

The ILLINOIS SECTION of the
MATHEMATICAL ASSOCIATION OF AMERICA
announces:

THE SIXTY-NINTH ANNUAL MEETING

Friday and Saturday
April 27-28, 1990

Schilling Hall
Millikin University
Decatur, Illinois



The ANNUAL MEETING features:

Paul Zorn, St. Olaf College

Ed Dubinsky, Purdue University

John Dossey, Illinois State University

And a Special Session for Mathematics Department Chairpersons

The Illinois Section gratefully acknowledges as meeting sponsors Millikin University and the following publishers:
McGraw Hill Book Co., W.C. Brown, Scott Foresman, West Publishing, D.C. Heath, Addison Wesley, John Wiley and Sons.

GENERAL INFORMATION

LOCATION OF MEETINGS

The Friday afternoon and Saturday morning sessions will be held in Shilling Hall of Millikin University, Decatur. Millikin is located about one mile west of downtown Decatur at 1184 W. Main Street. The annual banquet will be held in the Richards Treat University Center. The mini-course will be held in Room 322 Schilling Hall. The informal social hour will be held in the Millikin Homestead, 125 Pine St. and after dinner social hour at the Mueller Conference Center.

PARKING AND DIRECTIONS

Parking will be available in the large lot at the northwest corner of campus. Enter the lot from Fairview Avenue which runs along the west edge of campus. See map on back page.

PROGRAM OF THE ANNUAL MEETING

FRIDAY, APRIL 27, 1990

9:30 a.m. - Noon Minicourse: Mathematical Computing and Calculus Reform
322 Schilling Hall
Paul Zorn, St. Olaf College
Introduction: Ralph Czerwinski, Millikin University

Powerful new mathematical computing tools, such as Mathematica, offer exciting new possibilities for improving the ways elementary calculus is taught and learned. Our Minicourse will aim to explain and defend this assertion, and to explore some of its consequences. Experiments with numerical computing in elementary calculus have gone on for many years but the standard calculus course (as embodied in mainstream texts) is little changed. Computer Algebra Systems, now appearing even on handheld machines, may be harder to ignore. CAS's do so many routine calculus manipulations—algebraic, graphical, and numerical—as to seriously undermine standard, technique-oriented courses. For the same reason, CAS's can permit students to go beyond routine mechanics to see ideas more clearly and apply them more effectively.

The Minicourse will include:

- * A general discussion of high-level computing in elementary calculus: what it is, what it does, and why we should care.
- * A "live" demonstration of Mathematica, illustrating graphical, numerical, and algebraic capabilities of the system, specifically as they relate to elementary calculus.
- * A concrete, detailed, and critical description of a CAS-aided calculus reform project at St. Olaf College; how and why students use computing; how computing affects course content and atmosphere; examples of instructional material; results to date.

1:00 p.m. Registration and Publishers' Exhibits — North Entrance to Schilling Hall

1:20 p.m. Welcome and Opening Remarks
Albert Taylor Auditorium (2nd floor of Schilling Hall)
Speaking: Millikin President Roger Miller
Presiding: Patrick McCray, ISMAA Chair

1:30 p.m. *General Session I: "The Responsibilities of University Faculties in Implementing the NCTM Standards for School Mathematics K-12."*
Albert Taylor Auditorium
Speaking: John Dossey, Illinois State University
Presiding: Linda Sons, ISMAA Governor

A consideration of the ways in which those involved in collegiate mathematics can assist public schools with the transitions taking place in the K-12 curriculum. Specific suggestions will be given about the reforms needed at the collegiate level to lessen the discontinuities that may result as better educated students leave the schools to enroll in our classes.

2:30 p.m. Refreshment Break and Publishers' Display — 1st Floor Schilling Hall

2:45 p.m. *Session A: "Panel Discussion on the Use of Computers in Mathematics."*
Albert Taylor Auditorium
Panel Members: Abdi Darai, Western Illinois University
Ralph Czerwinski, Millikin University
Bruce Sisco, Belleville Area College
Presiding: David Ballew, Western Illinois University

2:45 p.m. *Session B: "Natural Language and Unnatural Language: The role of mathematics in building computer programs that understand human language."*
303 ~~322~~ Schilling Hall
Speaking: James V. Rauff, Millikin University
Presiding: Edwin Ecker, MacMurray College

3:45 p.m. Refreshment Break and Publishers' Display — 1st Floor Schilling Hall

4:00 p.m. Annual ISMAA Business Meeting
Albert Taylor Auditorium

5:30 p.m. *Social Hour: Wine and Hors D'oeuvres* — James Millikin Homestead
(Within walking distance of Schilling Hall)

7:00 p.m. ISMAA Banquet — Richards Treat University Center
After Dinner Talk: "Research in Undergraduate Education: What can it tell the college teacher?"
Speaking: Ed Dubinsky, Purdue University
Presiding: Patrick McCray, ISMAA Chair

9:30 p.m. *Informal Gathering:* Mueller Conference Center

REGISTRATION FORM

Name (Last) _____ (First) _____

Address (Street) _____ (City) _____ (State) _____ (Zip) _____

College / University _____

____ Minicourse, Fee \$20.00 ____ Regular Registration, Fee \$10.00 OR ____ Student and Retired Member, Fee \$3.00

____ Friday Night Banquet, Cost \$12.50

Selection: ____ Teriyaki Steak Each meal includes parsley potatoes,
 ____ Baked White Fish oriental vegetables, salad, dessert,
 ____ Vegetarian Meal and beverage.

