

The annual meeting of the Rocky Mountain Section was held April 15-16, 1994, on the campus of the South Dakota School of Mines and Technology in Rapid City. The program co-chairs were Don Teets and Janet Burgoyne. There were approximately 70 registrants.

The keynote address on Saturday was "What Have Elliptic Curves Got to Do With it?", given by Fernando Gouvea, of Colby College. He also gave the banquet address: "A Marvelous Proof."

The program consisted of the following:

A welcoming by President Gowen, South Dakota School of Mines and Technology

Panel – "The New NCTM and MAA Assessment Standards and their Implications for Mathematics Higher Education"

Chaired by Tino Mendez, Metropolitan State College of Denver

Workshop – The TI-85
Tom Kelley, Metropolitan State College of Denver

Contributed talks –

The Greatest Deviation Correlation Coefficient, R_g .

Steve Rummel, Black Hills State University

Geometric Transformation in Image Restoration

John Weiss, South Dakota School of Mines and Technology

A Cubic Spline Based Lack-of-Fit Test for Regression Models

Rianto Djojodugito, South Dakota School of Mines and Technology

An Apology to G. H. Hardy

Peter Morris, University of Wyoming

Clustering Algorithms for Pattern Classification

Karen Whitehead, South Dakota School of Mines and Technology

Control of Coupled Map Lattices

John Starrett, Metropolitan State College of Denver

A Comparison of Newton's and Muller's Methods in the Complex Plane

Amy Vander Vorste, South Dakota School of Mines and Technology

Applications: Ready or Not, Here They Come

Bill Ramaley, Fort Lewis College

Permutation Puzzles and Applied Algebra

Leslie Shader, University of Wyoming

Pitfalls In Graphing With a Graphing Calculator

David Metz, Western Wyoming Community College

Ancient Chinese Secrets

Beau Grande, University of Wyoming

The Solution Manifold of the Functional Differential Equation $f'(x) = f(x+c) - f(x-c)$

Timothy Moreland, University of Denver

Discrete vs. Continuous Chaotic Systems

Ed Corwin, South Dakota School of Mines and Technology

Mathematica in the Curriculum

George Donovan, Metropolitan State College of Denver

How To Assess Student's Understanding of Mathematical Notions

Igor Szczyrba, University of Northern Colorado

Sophie Germain and Fermat's Last Theorem

Ruth Rebecca Struik, University of Colorado, Boulder

How Should I Count the Ways?

Janet H. Barrett, University of Southern Colorado

Instructional Delights and Dilemmas: Our New Math for Prospective Elementary Teachers
Jim Loats, Metropolitan State College of Denver
Help for the Beleaguered Traveling Salesman
George Heine, University of Colorado at Denver
Colorado State Wide Systemic Initiative and Its Implications for Mathematics Departments
Larry Johnson, Metropolitan State College of Denver
Studying Math Students Studying in Groups
Deborah Rummel, Black Hills State University

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

Minutes of Executive Committee Meeting and the Annual Business Meeting, Rocky Mountain Section of the MAA. April 16, 1994

Tom Kelley, section Chairman, convened the meeting of the Executive Committee at the Landmark Restaurant of the Hotel Alex Johnson at 6:45 am. Also present were Gary Grefsrud (Past Chair), Bill Ramaley (Secretary/Treasurer), Janet Barnett (Chair-Elect), Don Teets (Program Co-chair), and C. ("Tino") D. Mendez (Governor).

The minutes of the Executive Committee meeting of 1993 were approved.

Tino Mendez requested that the section allocate modest amounts of money to various groups meeting around Colorado to discuss initiatives of college/public school articulations. This led to a broader discussion of how we can provide services and support for the members of the section. The question arose of how to fund such initiatives and how members could apply for the funds. It was suggested that an increased fee be charged at the meetings, or that all members could be assessed directly by the national office. The treasurer was assigned the job of determining the possibility of section-wide assessment. Following his findings, the Executive Committee will investigate this matter further.

A second concern of Tino Mendez was how the section could enhance its cooperation with the NCTM in general and the C(olo)CTM in particular. He reported that he had been asked to serve on the Executive Board of the CCTM and wished the MAA to reciprocate. He prepared a resolution for submission at the section business meeting. For more on this matter, see the minutes of the business meeting.

Bill Ramaley gave the summary of the treasurer's report, showing the section had approximately \$313.23 in Checking and \$3,486.22 in savings (including \$1000 as a Short Course reserve fund.) Known outstanding debts were approximately \$300 to South Dakota School of Mines in connection with the ongoing meeting and there is an annual support of approximately \$650 due from the national MAA.

Three had each paid \$40 for an exhibitor fee. There were doughnuts and coffee Friday afternoon and Saturday morning; these to be paid out of meeting income.

Janet Barnett, of University of Southern Colorado reported USC would host the 1995 meeting. The date was not set, pending further discussion at USC and determining the date of the national NCTM meeting. It was felt that we should try not to conflict with the NCTM date.

