australia. We are pleased that he has included Rock Island on his itinerary and will share some current developments in mathematics with us.
Speaker: John Selfridge, Northern Illinois University

Saturday

9:30–9:45 am   Break   Olin, Second Floor

9:45–10:45 am CONCURRENT SESSION II

Session E   Olin 201
Innovations in Undergraduate Teaching: Using Projects and Labs with Technology to Teach Introductory Statistics
Two different innovations in teaching introductory statistics will be presented—using a laboratory component and using team research projects. Included in the presentation will be a discussion of the types of technology used for each innovation.
Speakers: C. Lanette Potteete-Young, Judson
          Dave Klanderman, Trinity Christian

Session F   Olin 306
Issues in Undergraduate Education: An Articulation Dialog in Progress
Can we make the mathematics experience from high school to college "seamless" for ALL our students? Do the new *Illinois Learning Standards* provide a framework for building a bridge? Is "college algebra" still a connecting link in the bridge for ALL our students?
Panelists: Sandra Dawson, Glenbrook High School
          Jim Trefzger, Parkland College
          Larry Morley, Western Illinois University

Session G   Olin 202
Trends in Mathematics: Trends in the Theory of Impulsive Differential Equations
Many real world phenomena experience an abrupt change of state and behave in a discontinuous fashion. These evolution processes may encounter short term perturbations whose durations are negligible in comparison to the duration of the process. Hence, it is natural to assume that the perturbations act simultaneously, that is, in the form of impulses. An adequate apparatus for the mathematical modeling of such phenomena is the impulsive differential equation. The talk will survey the trends that have emerged in the theory of impulsive differential equations and will reflect results in differential inequalities, monotone iterative techniques, stability or solutions, quenching phenomena, and oscillation. Some open problems will be formulated.
Speaker: Zahia Drici, Illinois Wesleyan University

Session H   Contributed Papers   Olin 307

10:50–11:50 am CONCURRENT SESSION III

Session I   Olin 306

Innovations in Undergraduate Teaching: Totally Asynchronous Courses, Not For Every One but Perfect for Some

Differential equations and linear equations are currently being offered with a totally asynchronous option. Advantages and disadvantages will be discussed along with a consideration of the computer based materials needed to support them.

Presenters: Ben Halperin, UIUC
Jerry Uhl, UIUC
Carrie Eldridge, Lead Undergraduate Class
Assistant
Several Current Students

Session J   Olin 201

Issues in Undergraduate Education: Placement

A panel will discuss what's being used and how its working.

Panelists: Mary Kilbride, Augustana
Lowell Doerder, Blackhawk
John Beachy, Northern Illinois
Richard Wilders, North Central

Session K   Olin 202

Trends in Mathematics: Will be either of
a) **New Actuarial Exam Format,** or
b) **Geometric Research Using Sketchpad**

Session L   Contributed Student Papers   Olin 307
Presider: John Haverhals, Bradley

12:00 Noon   Closing Announcements: Olin Auditorium
Presider: Melvyn Jeter, Illinois Wesleyan, 1999 ISMAA Chair

Closing Address:

Multicultural Education and College Professors

Wartburg College, in an attempt to fulfill a strong commitment to Multicultural Education, sends faculty and staff to many areas in the world to participate in Cultural Immersion programs. The college believes that we will be unable to convince our students of the value of diversity if our faculty attitudes do not reflect that value. This past summer I spent three weeks in South Dakota participating in an immersion in the Lakota culture in order to learn cultural attitudes that will be beneficial to the culture of the college.

Presenter: Mariah Birgen, Wartburg College

Saturday

1:00 pm　　　**Closing Remarks: Melvyn Jeter**　　　　　**Olin Auditorium**

Check for news, updates, and changes on the Web at:

　　　　　　　`http://ismaa.knox.edu/.`

NOTES:

Jon L. Johnson
Sec/Treas ISMAA
Mathematics Department
Elmhurst College — 190 Prospect
Elmhurst, IL 60126

Melva Jeter

Contributed Papers
CONCURRENT SE

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12:00 Noon   Closing Announcem
Presider: Evelyn Jeter, Illinois Wesleya

Closing Address
Multicultural Education and Colleg
Wartburg College, in an attempt to fulfi
tic cultural education, sends faculty and s
...Cultural Immersion prog
...one to convince our stude
...ies do not reflect that o
...outh Dakota participatin
...to learn cultural attitud
...College.
...Sarah Bogan, Wartburg Co