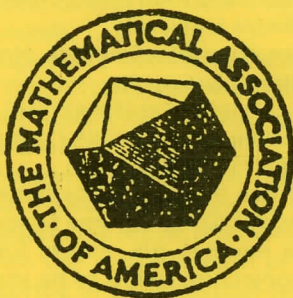


Sixty-Sixth  
Annual Meeting  
of the

**ILLINOIS SECTION  
of  
THE  
MATHEMATICAL  
ASSOCIATION  
OF AMERICA**



Friday and Saturday  
April 24 and 25, 1987

Northern Illinois University  
DeKalb, Illinois 60115

### BANQUET INFORMATION:

The dinner costs \$10.50 per person and consists of V-8 juice, tossed salad, braised swiss steak, green beans amandine, baked potato, roll and butter, apple pie, and beverage. The banquet will be located in the Capitol Room of the Holmes Student Center and will be preceded at 5:30 by a cash bar. Reservations should be sent to Howard C. Saar, 216 N. Willow Drive East, Plainfield, IL 60544 no later than April 18th. No banquet tickets will be available the day of the conference.

### HOUSING INFORMATION:

All events will be held in the Holmes Student Center, located at the corner of Lucinda Ave. and Normal Road. They feature queen and twin beds, private baths, telephones and color television. Fifty guest rooms will be held for the conference until April 13th. Participants should indicate that they are with the ISMAA meeting when booking rooms. The price for a single is \$31.08 and for a double is \$36.63. The phone is 815-753-1444.

Other motels include:

- Georgetown Motel, 1321 W. Lincoln Hwy. (Route 38) 815-756-1451
- Holiday Inn DeKalb, 1212 W. Lincoln Hwy. (Route 38) 815-758-8661
- Motel 6, 1116 W. Lincoln Hwy. (Route 38) 815-756-6605

### VISITOR PARKING

256-3398

Visitor parking is available at the corner of Lucinda Ave. and Normal Road, diagonally across from the Holmes Student Center. The parking fee is \$.50 per hour not to exceed \$3.00 per day.

### DRIVING DIRECTIONS

Participants arriving on the East-West Tollway should exit at the DeKalb West Exit and proceed north on Annie Glidden Road. Turn right at Lucinda Ave. (Field House) and then left at Normal Rd. The visitor parking lot is then on your right. Participants arriving on Lincoln Hwy. (IL 38) should go north on Normal Road. After crossing Lucinda Ave., the visitor parking lot is on your right.

### PRE-REGISTRATION:

To expedite the registration process, conferees may pre-register by sending their check made payable to ISMAA to the secretary, Howard C. Saar, at the address in the banquet information. The registration fee \$7.00 for members, \$1.00 for retired personnel. By executive action this fee is waived for all new members of ISMAA (less than one year) and for all students. The registration fee can be combined with the banquet cost if applicable. Also, mini-course registrations can be included in a single check with either the registration fee or banquet reservation.

### MINI-COURSE

Friday, April 24th, 10:00 a.m.-noon

Location: Room 305, Holmes

Student Center

Presented by:

Professor Robert G. Muncaster

Department of Mathematics

University of Illinois

Champaign-Urbana

Cost to participant: \$10.00 (see pre-registration). Make check payable to ISMAA. Send to Howard C. Saar, no later than April 18th.

### THE ART AND SCIENCE OF MODELING SOCIAL PHENOMENA

In recent years there has been a growing interest in the development of mathematical models of a variety of social phenomena - voting, bargaining, conflict and cooperation, learning, decision making, spread of rumors, etc. These numerous applications have shown that there is both an **art** and a **science** of mathematical modeling. As an art, modeling forces one to be imaginative, and to question the way in which the pieces of a puzzle might be assembled. The science of modeling forces one to gain experience with other puzzles, techniques, and an awareness of both the positive and negative aspects of different methodologies.

This short course will give an overview of the use of mathematical modeling in several social science disciplines. The emphasis will be on (i) recognizing the artistic element in the modeling enterprise, and (ii) asking whether modeling as a "science" can be taught effectively to an undergraduate audience.



ILLINOIS SECTION  
MATHEMATICAL ASSOCIATION  
OF AMERICA

# 1987 MEETING

Northern Illinois University  
DeKalb

**Friday, April 24**

**9:30 a.m. Board of Directors Meeting**

Location: Heritage Room, Holmes  
Student Center

**1:00 p.m. Registration**

Location: Outside Heritage Room,  
Holmes Student Center

**1:20 p.m. Opening Session**

Location: Heritage Room, Holmes  
Student Center

Welcome: Lida K. Barrett, Associate  
Provost, Northern Illinois University

Presiding: Galen Peters, ISMAA  
President

**1:30 p.m. Presentation**

Location: Heritage Room, Holmes  
Student Center

Presiding: John Ewell, Northern  
Illinois University

Speaker: John Selfridge, Northern  
Illinois University

Topic: SOME INTERESTING RESULTS  
ON PRIME FACTORS OF BINOMIAL  
COEFFICIENTS

When  $n \geq k^2 - 1$ , the binomial coefficient  $\binom{n}{k}$  has a prime factor less than or equal to  $n/k$ , except for  $\binom{62}{6}$ . This conjecture seems to be sharp. Let  $n_k$  be the least number greater than  $k + 1$  such that  $\binom{n_k}{k}$  has no prime factor less than or equal to  $k$ . For  $k > 16$ ,  $n_k$  seems to be very large compared to  $k^2$ , except  $n_{28} = 284$ .

