

MISSOURI SECTION

NEWSLETTER

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NEWSLETTER INFORMATION

The Newsletter is published in November and March each year. Please use the Newsletter to share information with other section members--special events at your school, announcements about faculty and students, curriculum innovations, activities of your student mathematics organization. Please contact the Newsletter Editor by February 1 with items to be included in the March Newsletter.

From the Chair:

Robert Sheets, SEMO

The Mathematics Department at Southeast Missouri State University is looking forward to hosting the April 12 and 13 joint meetings of the Missouri Section of the Mathematical Association of America, the Missouri Mathematical Association for Two Year Colleges (MOMATYC), the Missouri Mathematical Association for the Advancement of Teacher Training ((MAT)2), and the Missouri Council of Teachers of Mathematics (MCTM). The various sessions and talks should be informative and interesting.

Professor Woody Dudley of DePauw University in Indiana, the MAA's George Polya Lecturer, will bring the Invited Address on Friday afternoon. The title of his talk is "Formulas for Primes." Professor Dudley will also be the speaker after the banquet on Friday evening, when he will give his "Angle Trisectors" talk. Professor James Donaldson, the past Second Vice-President of the MAA, will present the Invited Address on Saturday morning entitled "Some Experimental Models for Introducing Calculus Concepts."

Campus Security suggests that those attending the meetings on Friday park in the lots by the Show Me Center and ride the shuttle bus to the Johnson Hall parking lot. Those with sessions in Kent Library or the University Center may also ride the shuttle from the parking lots by the Show Me Center or may try to park in the lot next to the University Center. On Saturday you may use any of the parking lots. For those who preregister, we will mail parking tags to one of the preregistered individuals in your mathematics department.

We anticipate your coming to the meeting in April.

From the Secretary-Treasurer:

Yungchen Cheng, SMSU

1. The current account balance is \$2,232.68.
2. We have received another \$1,000 Exxon Grant to support this year's student activities.
3. At this spring meeting, we'll have Woody Dudley from DePauw University as our Polya Lecturer. In addition, James Donaldson from Howard University will also be at our meeting to represent the national MAA office.
4. The University of Missouri at Rolla will host our annual meeting in 2001. Before that, the hosting institutions will be: Missouri Western (1997), Southwest Missouri State (1998), Rockhurst (1999), and Central Missouri State (2000). Requests for hosting future meetings are invited.
5. The Distinguished Teaching Award Committee (Darrel Thoman, chair; Curtis Cooper, Joe Flowers) has completed its

selection this year. Announcement will be made at the spring meeting to honor the proud recipient of this year's teaching award.

From the Governor:

Lanny Morley, NEMO

The Board of Governors of the MAA met prior to the Joint Meetings of the MAA and the AMS in Orlando. Most of the Governors were present although several of the MAA staff from the national office were unable to make it to the meeting because of the blizzard which had disrupted air travel from Washington, D.C. The agenda was, as usual, rather extensive with most of the items routine in nature. There were a few items of business which drew considerable discussion, however. These will be mentioned later in the report.

Several individuals supplied reports. President Ken Ross announced the formation of four task forces and an ad hoc committee. The task forces deal with member services, graduate students, MAA departmental liaisons, and AAAS representatives while the ad hoc committee is concerned with issues related to foreign members. The chairs are, respectively, John Kenelly, Hugh Montgomery, John W. Petro, Deborah Tepper Haimo, and James A. Donaldson. The adjustments to the restructuring of the national office were reportedly going well and anticipated to benefit the association in the long run. Questions were raised by the governors about how the efficiency and effectiveness of the new structure would be assessed. It was felt that these should be rather apparent and if they were felt to be less than desired, adjustments would be made as needed. Specifically, the structure will be evaluated in terms of whether it provides the services members need and whether it is doing this in a cost efficient manner.

