

# ANNUAL REPORT OF THE MAA SECTIONS

Year Ending June 30, 1995  
(Deadline for returning this report: July 1, 1995)

copy

## GENERAL INFORMATION

Name of Section: Rocky Mountain

Name, address and electronic address of the Section secretary.

WILLIAM C RAMALEY  
MATH DEPT  
FT LEWIS COLLEGE  
DURANGO COLO 81301

RAMALEY\_W@FORTLEWIS.EDU

Name, address and electronic address of the person preparing this report, if different from the Section Secretary:

Name, address and electronic address of the Section Representative who is to receive travel subsidy for the Burlington Meeting, August 6, 1995:

not known

## MEETINGS INFORMATION

For each regular Section meeting held during the year please give:

	Fall	Spring
Date(s)		Apr 21-22, 1995
Location(s)		UNIV. SOUTHERN COLORADO
Total Attendance		212
How many of these were students?		26
How was participation by type of institution? (Good? Fair? Poor?)		
Spring		
PhD <u>F</u> 4-Yr <u>6</u> 2-Yr <u>6</u> HS <u>F</u> Industry <u>P</u>		
Fall		
PhD _____ 4-Yr _____ 2-Yr _____ HS _____ Industry _____		

Fall

Spring

Did you have a meeting or session for MAA Department Representatives?

tried to reestablish a network of Repr-

If so, what did you do there?

Did you have a meeting or session specifically for Department Chairs?

no

If so, what did you do there?

Did you have a luncheon or banquet?

both

Did you have any other activities, such as tours, concerts, etc.?

no

If so, what?

Did you sell space to vendors at your meeting(s)?

yes

If so, how much did you charge?

no

How many vendors participated in your meeting(s) this year?

9

Did you have an MAA book sale?

yes

What is your meeting(s) registration fee?

no (next year)

How many invited addresses were given at your meeting(s)?

4

How many contributed papers?

29 of which

How many student papers?

13 were by students

How many panel discussions?

1

Did you have a Workshop or Short Course at your meeting(s)?

no

If so, what was the fee?

The topics?

The presenters?

Were your meetings <sup>yes</sup> successful? What activities would you recommend to other Sections to make their meetings successful?

**SUMMER ACTIVITY INFORMATION**

---

Did your Section sponsor a Summer Short Course or Workshop?

If so what was the fee? no

Location?

Duration?

Presenters?

What was (is) the topic(s)?

**STUDENT CHAPTER ACTIVITY INFORMATION**

---

What activities or services does your Section provide for student chapters?

nothing at present. See item #1 on attached meeting report

In what ways, if any, are student chapters included in your Section meetings?

Any comments about how the student chapters are working?

## OTHER INFORMATION

---

How many newsletters did your Section publish this year?

2 (+ final meeting information)

Does your Section offer recognition to Putnam exam teams within the Section, or to AHSME, AIME, or Mathematical Olympiad winners? If so, what do you do to recognize these students?

no

Does your Section offer recognition to student presenters of papers at Section meetings? If so, what does your Section do?

yes. Awards MAA memberships

Did your Section make any awards this year, such as the Award for Distinguished College or University Teaching of Mathematics, or Distinguished Service Awards? If so, describe. Do you have any comments about how these processes are working?

Yes - ADC or UTM.  
Process went well.

What do you feel was your Section's most successful event, or the most successful aspect of your Section's work this year?

the meeting -- being a joint meeting with  
NCTM  
and  
Colo. Two Year Association

What Public Awareness Activities has the Section performed (or plans to perform)?  
(e.g. Any special efforts during Mathematics Awareness Week?)

no, sad to say!

Please tell us about anything your Section did that was new. Explain at any length you'd like to.

See items #2 and #3 on meeting minutes.

Each Fall, an issue of FOCUS is designated as "FOCUS on Sections" and contains a few paragraphs about the activities of each Section. For example, see last December's issue. Please write below what you would like included in this special issue of FOCUS this year.

National MAA Program Committees and the Program Committees of other MAA Sections are always looking for good speakers and topics. We would like to provide to these groups a list of the best Section presentations. Who were the best speakers in your Section this year, where are they from, and what were their topics?

