fall 1992

ROCKY MOUNTAIN SECTION OF THE MATHEMATICAL ASSOCIATION OF AMERICA
Officers for 1992-1993
Chairperson: Gary Grefsrud, Fort Lewis College
        Durango, Colorado, 81301   (303) 247-7336
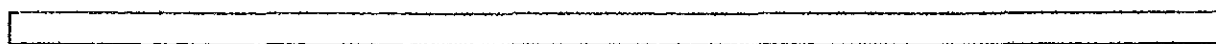Vice-Chairperson: Corinne Brase, Arapahoe Community College,
        5900 S. Sante Fe Dr., Littleton, CO 80221
Chairperson-Elect: Tom Kelley, Metropolitan State College
        2025 Lee St. Denver, CO. 80215-1415   [e-mail KELLY@ZENO.MSCD.EDU]
Past Chair: Laurel Rogers, University of Colorado at Colorado Springs,
        Austin Bluffs Parkway, Colorado Springs, CO 80933-7150   (719) 593-3301
Secretary/Treasurer: Bill Ramaley, Fort Lewis College
        Durango, CO 81301   (303) 247-7268
Governor: John H. Hodges, University of Colorado at Boulder
        Campus Box 426, Boulder, CO 80309-0426   (303) 492-7564

SPRING MEETING of ROCKY MOUNTAIN SECTION

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Colorado School of Mines in Golden, Colorado, April 2 and 3, 1993.

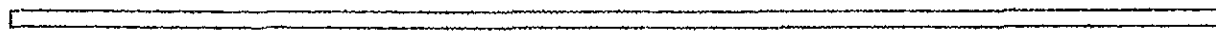Chairperson's Report – Gary Grefsrud

    I hope everyone had an enjorable summer and is off to the start of a great year.

    Our section meeting will be on the campus of the Colorado School of Mines in Golden, April 2-3.   Ardel Boes and Willy Hereman are the program Co-Chairs. If you have suggestions for panels or any other ideas associated with the meeting, convey them to Ardel or Willy at Mines, or send them to Bill Ramaley or myself at Fort Lewis.

    The 1994 Rocky Mountain Section meeting will be at South Dakota School of Mines and Technology in Rapid City, South Dakota. While 1995 is a "long way off", please considere hosting this meeting, especially if it has been a long time since the Section has met on your campus.

    This year's Section nominating committee consists of:
Charles Brase (Chair), Regis University, 7012 S. Dexter St. Denver, CO 80221   [(303) 458-4165]
Frieda Holley, Metropolitan State College, 830 Columbia Pl. Boulder, CO 80303   [(303) 556-2655]
Carl Kerns, Mesa State College, Grand Junction, CO 81502   [(303) 241-5321]

    In addition to coming up with nominees for Chair-Elect, Vice Chair and Secretary Treasurer, they need to have at least two nominees for Governor. The nominees for Governor need to be submitted to the national office of the MAA by November 1.   Please feel free to convey recommendations to the committee.

Secretary-Treasurer's Report

Rocky Mountain Section Report-1992 Meeting

The annual meeting of the Rocky Mountain Section was held April 10-11, 1992, on the campus of the Colorado College, in Colorado Springs, Colorado. The program chair was John Watkins. There were approximately 175 registrants.

The major address was "An Axiomatic Approach to the Integral" by Leonard Gillman, former president of the MAA. Dr. Gillman also gave the banquent address.

The program consisted of the following.
Workshops by: Florence Fasanelli of *SUMMA/MAA* (Subcommittee on Underrepresented Minorities in Mathematics) on "Pre-College Intervention Projects for Underrepresented Groups of Students"

Panels on: "Curricular Reform," Chaired by Jack Hodges, U. of Colorado at Boulder
      "Math Programs for Underrepresented Groups," Chaired by Bill Jones, Xavier
      "Calculus Reform," Chaired by Lourel Rogers, U. of Colorado at Colorado Springs
      "Student Research," Chaired by David Jensen, U.S. Air Force Academy

