Dec 1991

ROCKY MOUNTAIN SECTION OF THE MATHEMATICAL ASSOCIATION OF AMERICA
Officers for 1991-1992
Chairperson: Laurel Rogers, University of Colorado at Colorado Springs,
        Austin Bluffs Parkway, Colorado Springs, CO 80933   (719) 593-3301
Vice-Chairperson: Corinne Brase, Arapahoe Community College,
        5900 S. Sante Fe Dr., Littleton, CO 80221
Chairperson-Elect: Gary Grefsrud, Fort Lewis College
        Durango, Colorado, 81301   (303) 247-7336
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
Past Chair: Gail Gliner, Metropolitan State College,
        1006 11th St., Campus Box 38, Denver CO 80217

Section Governor's Report — Jack Hodges

1. Orono Meeting.

The summer MAA meeting was at the University of Maine in Orono from August 8–11, 1991. In addition to the usual great variety of mini-courses, talks on specialized topics as well as broad areas of mathematics and sessions on reform of curriculum and teaching methods in mathematics, the meeting was notable because of two special events. (These were in addition to the fact that my wife, Jean, and I spent one wonderful day aboard a small boat viewing dolphins, seals, birds, porpoises and several kinds of whales from close up).

First, the Board of Governors completed its typical lengthy agenda of individual and committee reports and action items in record time and then spent several hours in a facilitatored session on diversity (with a focus on ethnic and racial aspects) and how to encourage/increase it in the MAA general and committee membership. (Sections are urged to consider scheduling similar sessions at their annual meetings.)

Later, at the Section Officers meeting, there was a lively discussion led by Henry L. Alder concerning the guidelines to be followed in implementing the recently established national Awards for Distinguished College or University Teaching of Mathematics. Alder, as Chair of the standing committee of the MAA that will administer these awards, was very responsive to some suggestions that were strongly advocated by attending Section Officers (including me), for changes in the proposed guidelines. (See the September 1991, issue of *FOCUS*, the MAA Newsletters, for a good description of these awards and how they will be administered.)

2. Rocky Mountain Section participation in NSF Project.

At the MAA Section Officers meeting in San Francisco in January 1991, Jim Leitzel from Ohio State, who is currently serving as a Visiting Mathematician and Project Director with the MAA national office, made a presentation about the possibility of funding being received from the NSF to develop model workshops for sections of the MAA. The project is entitled "Priming the Pump for Curricular Changes." Model workshops were to be directed toward encouraging more participation by mathematics faculty in curricular reform efforts. At the end of his presentation he asked for volunteers among the Sections to be part of the first year development of these workshops and our section was among those volunteering. (I guess it was I who volunteered us!) In mid-September, Leitzel wrote that the NSF had funded the project and asked us to reconfirm our Section's interest. We have responded affirmatively to him. This entails a commitment on our part to reserve places on our Spring, 1992 Section meeting program for two different sessions.

First, a contributed paper or panel session featuring individuals recently awarded grants for activities in pre-college or undergraduate mathematics programs. Second, an overview presentation

highlighting designated NSF program initiatives. Anyone who has expertise or experience and is willing to contribute to either of these session should contact me (address and phone listed above.) at the address above, or phone (303) 492-7564

Chairperson's Report — Laurel Rogers.

Much of my time has been invested in "calculus reform" here at UCCS. It is tremendously interesting; it's fun because there are so many opportunities for creativity; it has been very rewarding for many reasons; but it is MUCH more time-consuming that I ever expected. You think you see a new, probably better, way and proceed to try to develop it. In lots of ways, the process is more like doing research (where you spend a semester working on material that fills about 5 pages) than ordinary teaching.

In our Calculus I we use graphing "supercalculators" and materials developed by the Oregon State Calculus Project. Calculus II is using a conventional book and students are required to have a "lab day" once a week where we use Macintosh computers.

There have been some rewards in Calculus I, but there really have been a lot of problems and it has been up to me to solve them. For Calculus II, I am very pleased with the way the class has worked out, but the new scheme certainly has not lowered the drop rate (in fact, I think it is worse) and writing the weekly "labs" has been a great deal of work.