We have no way (or process) to identify these for special recognition.

The MAA Committee on Sections is charged with providing aid, leadership, and other forms of help to the Sections. What can we do to help you? What services would you like to see us provide?

What do you feel your Section most needs help or advice on, from the MAA Committee on Sections, from the officers of other MAA Sections, or from the MAA's national office?

The Committee on Sections is working with the MAA's national headquarters on providing appropriate electronic services for MAA Sections; for example there is now a portion of the MAA gopher devoted to information for and about MAA Sections. What electronic services does your Section now use or provide for its members? Do you have comments or recommendations for us as we develop such services at the national level?

No

not yet.

---

PLEASE MAIL THIS BY JULY 1, 1995 TO:

MARY MCLEAN BANCROFT  
EXECUTIVE ASSISTANT  
MATHEMATICAL ASSOCIATION OF AMERICA  
1529 EIGHTEENTH STREET, N.W.  
WASHINGTON, DC 20036

OR EMAIL TO: <mbancrof@maa.org>

**FORT LEWIS COLLEGE**

DURANGO, COLORADO 81301

Dear Mary McLean Bancroft -

Enclosed in my report, together with a draft of minutes for our last meeting. There are items in the minutes referred to in the report.

Sincerely

Bill Ramsey

*This copy is annotated to go with Annual Report.*

**Mathematics Association of America Rocky Mountain Section Report-1995 Meeting**

The annual meeting of the Rocky Mountain Section was held April 21--22, 1995, on the campus of the University of Southern Colorado in Pueblo. The program co-chairs were Janet Nichols and Bruce Lundberg. There were 212 registrants. One reason for the large turnout was the fact that this meeting was a joint meeting with COLOMATYC (with over 32 attendees) and CCTM (with 40 attendees.) Approximately 26 students registered.

The invited addresses were --

The Distinguished Teaching Award Lecture: **Slates, Blackboards, Whiteboards, Overheads, Computers, Multimedia: Can We Possibly Survive in Such a Changing World?** Dr. Duane Porter, University of Wyoming, 1994 DTA Recipient.

Polya Lecture: **Witnesses for Composite Numbers.** Dr. Carl Pomerance, U. of Georgia

Banquet Address: **Industrial Mathematics for Fun and Profit.** Dr. Martha J. Siegel, Towson State College, Maryland. Editor of *Mathematics Magazine*.

Keynote Address: **"Populating" Mathematics Classrooms.** Dr. Martha J. Siegel.

At the banquet Friday evening, William Emerson (Metropolitan State College of Denver) was recognized as the 1995 winner of the Distinguished Teaching Award. Also at the dinner recognition was made of those members who had just completed 25 years in the MAA. Drawings were held for doorprizes donated by the publishers.

In addition to the addresses, the program consisted of the following:

A welcoming by Dr. Bruce Grube, Provost, University of Southern Colorado.

Panel -- **Mathematics Education in 1995: A Kindergarten through University Interaction.**  
Moderator: Frieda Holley, Metropolitan State College of Denver.  
Participants: Zenas Hartvigson, University of Colorado, Denver  
Fran Berry, Jefferson County Public Schools and CONNECT Principal Investigator  
Tom Hibbs, Cheraw Secondary Schools  
Colleen Jorgenson, Red Rocks Community College  
Marge Lindskög, Pueblo Eva Baca Elementary School and SADI Council Member  
Jim Loats, Metropolitan State College of Denver

MAA Minicourse, *Teaching Environmental Numeracy to Undergraduates.*  
Martin Walter, University of Colorado, Boulder

Curriculum Reform Poster Session  
*RMTEC Progress Report:* Jeff Farmer (UNC), Darel Hardy (CSU), Jim Loats (Metro) and  
Tabitha Mingus (UNC)  
*Calculus Reform at UNC:* Ricardo Diaz (UNC) and Steve Leth (UNC)

COLOMATYC Session on *Proposed Changes and Additions to the Core Curriculum*  
Organized: Patricia Hauss, Arapahoe Community College

Two sessions of Departmental Representative were held, with Governor Mendez taking a lead role in revitalizing the role of these representative in the Rocky Mountain section.