Gerald Porter, Treasurer, reported that the MAA finished 1995 in sound financial condition with projected final income of \$4,211,000 and expenditures of \$4,216,000. The projected \$5,000 deficit this year compares to a \$4,000 surplus last year. A budget for 1996, revised slightly from that presented in Burlington at the summer meetings, was presented. The good news from the treasurer is that we are closing in on the retirement of the debt on the national headquarters building. It will be debt-free in less than two years. The MAA Investment Fund ended the year with a total value of \$1,857,219 after experiencing a net growth of 26.0% in 1995.

A new dues matrix showing increases paralleling the average salary increase reported in the AAUP survey was presented and approved. The governors discussed whether this was a realistic strategy for future dues increases since dues also pay for journal subscriptions, and increases in the costs of publishing journals do not parallel salary increases. The Executive and Finance Committee will consider alternate strategies for structuring future dues increases.

Doris Schattschneider reported that some of the discussions at the Burlington meeting resulted in revisions in the MAA STRATEGIC PLAN IN ACTION. The latest version will show how some

of the concerns are being addressed or contain proposals to address them. Among the concerns discussed in that meeting were:

- Faculty development for chairs,
- Interface between mathematics in academia and non-academic settings,
- Attraction of graduate students and young professionals to the MAA, and
- More direct involvement of Governors in the planning and review of MAA programs.

The report on competitions showed that the AJHSME set a new record for test takers with 241,390 students from 3,438 schools registered for the 1995 examination. The increase over 1994 was 24,150 students and 335 schools. Also, for the first time 50 outstanding AJHSME Exam Managers were recognized with Edith May Sliffe Awards for distinguished teaching. Changes in this year's exam had the desired effect of producing fewer perfect papers but higher average scores. The AHSME to be held on February 15, 1996 also shows a substantial increase over 1994 with 140,960 students from 2,112 schools registered. The AIME will be held on March 28th, the 25th USAMO will be held on May 2nd, and the IMO in mid-July in New Delhi, India.

The Education Coordinating Council submitted a report from its ad hoc UME Trends Review Committee. The bottom line of their recommendations is that, since the JPBM will no longer publish UME Trends, the MAA should arrange to publish the materials that might otherwise have appeared in UME Trends in other publications:

- a) in FOCUS, much of the news and reports,
- b) in FOCUS and MAA Online, some of the contents of regular columns, and some articles; and
- c) in journals, articles appropriate for their readerships.

It was suggested that there needs to be a central place where readers of UME Trends could go to locate the information usually found there.

The governors were informed that the AMS had decided to discontinue participation in the joint summer meetings in 1997, 1998 and 1999. It was suggested that President Ross appoint a three-person site-selection committee for the 1997 summer meeting of the MAA to recommend to the Executive and Finance Committee a site where either a campus or a hotel meeting could be held. It was also suggested that the MAA ask a professional meetings organization to work on a fee basis with this committee on site selection until such assistance is no longer needed.

Three proposals generated a great deal of discussion. The first resulted in passing a resolution to collect annually and publish regularly data indicating the number and percent of women and minorities in the MAA membership, serving on committees, serving as speakers, etc. The second proposed resolution called for the MAA to send a statement to the governor and legislators of the State of California expressing concern about the effects of Proposition 187 and the possible adoption of similar bills in

other states. This bill limits the services the State of California provides to families of illegal aliens. This resolution was tabled since very few of the governors had read Proposition 187 and felt they were not well enough informed to take a position on the issue. The third proposal called for the MAA to send a statement of support for Affirmative Action to the Board of Regents of the University of California, Berkeley. An attempt to fashion an acceptable statement based on a modification of one from another scientific society resulted in a decision to continue work after the meeting on a further refinement to be sent to the governors by email for approval.

It was reported that as of January 9, 1996, twelve sections had web pages in place and that several more sections are in the process of developing them.

The meeting, conducted without the support of the staff from the national headquarters, ran smoothly, a compliment to the organizational skills and hard work of the officers of the MAA. The MAA is indeed fortunate to have a committed group of individuals who serve in these roles.