The questions I'm now pondering are of this type: when you add something new, you have to give up something else (most of us would agree the calculus curriculum is already too crowded), and so what do you give up, and is that a good idea. In the Calculus I class, a lot of what you give up is the "algebra drill" problems. At first I enjoyed this, but began to have second thoughts after a few weeks. It is really "right" to send to Calculus II a student who understands the calculus ideas, and can find limits on his/her calculator, and can find extrema by graphing on the calculator, but whose algebra skills are below the level normally expected (which already was pretty low)? In the Calculus II class, I chose to give up a fair amount of time spent on techniques of integration. I'm ending up with students who can work with the definition of the limit of a sequence pretty well, but couldn't integrate $x/\sqrt{1-x^2}$ on the third exam — the second exam covered integration techniques.

One of the more time-consuming committees I've ended up on this semester has been one on calculus reform. We have tried to put together a syllabus for Calculus I, but I'm afraid it doesn't look very different from the old one. And we didn't even discuss issues such as how much algebra drill there ought to be.

The topic of calculus reform will be discussed at the section meeting. Come with your enthusiasms, expectations, and experiences. We will compare notes.

Secretary-Treasurer's Corner — Bill Ramaley

The deadline for the next Section Newsletter is February 1, 1992. Please send material to me at the address listed at the beginning of this newsletter. If you have suggestions for the newsletter, let me know. *Especially welcome is information about members and departments.*

Minutes of the Business Meeting, Rocky Mountain Section MAA, April 13, 1991

Chair Gail Gliner convened the meeting at 8:30 at the Univ. of Northern Colorado.

Treasurer Bill Ramaley presented a financial report. At the time of the meeting, the section had approximately $3100 in savings and $800 in a checking account with about $400 in known debts and expenses incurred in connection with the ongoing meeting; the exact amount as yet unquantified.

The next meeting was announced to be held at Colorado College in Colorado Springs on April

10 and 11 in 1992.

Duane Porter was nominated for the MAA Certificate for Meritorious Service.

R. Rebecca Struik, Univ. of Colo. Boulder, wished the record to show the Univ. of Northern Colorado is on the censure list maintained by the AAUP.

Corinne Brase, Arapahoe Community College, emphasized both NCTM and MAA recommend 9 hours of content courses in undergraduate mathematics for teachers of elementary education.

Gale Nash, Western State College, moved the section endorse the NCTM standards since these do specify content. This motion was seconded and unanimously passed with the instruction to the Chair that an appropriate letter be drafted and sent to the Colorado Department of Education.

Gary Grefsrud, Fort Lewis College, reported on the work of the Prognostic/Diagnostic Committee. There was a start of using the prognostic test in a few schools this past year and there is a steering committee attempting to locate sources of funding. Grefsrud moved the MAA, Rocky Mountain Section, write a letter of support on behalf of Colorado JUMP (JUnior Mathematics Prognostic). This motion passed unanimously. [see Resolution following]

The Nominating Committee put forth the names of Gary Grefsrud, Gale Nash, and Karen Whitehead for the position of Chairperson-Elect. After a vote, Gale Nash and Karen Whitehead urged the members present vote unanimously in favor of Gary Grefsrud. It was so done.

Deborah Haimo, President of the MAA and our invited speaker at the meeting, spoke of the forthcoming "Outstanding College Teaching Award."

In closing the meeting, the Section voted to thank the University of Northern Colorado for its kind hospitality at these meetings.

Respectively submitted,
William C. Ramaley, Secretary/Treasurer

Resolution

Whereas. The discovery and understanding of mathematical concepts is fundamental to the advancement of society, and

Whereas. Sophisticated computer technology provides the means to solve ever more complex mathematical models of natural phenomena, and

Whereas. A solid mathematics preparation at the elementary and secondary level is required for students to succeed in college, and

Whereas. Prognostic testing at the junior level in high school has been shown to be an effective means to encourage high school students to enroll in appropriate mathematics classes during their senior year in high school

Be it resolved that

The Rocky Mountain Section of the Mathematical Association of America strongly supports the establishment of the Colorado Junior Mathematics Prognostic (JUMP) program

(signed) Dr. Laurel Rogers, University of Colorado, Colorado Springs
Chair, Rocky Mountain Section Mathematical Association of America

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SPRING MEETING of ROCKY MOUNTAIN SECTION

*   *   *   *   *   *   *   *   *   *   *

The Meeting will be at Colorado College, in Colorado Springs, on April 10 and April 11, 1992.