Contributed talks -- (a \* indicates a student presenter)

*Quantitative Literacy: Mathematics for Citizenship in the 21st Century*  
William L. Briggs, CU-Denver  
Jeff Bennett, CU-Boulder



- Motivational Teaching Techniques Involving Connections Between Mathematics and Art*  
Ray Tennant, USC
- College Algebra in Context: Implementing Algebra Reform at a University*  
Ken Klopfenstein and Darel Hardy, CSU
- Explicit Formulas for the Sums of Powers of Integers, Bernoulli and Euler Polynomials, and other Combinatorial Functions*  
\* Carl Robert Gibbons, DU
- Back in the Saddle Again*  
\* Tina Dummond, USC
- Applications of Gambler's Ruin*  
\* Paul Vercler, Metro
- Super Secret Spy Kit*  
\* Rhainnie Sellman, USC
- Decomposition of Regression Models*  
\* Kenneth Amend, Christopher Gutierrez & Gretchen Kulver, Metro
- An Investigation into the Invertibility of a Special Kind of Matrix*  
\* Victor Meyers, USC
- Whales and Krill: A Study in Volterra's Predator-Prey Equations*  
\* Jessica Flint, Colorado College
- On Finitely generated Principal Ideal Domains*  
\* Stephen Tempest Aldrich, USC
- Schröder-Bernstein Groups*  
\* Dana Cortez, USC
- Non-Standard Dice*  
\* Barry Balof, Colorado College
- A Visual Representation of the Classification Theorem for 2-D Surfaces*  
\* Tensia Soto-Johnson, UNC/USC  
\* Lara Schmidt, UNC
- Four the Hard Way*  
Leslie E. Shader, University of Wyoming
- Calculation of Three Dimensions*  
\* Mary Hughes Treder, University of Wyoming
- Using Global Optimization to Discover Icosahedral Structures*  
Jerry Shultz, Metro
- Stability in Nonlinear Delay - Differential Equations*  
Jim Louisell, USC
- Filtering with the Fast Fourier Transform*  
William D. Emerson, Metro
- Testing Nonlinear Regression Models Using Cubic Spline Smoothing*  
Rianto A. Djojogugito, SDSMT
- Denseness of the Generalized Eigenvectors of a Discrete Operator in a Banach Space*  
Janet Burgoyne, SDSMT
- Introduction to Elliptic Curve Cryptography*  
\* Pete Morris, University of Wyoming
- Some Approaches to Teaching Calculus II*  
Patricia Hauss and Jeff Berg, Arapahoe Community College
- Experiences Using Portfolios in a Calculus III Class*  
Karen Whitehead, SDSMT
- Introduction and Use of Rubrics in a University Mathematics Course*  
A. Rose Shaw, Education and Business Consultant  
Patricia R. Velicky, UNC
- Teaching L-Grammars in Discrete Mathematics*  
Ernest J. Cisneros, Metro

*Industrial Problems as a Soul for the Body of Undergraduate Mathematics: Examples from Orbit Transfer Optimization and Medical Imaging*

Bruce Lundberg, USC

*A Simplified Sperner's Lemma*

Steve Leth, UNC

*Data Analysis in an Introductory Statistics Course*

Patrick Enright, Arapahoe Community College

William C. Ramaley, Sec'y/Treas  
Rocky Mountain Section MAA

---

---

Minutes of Annual Business Meeting, Rocky Mountain Section, MAA, April 22, 1995

Janet Barnett, Chair of the section, convened the meeting at 8 am.

The minutes of the 1994 meeting at South Dakota School of Mines and Technology were accepted as circulated, with the correction that the date on them was 1993 rather than the proper date.

Treasurer Bill Ramaley presented a summary of the finances of the section. At the time of the meeting, the section had \$4179.58 in savings and \$414.23 in a checking account, for a total of \$4593.81. The report was approved.

It was announced that the 1996 meeting would be held at Mesa State College, with Carl Kerns and Cliff Britton working on the program. This meeting is a joint meeting with the Intermountain Section. The 1997 meeting will be jointly hosted by Metropolitan State College of Denver, the University of Colorado at Denver, and the Auraria campus of the Denver Community College.