Subsequent to the meeting in Orlando, an election was conducted by email for the post of Secretary of the MAA. Martha Siegel of Towson State University was elected.

	MOTELS	IN	CAPE	GIRARDEAU	AREA
Drury Lodge				One person, one bed	\$49.00
I-55 & William				Two persons, two beds	\$57.00
573-334-7151					
Drury Suites				One person, one bed	\$64.00
I-55 & William				Two persons, two beds	\$69.00
573-339-9500					
Hampton Inn				One person, one bed	\$45.00
I-55 & William				Two persons, two beds	\$49.00
573-651-3000					
Holiday Inn				1-4 persons, two beds	\$55.00
I-55 & William					
573-334-4491					
Pear Tree Inn				One person, one bed	\$39.95
I-55 & William				Two persons, two beds	\$49.95
573-334-3000					
Town House Inn				One person, one bed	\$29.95
505 N. Kingshighway				Two persons, two beds	\$29.95
1-800-335-2701					
573-335-2700					
Victorian Inn				1-4 persons, two beds	\$55.00
I-55 & William					
573-651-4486					

First Missouri MAA Collegiate Mathematics Competition

The competition will be held on April 11 (7:30pm) and April 12 (8:30am). Any college or university in the Section may send up to 2 teams of 1-3 undergraduates each. Registration fee is \$25. A complementary breakfast(Friday) will be provided. Each team member is also invited to be a guest at the Section Banquet Friday night. For more information call Curtis Cooper (CMSU) at (816) 543-8851.

Spring Meeting of the Missouri Section of the MAA

Friday, April 12, 1996

Registration

Johnson Hall 104 8:00am 4:00pm

Displays & Exhibits - Johnson Hall 105

Contributed Paper Session I - Johnson Hall 101

- 1:00pm 1:15pm The Louisville Shutterbug: A Mathematical Pilgrimage into History by Charlie Smith (Park College)
- 1:20pm 1:35pm The Shape of the Sea by Timothy Ray (SEMO)
- 1:40pm 1:55pm Dice and Polynomials by Ilene Morgan (UMR)

Contributed Paper Session II - Johnson Hall 103

- 1:00pm 1:15pm Essential and K-minimal Ideals in a Compact Projective Limit by Phoebe Ho (CMSU)
- 1:20pm 1:35pm Ideals in a Noetherian Ring by Kishor Shah (SWMSU)
- 1:40pm 1:55pm An Application of Esscher's Transform in Ruin Theory by Jean Tao (CMSU)

Student Paper Session I - Johnson Hall 106

- 1:00pm 1:15pm An Effective Algorithm for Solving the Hamiltonian Circuit Problem by Maxim I. Sinityn (Central Methodist College)
- 1:20pm 1:35pm Initial p-powers by David L. Clements (CMSU)
- 1:40pm 1:55pm Algorithms for Amenable Numbers by Dean Hoff (SEMO)

MOMATYC Session I

Kent Library Instructional Computer Lab

1:00pm 2:20pm Introduction to Derive Workshop
by Ken Eichman (Metropolitan Community College)

Welcome and Invited Address - Johnson Hall 200

2:35pm 3:35pm Formulas for Primes by Woody Dudley
(Depauw University)

Contributed Paper Session III - Johnson Hall 101

3:40pm 3:55pm Fixed Point Theory for Non-Self Maps by Troy L.
Hicks (UMR)

4:00pm 4:15pm Strict Extensions in the Upper Stone-Cech
Compactification by Vrunda Prabhu (William Woods University)

4:20pm 4:35pm A Comparison of Convergence Spaces by Shing S. So (CMSU)

Contributed Paper Session IV - Johnson Hall 103

3:40pm 3:55pm Spherical Harmonic Functions and the Earth
by Mark Sand (NWMSU)

4:00pm 4:15pm Progress on an 1898 Unsolved Monthly Problem by
Leon Hall (UMR)

4:20pm 4:35pm Selected Geometry Problems from the AHSME
by Alvin Tinsley (CMSU)