Contributed talks. "Modeling the Growth of the AIDS Epidemic," Steven Janke, Colorado College
      "Fractional Coloring," David Fisher, U. of Colorado at Denver
      "Edge Coloring Graphs," Laura Hegerle, Colorado College
      "Solving the Timetable Problem Using Bipartite Edge Coloring," John Wilson, UC-Denver
      "General Studies Math:What and Why?," Earl Hasz, Metropolitan State College
      "Mathematical Estimation by Preservice Teachers," Gail Gliner,Metropolitan State College
      "Independence Results in Infinite Combinatorics," Janet Barnett, U. of Southern Colo.
      "DERIVEing and Derinking," Terry Lay, Colorado College
      "Using the TI-81 Graphics Calculator," Barbara Christensen, U. of Colo. at Denver
      "Using the Geometry Supposer to Investigate the Kock Snowflake," Todd Johnson,
                          Ft. Lewis College
      "Investigations of Hausdorff Dimension," Karin Reisbeck, Colorado College
      "An Integral Equation with Advance and Delay Arguments," Tim Moreland, U. of Denver
      "Conditional Graph Coloring," Karen Casey, U. of Colo. at Denver
      "A Characterization of Graphs with Interval Two Step Graphs," Sarah Merz
                          U. of Colo. at Denver
      "Teaching the Dot, Cross Product: An Interesting Example," Jose Cisneros,
                          Metropolitan State College
      "Quantum Groups and the National Math Curriculum," Igor Szczyrba, U.of Northern Colo
      "Neural Networks for Time Series Prediction," Ed Corwin and Antonette Logar,
                          South Dakota School of Mines and Technology
      "Teaching Real Analysis at a Four Year College," Harold Davenport, Mesa State College
      "Undergraduate Linear Algebra: A Proposed Syllabus," Duane Porter, U. of Wyoming
      "Using a Horizontally Driven Pendulum to Study Chaos," John Starret,
                          Metropolitan State College
      "Using a Horizontally Driven Pendulum to Illustrate Mathematical Modeling"
                    Rena Todd and Cathy Baxter, Metropolitan State College
      "The Lipschitz Constant of Periodic Functions," Terry Chen, U. of Colo. at Denver
      "Natural Gas, Geology & ODEs," Michael Lord, Research and Engineering Consultants
      "Why Most Engineers Don't Use Undergraduate Math," Frank Witte, Martin Marietta

Minutes of Annual Business Meeting, Rocky Mountain Section, MAA, April 11, 1992

Laurel Rogers convened the meeting at 8:30 at Olin Hall on Colorado College
The minutes of the 1991 meeting at the University of Northern Colorado 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 approximately $3250 in savings and $850 in a checking account with about $250 in known debts and expenses incurred in connection with the ongoing meeting as yet unquantified.

The 1993 meeting was announced to be held at Adams State College in Alamosa, Colorado [Note: Since the business meeting, the location has been changed. It is to be at Colorado School of Mines in Golden, Colorado. Program Co-Chairs are Ardel Boes and Willy Hereman. The date is April 2-3, 1993]

The Nominating Committee put forth the names of Tom Kelley and Karen Whitehead for the position of Chairperson-Elect. Tom Kelley was elected.

Laurel Rogers was instructed to rework the Section's letter to the Colorado Department of Education, that "since the Colorado Department of Education approves college programs", they should require a mathematics course.

Governor Hodges urged members to contribute to the Greater MAA Building Fund. Our section has only had a dozen or so contributors

A discussion ensued about communication with the media. Jim Loats volunteered to help with this. He is assuming the management of the mathematics speakers list from R. R. Struik. Any suggestions about speakers from public schools or industry should go to Jim.

The Section presented Jack Hodges an award for Distinguished Teacher.

In closing the meeting, the Section voted to thank the Colorado College for its kind hospitality at these meetings. Appreciation was also extended to John Watkins for his outstanding organiztion of the meetings.

Report of the MAA Board of Governors meeting – submitted by Gail Gliner, who attended in place of our Governor, Jack Hodges.

The MAA Board of Governors met in Quebec City on August 15 from 9am to 4:30 pm. Some highlights of that meeting follow:

The next national meeting will be in San Antonio in January, 1993. There will be a celebration of the 100th anniversary of publication of the Monthly. Another highlight of the meeting will be talks on Saturday by the MAA Teaching Awardees. The building fund for the new MAA building in Washington, D.C. is progressing well.

There was a long discussion of the MAA Strategic Plan. The discussion centered around the Mission and Goals statement. The main mission statement reads "to advance the mathematical sciences in higher education". A straw vote indicated a preference to broaden this statement by suppressing the phrase "in higher education". There was also interest in rewriting the statement concerning assessment. A final vote on the Strategic Plan will be taken at the San Antonio meeting in January. Input from local members is encouraged. You may access the complete document through the MAA Email address: maa@athena.umd.edu, or I would be glad to send it to you.

Bernard Madison discussed work of the CUPM Subcommittee on Assessment. A task force is working on guidelines for structuring an assessment program of the undergraduate major. An NSF proposal is being prepared. Assessment includes both course and program evaluation. Ed Dubinsky

discussed the need to conduct research on learning. He pointed out that we "can't measure what we don't understand". The Board of Governors approved the formation of a standing committee on Research in Undergraduate Mathematics Education. If the AMS agrees, this will be a joint AMS-MAA committee. We must take an active role in assessment. The state governors, including Roy Romer, are involved in discussing general studies assessment, and we should also be involved in this area.

It was voted to increase the minority representative for governors-at-large by one. The Computer Science representative was eliminated. There was a discussion concerning an MAA document on Guidelines for Programs and Departments in Undergraduate Mathematics. A final vote on the document will be taken in San Antonio. It may be accessed through MAA Email, or I would be glad to send you a copy. The 1993 MAA budget includes increased support for the Sections. Sections may also apply for funds (by December 1) for special projects.