Please send this Registration Form and your check, payable to the ISMAA, to Howard Saar, 216 N. Willow Drive East, Plainfield, IL 60544 no later than April 20.

No banquet tickets will be available for sale on the day of the banquet.

Pre-registration is required for the Friday Minicourse.

Registration for the meeting only will be accepted at the Registration Desk located in Schilling Hall, Millikin University on the days of the meeting.

SATURDAY, APRIL 28, 1990

8:00 a.m. Registration and Publishers' Exhibits — North Entrance to Schilling Hall

8:30 a.m. *General Session II: "Panel Discussion on the Liberal Arts Mathematics Course."*

Albert Taylor Auditorium

Panel Members: Judy Halchin, Eastern Illinois University

Ron Shelton, Millikin University

Linda Sons, Northern Illinois University

Presiding: Al Otto, Illinois State University

9:30 a.m. Refreshment Break and Publishers' Display — 1st Floor Schilling Hall

9:45 a.m. *Session C: "Articulation Implications of the Liberal Arts Mathematics Course — A Community College Reaction to General Session I."*

317 Schilling Hall

Panel Members: Robert Eichen, Illinois Central College

Peggy Eck, Moraine Valley College

Carol Bauer, Triton College

Presiding: Barbara Juister, Elgin Community College

9:45 a.m. *Session D: "From the Sum of the Angles in a Triangle to Chern Classes: An expository talk on some aspects of Differential Geometry, starting from an elementary level and leading up to some recent results."*

327 Schilling Hall

Speaking: Hillel Gauchman, Eastern Illinois University

Presiding: Larry Stout, Illinois Wesleyan University

9:45 a.m. *Session E: Student Papers, arranged by Herb Kasube, Bradley University.*

A list of contributors' names and paper titles will be available at the meeting.

322 Schilling Hall

Presiding: Laura Van Zoest, Bradley University

10:45 a.m. Refreshment Break and Publishers' Display — 1st Floor Schilling Hall

11:00 a.m. *Session F: "Relativity, Mathematics, Imagination: The relationship between mathematics and relativity theory — special relativity and algebra; general relativity and geometry; black holes and spinors and twistors."*

322 Schilling Hall

Speaking: Jerzy Kocik, Southern Illinois University - Carbondale

Presiding: Neale Fadden, Belleville Area College

11:00 a.m. *Session G: Classroom Notes, arranged by John Hooker, Southern Illinois University - Carbondale.*

A list of topics to be discussed will be available at the meeting.

317 Schilling Hall

Contributors: Larry Morley, Western Illinois University

Richard Wilders, North Central College

Michael Plantholt, Illinois State University

Charles Fleming and Keith Andrew, Eastern Illinois University

Presiding: Eline Svendsen, Lake Land College

11:00 a.m. *Special Session H: Departmental Chairpersons Meeting; An opportunity for chairpersons of mathematics departments to identify and resolve some of the problems they face as administrators.*

327 Schilling Hall

Presiding: John LeDuc, Eastern Illinois University

ISMAA

Howard C. Saar
216 N. Willow Drive East
Plainfield, IL 60544

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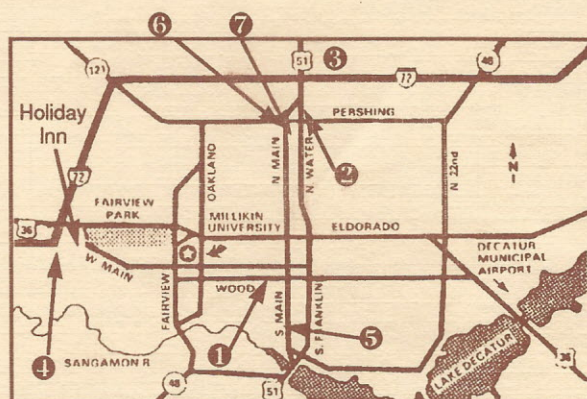
HOUSING INFORMATION

A block of rooms has been reserved at the Holiday Inn about 2 miles west of campus on Route 36, just off I-72. The number to call is (217) 422-8800. To get to Millikin from the Holiday Inn just come east on Route 36, turn right at the first traffic light, then left at the next light onto Fairview Avenue and 1 block further on your left is the parking lot.

OTHER MOTELS IN THE AREA ARE

1. Ambassador Inn, 141 S. Main St., (217) 428-8611. About 1 mile east of campus.
2. Best Western-Shelton Inn, 450 E. Pershing Rd., (217) 877-7255. About 4 miles northeast of campus.
3. Budgetel, 5100 Hickory Point Rd., (217) 875-5800. About 6 miles northeast of campus, near Hickory Point shopping mall.
4. Days Inn, 333 N. Wykes Rd., (217) 422-5900. About 2 miles west of campus.
5. Imperial Inn, 325 S. Water St., (217) 428-8671. About 1 mile east of campus.
6. Red Carpet Inn, 3035 N. Water St., (217) 877-3380. About 4 miles northeast of campus.
7. Super-8 Motel, 3141 N. Water St., (217) 877-8888. About 4 miles northeast of campus.

Student guest rooms are available on Millikin's campus for \$5.00 per night per person — two to a room. For details and reservations, write Ralph Czerwinski at Millikin University, Decatur, Illinois 62522 or call him at (217) 424-6270.



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