Contributed Paper Session V - Johnson Hall 106

3:40pm 3:55pm Observations on the $3k + 1$ Problem by Scott Garten
(NWMSU)

4:00pm 4:15pm Square Classes in Lucas Sequences by Wayne
McDaniel (UMSL)

4:20pm 4:35pm On Conway's RATS by Curtis Cooper & Robert E.
Kennedy (CMSU)

MOMATYC Session II - Johnson Hall 101

3:40pm 4:35pm Mathematics in the Classroom
by Ron Goetz (St. Louis Community College)

(MAT)2 Meeting - Johnson Hall 108

3:40pm 4:40pm Business Meeting and Presentation

Middle School Curriculum in Kentucky
by Bill Kunneke

MOMATYC Session III - Rhodes Hall 121

4:40pm 5:40pm Juggling and Mathematics
by Bill Thayer (St. Louis Community College)

Student Career Program - Rhodes Hall 121

4:45pm 5:45pm Infinite Possibilities to Make Finite Dollars -
Jody Hestand (SEM0)

Banquet and Speaker - Drury Lodge - Intersection of I-55 and
William Street

6:30pm 8:30pm Roast Turkey, Roast Sirloin of Beef, and Baked
Lasagna Buffet

Angle Trisectors by Woody Dudley (DePauw University)

Spring Meeting of the Missouri Section of the MAA

Saturday, April 13, 1996

6:15am 7:00am 5K Run/Walk

7:30am 8:30am Breakfast - Greek Cafeteria (Dining Room)
Department Chairs and MAA Reps

8:30am 10:00am Registration - Johnson Hall 104

8:30am 10:00am Displays & Exhibits - Johnson Hall 105

Contributed Paper Session VI - Johnson Hall 101

8:40am 8:55am Small Group Projects in Calculus by Susan Callahan
(Cottey College)

9:00am 9:15am Teaching Applied Calculus Using DERIVE and a
Traditional Text by Samuel A. Lynch (SWMSU)

9:20am 9:35am Robotics: A Collaborative Undergraduate Research
Experience for Mathematics Majors by John Koelzer
(Rockhurst College)

Contributed Paper Session VII - Johnson Hall 103

8:40am 8:55am 2-Perfect Maximum Packings of K_{2n} with Hexagons
by Janie Kennedy (SEM0)

9:00am 9:15am The m-Interior and m-Annulus of a Strong Digraph
by Songlin Tian (CMSU)

9:20am 9:35am Polynomial Functions Derived from Binomial
Coefficient Expansions by Jim Bruening (SEMO)

Contributed Paper Session VIII - Johnson Hall 106

8:40am 8:55am Pythagorean Triple Preserving Matrices by Leonard
Palmer (SEMO)

9:00am 9:15am On Digital Sums and Large Digits - Part II
by Robert Kennedy and Curtis Cooper (CMSU)

MOMATYC Session IV - Johnson Hall 108

8:40am 9:40am Write Right Now-Painless Ways to get your Students
Writing by Julane Crabtree (Johnson County Community
College, KS)

Invited Address - Johnson Hall 200

10:00am 11:00am Some Experimental Models for Introducing
Calculus Concepts by James Donaldson (MAA)

Business Meeting - Johnson Hall 200

11:00am noon Business Meeting chaired by Robert Sheets (SEMO)

MAA - Missouri Section Spring Meeting
April 12-13, 1996
Southeast Missouri State University, Cape Girardeau, Missouri

Registration Form

Name_____

Institution_____

Address_____

Address_____

Telephone_____

_____Meeting Registration Fee \$ 10.00

_____Friday Banquet \$ 15.00

_____Saturday Buffet Breakfast \$ 5.00

Total enclosed_____

Make check payable to Southeast Missouri State University.

Send check and registration form to:

Robert Sheets
Department of Mathematics MS6700
Southeast Missouri State University
Cape Girardeau, MO 63701

Deadline for preregistration: Wednesday, April 3, 1996

Victor H. Gummersheimer, Acting Chair
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