The Nominating Committee consisted of Cliff Britton (3rd yr and chair), Gail Gliner (2nd year and next year's chair), and Janet Burgoyne (1st year.)

For the position of Chairperson-Elect the Nominating Committee put forth Darel W. Hardy, Colorado State University and Karen L. Whitehead, South Dakota School of Mines and Technology. Darel Hardy was elected.

For the position of Vice-Chairperson the Nominating Committee put forth William H. Manzer, Western Wyoming Community College, and Charles R. Smith, Red Rocks Community College. William Manzer was elected.

In his Governor's report, Tino Mendez described the Mission and Goals Statement of the national MAA and urged its reading by everyone. He reported that the NSF has a new initiative on the Reward and Recognition of Teaching. Additionally, Gene Leitzel of the U. of Nebraska continues to work on Project NeXT and invites participation. There is a continuing concern over the mentoring of new faculty members. Tino said that the Departmental Representatives program is getting off to a good start and he urged that each member make certain his or her own department had its MAA Department Representative.

Tom Kelley made a proposal for an EXXON Student Chapter Funding. From the wording in the proposal -

This is to sponsor an activity in the Fall semester (say, about mid October) that would involve a large number of students participating in activities at five "regional centers" throughout the section. These activities could include local speakers as well as Internet activities (such as a scavenger hunt or some math problems which would require the students to communicate with other students via

*Ken #1*

item #1  
the net). The money could be divided among the five centers to fund food, drink, speaker costs, math books (?), travel costs, and other things not thought of yet. Students could be invited to attend from schools (four-year, two-year) in the area of the regional center. This type of activity would give the MAA student chapters visibility in the Fall semester and perhaps get the students and faculty thinking about what they could be doing for the Spring meetings a little sooner.

This request is to go to EXXON for a grant of \$1000. In order to help planning, the Section is asked to guarantee Tom at least \$500 in the event EXXON turns down the request. Such a motion passed.

At the 1994 meeting the Executive Committee had been directed to prepare guidelines for grants for section activities. As a result, there was distributed at this meeting a document:

Section Activities Grants Program Design.

item #2  
The objective is stated to be: To assist Section members fund projects in support of Section Mission.

Grants will not exceed \$500 per project; matching funds from host institution preferred, but not required. Any project director must be a member of the MAA and the project must be clearly tied to one or more of the Rocky Mountain Section Mission Goals.

The plan is to eventually be able to award as many as 6 projects per year, with funding to be by a voluntary supplemental dues together with corporate donations. A discussion ensued as to recommending an amount for the supplemental dues, but it was decided to leave the amount open. In order to help planning get under way, the Section is asked to designate \$1000 of its funds as seed money.

This design passed. For details on application, contact the Secretary/Treasurer or any other office of the section.

In connection with this Grant program, the MAA Rocky Mountain Section Mission Statement was discussed and approved at the meeting. A complete copy is included with the fall 1995 mailing to members.

item #3  
Jim Loats asked for \$75 to help subsidize the Colorado Mathematics Education Resource List (CMERL). This list is a resource of speakers and other programs and is offered in cooperation with the Colorado Council of Teachers of Mathematics (CCTM) and the Colorado Mathematics Association for Two Year Colleges (COLOMATYC). This expenditure was approved.

The annual meeting registration fees were set to be \$10 for preregistration and \$12 on site, with students remaining at \$2 for preregistration or on site. Monies collected in excess of meeting expenses shall be put into the general fund of the section.

A motion of appreciation to University of Southern Colorado was offered and approved. A further motion of appreciation offered by Tino Mendez to the officers involved with this meeting was approved.

Officers for 1995-96 are -- Past Chair: Janet Barnett, University of Southern Colorado  
Chair: Edwin Hawkins, Mesa State College  
Chair Elect: Darel Hardy, Colorado State University  
Vice Chair: William Manzer, Western Wyoming Community College (term ends in 1997)  
Secretary/ Treasurer: Bill Ramaley, Fort Lewis College (terms ends in 1996)  
Governor of Section: C. G. Mendez Metropolitan State College of Denver (terms ends in 1996)  
Acting Program Chairs: Carl Kerns and Cliff Britton, Mesa State College