Program Chair is — John J. Watkins, Math. Dept., Colorado College,
14 East Cache La Poudre, Colorado Springs, CO 80903-3294
Phone (719)-389-6542   [JWatkins%CCNode@Colorado]

Leonard Gillman (U. of Texas), a former President of the MAA will be giving the banquet talk, as well as presenting another talk about an interest of his in mathematics.

Ideas for panels and titles of papers (as well as approximate time needed for their presentation) should be sent to Dr. Watkins at the address above. There will be future opportunities for sending in titles and responding to requests for participation.

Last year, the Rocky Mountain Section was able to help students who belonged to MAA clubs with their travel expenses. Unfortunately, those grants were "one-time" funds and unless one of you has an idea of a new source, the section cannot assist student attendees with their expenses. Nonetheless, students should be encouraged to attend.

We do award one-year memberships in the MAA to students who present a paper at one of our sessions. Last year approximately one dozen such memberships were awarded. It is planned to have a session of student papers at the meetings.

1992 ROCKY MOUNTAIN SECTION AWARDS FOR DISTINGUISHED COLLEGE OR UNIVERSITY TEACHING OF MATHEMATICS

The national MAA has initiated a new program to recognize distinguished college and/or university teaching. The Rocky Mountain Section will select one nominee as our Section Award winner; whose name will be forwarded to the national offices as a nominee for one of the several national awardees, to be recognized at the January Joint-Meeting of the MAA-AMS in New Orleans.

There will be at most seven national awardees in the first year (three in subsequent years) of this program. Each awardee will receive a $1,000 check and a certificate. The following describes the procedures for making a nomination. Our section certainly has many distinguished teachers and I hope you and your colleagues will take the time to help one be recognized.

Anyone is entitled to make a nomination, but nominations from chairs in departments of mathematical sciences are especially solicited. Self-nomination is not permitted.

Eligibility

— College or university teachers assigned at least halftime during the academic year to teaching of 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 requirements 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 (interpreted in its broadest sense, not necessarily limited to classroom teaching; it may include activities such as preparing students for mathematical competitions at the college level, for example, the Putnam Prize Competition or the Mathematical Context in Modeling, or attracting students to become majors in a mathematical science of to become PH. D. Candidates.)

— have teaching effectiveness that can be documented

— have had influence in their teaching beyond their own institutions (this can take 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 college mathematics, etc.)

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

Nominations must be submitted on the enclosed "Nomination Form." Please follow the instructions on that form precisely to assure uniformity in the selection process at the Section and the national levels. Please the completed form and accompanying packet to

Bill Ramaley, Secretary, Rocky Mountain Section of the MAA, Fort Lewis College, Durango, CO 81301 postmarked no later than January 20, 1992.

POSITION BULLETIN BOARD

(We gladly will list any opening your department may have.
The only cost to you is that we ask for a contribution of some information about your department for our *News from the departments* section.)

Mathematics Department
Fort Lewis College
Durango, Colorado 81301

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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)_____

_____

_____

( )ership and significant activities in relevant professional organizations_____

_____

Previous awards for teaching, if any_____

_____

Additional relevant information_____

_____

Evidence of Success in Teaching

Please give background and experience of the nominee, his or her education, and detailed evidence of success in teaching. Use separate sheets of paper to provide the information requested, but no more than four pages. Material must be typewritten and double-spaced on one side only of 8 1/2 x 11 paper. Type size, whether word processor or typewriter, should be no smaller than 12 point (elite) in size. To assure that the materials can be reproduced, do not place pages in a bound folder or notebook.

You are also requested to submit no more than 3 pages of documentation of the nominee's extraordinary teaching success, for example, a sample of student survey results, 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).

Name of Nominator (last name first)_____
Address of Nominator_____

_____
                                    Signature

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

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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_____

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Additional relevant information_____

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Address of Nominator_____

_____
Signature