**2:30 p.m. Coffee Break**

Location: Heritage Room, Holmes  
Student Center

**3:00 p.m. Student Paper Presentations**

Location: Heritage Room, Holmes  
Student Center

Presiding: Robert Hathway, Illinois  
State University

Abstracts will be available at  
registration.

**3:00 p.m. Presentation**

Location: Room 305, Holmes

Student Center

Presiding: Ralph Shively, Lake Forest  
College

Speaker: Susanna Epp, DePaul  
University

Topic: LOGIC IS MORE THAN A  
BRANCH OF MATHEMATICS

Many of student's difficulties in understanding mathematics result from problems with language and with logic. There are measures that can be taken to overcome these problems.

**4:15 p.m. ISMAA Annual Business Meeting**

Location: Heritage Room, Holmes  
Student Center

Presiding: Galen Peters, ISMAA  
President

**5:30 p.m. Cash Bar Reception**

Location: Capitol Room, Holmes  
Student Center

**6:30 p.m. Banquet**

Location: Capitol Room, Holmes  
Student Center

Presiding: Galen Peters, ISMAA  
President

Speaker: R. Creighton Buck,  
University of Wisconsin

Topic: AT THAT TIME THERE LIVED  
A GIANT...

An enigma of the past, whose effects on mathematics are immortal but who is seen only as a shadow.

**8:45 p.m. Informal Gathering**

Location: Heritage Room, Holmes  
Student Center

**Saturday, April 25**

**7:00 a.m. Department Chairpersons Meeting**

Location: Heritage Room, Holmes  
Student Center

**8:15 a.m. Registration**

Location: Room 305, Holmes  
Student Center

**8:45 a.m. Presentation**

Location: Room 305, Holmes  
Student Center

Presiding: Bruce Berndt, University  
of Illinois

Speaker: Richard Askey, University of Wisconsin  
Topic: SRINIVASA RAMANUJAN: WHO WAS HE, WHAT DID HE DO, AND WHY DO WE CARE?  
We do not only care about his work because he was often far ahead of his time, and we are just starting to really understand some of his work, but his accomplishments (given his poor education) force us to reconsider what a human being can accomplish.

**8:45 a.m. Presentation**

Location: Heritage Room, Holmes Student Center  
Presiding: Dennis M. Schneider, Knox College  
Speakers: Sue Eddins and Charles Hamberg, Illinois Mathematics and Science Academy  
Topic: MATHEMATICAL OPPORTUNITIES AT THE ILLINOIS MATHEMATICS AND SCIENCE ACADEMY. WHAT IS AND WHAT CAN BE.  
Current and planned curricular and extra-curricular activities at the Mathematics and Science Academy will be outlined. Input and suggestions will be encouraged.

**9:45 Presentation**

Location: Room 305, Holmes Student Center  
Presiding: Ralph Czerwinski, Milliken University  
Speaker: Judy Sally, Northwestern University  
Topic: BETWEEN DOMAIN AND QUOTIENT FIELDS  
Given a commutative domain  $R$  with quotient field  $K$ , we ask "What types of domains  $S$  can live between  $R$  and  $K$ ?" In particular, we will survey some answers to questions such as "Are there properties of  $R$  that must be reflected in some way in the domains between  $R$  and  $K$ ?" and "Do some fields contain obstructions to being the quotient field of certain domains  $R$ ?"

**9:45 a.m. Presentation**

Location: Heritage Room, Holmes Student Center

Presiding: Darrell Ropp, Rock Valley College  
Panel Discussion: Carole Bauer (Chair), Triton College; John McConnell, Glenbrook South High School; Wendell Meeks, Illinois State Board of Education  
Topic: THE NEW WAVE IN MATHEMATICS? STATE GOALS FOR LEARNING AND MINIMUM ENTRANCE REQUIREMENTS  
The ISBE, ICCB, and IBHE are pressing for improvement in education. The mathematics community has been involved and is still working on documents that will change the mathematics taught in Illinois at all levels.

**10:45 a.m. Coffee Break**

Location: Heritage Room, Holmes Student Center

**11:00 Closing Presentation**

Location: Heritage Room, Holmes Student Center  
Presiding: Galen Peters, Greenville College  
Speaker: Leon H. Seitelman, United Technologies - Pratt and Whitney Aircraft  
Topic: THE MATHEMATICAL COMPETITION IN MODELING: APPLICATIONS IN THE ACADEMIC WOMB  
We review some of the problems that have been used during the first three years of the MCM, offer some insights into the tortuous path of problem solving in an industrial setting, and comment on the value of such a competition to prospective participants.

**11:55 a.m. Closing Session**

Location: Heritage Room, Holmes Student Center  
Presiding: Neale Fadden, President± Elect

**12:00 p.m. Lunch**

Location: Pow Wow Room, lower level of Holmes Student Center  
Topic: DISCUSSION OF CALCULUS TEXTS

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