The nominating committee, chaired by Cliff Britton, reported their nominees for 1994-95. For Chair-Elect: Darel Hardy, Colorado State University and Edwin Hawkins of Mesa State College.

The information about the EXXON Support for Student Programs was given to the care of Tom Kelley, who will complete the form and return it by May 1.

The information about the Polya Lectureship was given to Janet Barnett, who will complete the form and return it by April 30. The date requested depends on the actual meeting date decided by USC.

Tino Mendez said he would urge departments to buy bulk subscriptions to *Horizons*. He later made such a plea at the Business Meeting of the Section.

Tom Kelley will organize a list of departmental representatives, through e-mail. He announced that the MAA is going to be offering many services via e-mail.

The Section meeting in 1995 will be at USC in Pueblo, then in 1996 it will be at Mesa State College in Grand Junction.

Don Teets offered to write down his experiences at being program chair and send copies to Janet Barnett (at USC) and to Bill Ramaley. Further, Bill Ramaley will revise the section responsibility lists, for they are about 10 years out-of-date.

Total expenses of mailings and the meetings were approximately \$1300 and meeting receipts approximated \$500. The Committee approved \$300 to be paid to SDSMT and thanked both the mathematics department and the administration of SDSMT for their contributions in making up the difference in expenses.

The Executive Committee adjourned at 7:55

Respectively submitted,

William C. Ramaley, Secretary/Treasurer, Rocky Mountain Section MAA

Minutes of Annual Business Meeting, Rocky Mountain Section, MAA, April 16, 1993⁴

Tom Kelley, Chair of the section, convened the meeting at 8:10

The minutes of the 1993 meeting at Colorado School of Mines were accepted as circulated.

Treasurer Bill Ramaley presented a summary of the finances of the section. At the time of the meeting, the section had \$3486.22 in savings and \$313.23 in a checking account. The report was approved.

It was announced that the 1995 meeting would be held at the University of Southern Colorado and the 1996 meeting at Mesa State College.

The Nominating Committee put forth Darel Hardy, Colorado State University and Edwin Hawkins, Mesa State College, for the position of Chairperson-Elect. Ed Hawkins was elected.

The Section gave A. Duane Porter, University of Wyoming, our section's award for Distinguished Teacher. His nomination for the national award was forwarded to the national office.

Following our actions at the 1993 meeting, we ~~ye~~ add the 1994 top scorer on the Putnam exam to our list of free MAA student memberships given to students presenting papers at this section meeting. Certificates will be sent by Bill Bosch, of the University of Northern Colorado, to recognize students scoring 135 or better on the American High School Mathematics Examination. There were nine such in Colorado and those in Wyoming or SW South Dakota will be determined by him.

Governor Tino Mendez urged all members to have their departments buy subscriptions to the *Horizons* magazine sponsored by the MAA.

After some discussion, it was suggested that Dave Carlson and Tino Mendez work to have all

awardees of mathematical honors, both students and faculty, recognized by the Governor of Colorado. At the present time, only the AHSME students attend a reception in Denver.

Chair Tom Kelley is organizing a network of faculty representatives. At the meeting the following agreed to serve: Karen Whitehead (SDSMT), Rebecca Struik (U of Colo., Boulder) , Bill Bosch (UNC), Duane Porter (UW), and Al Skilman (Casper CC) .

Tino Mendez introduced the following motion, rewritten in a form incorporating several friendly amendment.

The Rocky Mountain Section of the MAA shall expand the Executive Committee to include one member of the NCTM from each of Wyoming, Colorado, and the part of South Dakota which lies in the section. These NCTM members are to be nominated by their respective state NCTM boards. At any meeting of the Executive Committee, only the member of the NCTM representing the state in which the section meeting is being held that academic year shall have a vote.

The motion won unanimous approval.

Jim Loats reported on a revival of the section lecture series. There is expertise all over Colorado and it should be available to the public. One means for doing this is to prepare press kits, with names and addresses of those whom a newspaper or other media can contact. Also, there needs to be prepared a roster of those willing to give talks. Preparing such materials involves modest amounts of money, but there is not mechanism in place for such awards.

Tino Mendez pointed out the need for grants involving curricula reform.

After general discussion it was agreed that the Executive Committee should prepare guidelines for grant requests.

In closing the meeting, the Section voted to thank the South Dakota School of Mines and Technology its kind hospitality. Appreciation was also extended to Don Teets and Janet Burgoyne for their outstanding organization of the meetings.

Officers for 1994-95 are — — Past Chair: Tom Kelley, Metropolitan State College of Denver

Chair: Janet Barnett, University of Southern Colorado

Chair Elect: Edwin Hawkins, Mesa State College

Vice Chair: Patricia Hauss, Arapahoe Community College (term ends in 1995)

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 Chair: Janet Barnett, University of Southern Colorado

Respectively submitted, William C. Ramaley, Secretary/Treasurer

Mathematical Association of America, Rocky Mountain Section