

MAA NEWSLETTER  
ROCKY MOUNTAIN SECTION

*Edited by:*  
*David Ballew*  
*Feb. 3, 1984*

CALL FOR PAPERS---

The Annual Spring Meeting of the Section will be held 27, 28 on the campus of the United States Air Force Academy in Colorado Springs. Papers and ideas for sessions are invited from all members. Send a description of your paper, estimated time and any special (audio-visual) needs to

*Major George Hughes*  
*Department of Mathematics*  
*United States Air Force Academy, 80840*

The deadline for submission of abstracts will be April 1, 1984. This will allow us to get a complete program to you before the meeting.

There will be a tour of the Air Force Academy on Friday afternoon. The Annual Banquet will be at the Sheriton and is promised to be "Deluxe". Prof. Lynn Steen of Carlton College will be the MAA representative and invited speaker.

STUDENT PAPERS---

We will again encourage student papers at our April meeting. We have been very successful in attracting quality student papers and hope that we will continue to do so. It takes an effort on the member's part! These students need encouragement and moral support; the papers can be on any research, problem, term paper or even about their summer job. One of the most successful student papers last year was about an experimental course on one of the campuses. HELP YOUR FAVORITE STUDENT!

IN REMEMBRANCE---

Professor Burton Jones died in his sleep on December 8, 1983 in his new home in the Boston area. Professor Jones was one of the real backbones of the Rocky Mountain Section for over forty years. If there was ever a person for whom it truly applied: Burton Jones was indeed a gentleman and a scholar.

## PROFESSOR STRUIK IS INVITED SPEAKER---

Professor Ruth Rebekka Struik of the University of Colorado at Boulder is the invited speaker for the North Central Section of the Mathematical Association of America meeting at St. John's College in Minnesota.

## BITS AND PIECES FROM A VARIETY OF SOURCES---

A study of U.S.A. Mathematical Olympiad Winners. The following is taken from a presentation given in August at the Warsaw International Congress of Mathematicians by Prof. Nura D. Turner of SUNY at Albany.

This study concerns 67 winners of the U.S.A. Mathematical Olympiad during the period 1972 through 1982. These winners, 17 of whom have repeated their performance 21 times, include the 8 highest-ranking participants for each of the 11 years. Participants in the USAMO are the approximate 100 top-ranking students in what was called the Annual High School Mathematics Examination.

Winners come from well-educated, professional parentage (both parents); from our public schools (with one exception); from the states along the eastern seaboard, Massachusetts to Virginia (3/5 of them); from states in a strip down through the mid-west, Minnesota to Texas; from California; and from the providence of Ontario, Canada. There is only one young lady in the group - a 1982 winner. During their college years, they have held part-time and summer jobs including positions as clerk, inventory inspector, organist, junior faculty member, student engineer, SAT item writer, assistant, programmer, securities analyst, and visiting scientist. Half of the winners have held positions as computer programmer of one type or another. They have worked for colleges, industries, research institutions, and governmental agencies.

The school preferred for undergraduate study has been Harvard with Princeton rating a close 2nd and MIT 3rd. With the exception of three winners who dropped out to accept employment as computer programmers, all have stuck to the school entered as a freshman until earning bachelor's degrees. The preferred major has been mathematics and winners have excelled in the Putnam Competition. Harvard has remained the preferred graduate school with MIT nudging out Princeton for 2nd and Berkeley coming in 3rd. Support for graduate study has come chiefly from NSF with additional grants from other sources and from summer and part-time work.

Thirteen winners now have the Ph.D. - 9 in mathematics, 2 in computer science, 1 in engineering and 1 in physics. Eight of these are on university faculties of Harvard, Hawaii, Illinois, MIT, New York, Princeton, Utah and Yale, three are doing research in industry, and two are on postdoctorates at Berkeley and the University of Paris. Fourteen are working on Ph.D's - 11 in mathematics, 2 in computer science and 1 in engineering. Three have master's degrees and are employed in industry - 2 in engineering and 1 in operations research. Thirteen have bachelor's degrees and are working - 7 in mathematics, 2 in engineering, 2 in physics, 1 in economics and 1 in social studies. Seven others are computer programmers; two are engineers with industry and one with a government agency, 1 is a financial analyst with industry, 1 is a legal assistant with a law firm, and 1 is teaching high school.

Three with less than 2 years of college are working as computer programmers in industry. Twenty are undergraduates - 10 in mathematics, 5 in engineering, 1 in law, 1 in physics, 1 undecided and 2 in fields unknown. Eight are married and one has a daughter. All are under 30 years of age. One winner is deceased.

Important issues. The two most important and most discussed issues/problems facing the mathematical community today are probably the state of mathematics education (from kindergarten through graduate school). If your department has tried something that seems to solve some of the problems raised by these issues, then I'd like to include notice of them and give a brief description of your success in this newsletter. For instance, some of your faculty members may have gone out and talked to junior-high students and encouraged them to continue taking math courses and you've subsequently

seen first-year algebra enrollment increases. Or you've found a way to increase the mathematics skills of elementary teachers.

In 1983, only six students graduated in the State of Mississippi with degrees in mathematics or mathematics education and entered the high school teaching profession. Similar situations exist throughout the country.

In 1982, beginning teachers in the Indianapolis Public School System earned \$13,380 per year, while beginning painters in the maintenance department of the Indianapolis Public School System earned \$16,771 per year.

As of January 1, 1983, the MAA membership was 18,647.

## NEWS FROM THE CAMPUSES---

### From the University of Colorado at Colorado Springs.

The size of the full-time mathematics faculty at U.C.C.S. continues to grow at an unprecedented rate. Two new members were hired this year, including the new chairman, Professor K. M. Ramgaswamy. The Dean has approved four new tenure-track positions beginning the next academic year, which will bring to eight the number of full-time staff members. These additions have been warranted by the enormous enrollment increases experienced in mathematics courses; student credit hours are up almost 20% over last year, and similar growth is forecast for a few years to come.

At the present time the emphasis on research is strongly directed towards algebra, especially abelian group theory. The department is fortunate to have had both Elbert Walker and Richard Pierce visit last fall to participate in the continuing Mathematical Colloquium series; David Buchsbaum and Robert Warfield are scheduled for similar presentations this spring.

Both the department and the school as a whole are involved in the academic affairs of the community. The demand for services is extremely high, due to the large number of high technology firms and Air Force personnel in the area. In addition, Professor Alexander Soifer is organizing a Mathematical Olympiad for local high school students to be held this spring.

In all, the department is making great progress towards developing a solid mathematics program at U.C.C.S. It is looking forward to building strong ties with other schools and mathematicians in the region.

### From National College (Rapid City)

The Math Department at National College is within the Arts and Science Division. There are no majors offered in the Arts and Science Division. There are 3 full-time math faculty members. Courses taught by the mathematics faculty include: Fundamentals of Math, Business Math, Introductory Algebra, Intermediate Algebra, Trigonometry, Calculus I and II, Statistics I and II, and Quantitative Analysis. A minimum of 8 quarter hours of math and science is required in the A.S. program and 16 quarter hours in the B.S. programs.

### EDITOR'S NOTE

Have you seen anything about your school in the newsletter recently? It could be that if you wrote something and sent it to me, your school and/or department would be represented. Prove that there is no truth to the rumor that college professors don't know how to write.