1993 Rocky Mountain Section Award
Distinguished College or University Teaching of Mathematics

Nominations for the second (1993) Rocky Mountain Section Award for Distinguished College or University Teaching of Mathematics are now being accepted. The Rocky Mountain Section Selection Committee will choose one of the nominees for the Section Award. The awardee will be honored at the Spring 1993 meeting of the Section and will be widely recognized and acknowledged within the Section. The awardee will also be the official Section candidate for the pool of Section awardees from which the national recipients of the MAA Awardees for Distinguished College or University Teaching of Mathematics will be selected except that one of national winner may be selected from another source. There will be at most three national awardees, each of whom will be honored at the national MAA meeting in January 1994 and receive a $1,000 check and a certificate.

Anyone is entitled to make a nomination. Self-nomination is not permitted. A previous nominee for this award who did not become a Section awardee can be nominated again.

Eligibility

— College of university teachers assigned at least halftime during the academic year to teaching a mathematical science in a public or private college or university (from two-year college teaching through teaching at the Ph. D. level) in the United States or Canada. Those on approved leave (sabbatical or other) during the academic year in which they are nominated qualify if they fulfilled the requirement in the previous year.

— At least five years teaching experience in a mathematical science.

— Membership in the Mathematical Association of America

Guidelines for Nomination

The nominees should —

— be widely recognized as extraordinarily successful in their teaching. The word "teaching" is to be interpreted in its broadest sense, not necessarily limited to classroom teaching. It may include such activities as preparing students for mathematical competitions at the college level, for example, the Putnam Prize Competition or the Mathematical Contest in Modeling, or attracting students to become majors in a mathematical science or to become Ph. D. candidates.

— have teaching effectiveness that can be documented
— have had influence in their teaching beyond their own institutions

— foster curiosity and generate excitement about mathematics in their students.

The idea of an "influence beyond their own institution" can be manifested in many forms, including demonstrated lasting impact on alumni, influence on the profession through curricular revisions in college mathematics teaching with national impact, influential innovative books on the teaching of mathematics, etc.

Nominations for the Award for Distinguished College or University Teaching of Mathematics must be submitted on the enclosed "Nomination Form." Please follow the instructions on that form precisely to assure uniformity in the selection process both at the Section and the national levels.

If a file on a Section awardee significantly exceeds the prescribed limits (as stated on page 2 of the Nomination Form), it will not be considered for a national award and be returned to the Section.

Please send the nomination packet to:

Professor William C. Ramaley, Secretary
  Rocky Mountain Section
  Math. Dept.
  Fort Lewis College
  Durango, Colorado 81301

so as to be received no later than December 15, 1992

The Section Selection Committee will select the Section awardee during January and communicate its selection to the national selection committee no later than February 1 so that the national committee can then make its selections.

We look forward to your participation in this exciting MAA venture of taking substantive action to honor extraordinarily successful teaching. We want to see such teaching recognized at all post-secondary school levels. We depend on you to help us identify those who merit such recognition.

MATHEMATICAL ASSOCIATION OF AMERICA
AWARDS FOR DISTINGUISHED COLLEGE OR UNIVERSITY TEACHING OF MATHEMATICS

Nomination Form
(Please Type)

Name of Nominee (Last name first)_____

Name of College or University_____

College or University Address_____

College Telephone (_____)_____ Home Telephone (_____)_____

Number of years of teaching experience in a mathematical science_____

Has the nominee taught at least half time in a mathematical science for the past three years (not counting a sabbatical period)? _____

Activities related to teaching_____

_____

_____

Publications related to teaching if any (List no more than five)_____

_____

_____

_____

Membership and significant activities in relevant professional organizations_____

_____

Previous awards for teaching, if any_____

_____

Additional relevant information_____

_____

Name of Nominator (last name first)_____

Address of Nominator_____

_____
Signature

Evidence of Success in Teaching

Please describe the nominee's success in teaching by providing a narrative of the nominee's background, experience, teaching style, special contributions, and other related information not already included in the Nomination Form. Limit this portion to no more than four pages, which must be typewritten and double-spaced on one side only of a 8 1/2 x 11 paper. Type size, whether word processor or typewriter, should be no smaller than 12 point (pica) in size.

You are also requested to submit no more than 3 pages of evidence to document the nominee's extraordinary teaching success, for example, a sample of student survey results (including pertinent information about the form used, how it was administered, and the meaning of the scores given), increases in numbers of mathematics majors or Ph. D. candidates, or student successes in mathematical competitions.

In addition, you may include a maximum of five letters of recommendation (limited to one page each) with at least two from the nominee's present or former students and at least two from colleagues (one of whom could be the department chair).

Curricula vitae should not be submitted since the information from them relevant to teaching success should be included in the Nomination Form and the other documents mentioned above.