Hugh King of Colorado School of Mines Named 2003 Distinguished Teacher

In 1991, the MAA Board of Governors established Section Awards for Distinguished College or University Teaching to recognize excellence in mathematics teaching at the post-secondary level. The Rocky Mountain Section Award is named in honor of Burton W. Jones, a lifelong advocate of excellence in teaching and supporter of the members and programs of the MAA. In addition to receiving a certificate and a check, award recipients deliver the opening address at the following year's spring meeting.

Criteria for the award require far more than effective teaching. Awardees are expected to be outstanding teachers, widely recognized both within and beyond their institution for extraordinary success in teaching mathematics. Professor Hugh King of the Colorado School of Mines easily exceeds each of the high standards set for the award.

Professor King received an M.D. in 1977 from University of Pennsylvania's Medical School and a Ph.D. in Applied Mathematics from the University of Colorado, Denver in 1992. He practiced medicine for over a decade and worked for Bell Labs for five years and as an independent computer consultant while working on his Ph.D. at the University of Colorado, Denver. He is currently a senior lecture at the Colorado School of Mines. He has a passion for teaching, advising, and counseling students. As one of his student states "Dr. King never fails to provide enthusiastic and well-prepared lectures, and has a gift for being able to motivate students regardless of the course in which he is teaching". He consistently scores well above the department average on the student satisfaction portion of student evaluations.

His background allows him to bring a wealth of practical experience to the classroom and to teach a wide variety of classes. In addition to teaching the more mainstream mathematics courses, he has designed, developed, and delivered courses in Mathematical Modeling, Anatomy and Physiology, Java Programming, Mathematical Biology, and Client Server Web Programming. It is difficult for Colorado School of Mines students to receive a Bachelor's Degree in Mathematics or Computer Science without taking a course from Dr. King. Allegedly, many students make up their course schedules by first enrolling in Dr. King's classes and then filling out the rest of their schedules with courses required for graduation. One recent graduate said that he and his friends had Dr. King for so many courses that they call Colorado School of Mines "Hugh U".

Professor King has received numerous teaching awards at Colo-

rado School of Mines including the Alumni Association "Outstanding Faculty in Mathematics and Computer Science Award" in 1996, 1997, and 1998, Overall Favorite Professor by Tau Beta Pi in 1997, IEEE students' Teacher of the Year in 1996, and Colorado School of Mines most prestigious teaching award, the Alumni Teaching Award in 2001.

In addition to all his work at Colorado School of Mines, he and his wife have co-founded the Namlo Foundation. The Namlo Foundation has established two elementary schools in rural Nepal to provide school access to children who otherwise would have none. The Foundation's schools, which now have a total enrollment of over 350, come with computers, a lending library, and many other teaching aids. The King's have solicited many of these resources from school children and professional groups in the Denver area. He has also taken groups of medical personnel to provide medical help.

It is a distinct pleasure to recognize Dr. King's tireless efforts supporting the cause of high quality mathematics education within our region with the 2003 Burton W. Jones Distinguished Teaching Award. Congratulations, Dr. King!

Jeff Berg, Arapahoe Community College

Section Students Recognized for Mathematics Excellence

On May 15, 2003, the Eighth Annual Colorado Mathematics Awards Ceremony was held at the Grant-Humphreys Mansion in Denver. Organized by Dick Gibbs, Emeritus Professor at Fort Lewis College, and David Carlson of the Colorado Department of Agriculture, this event recognized 59 Colorado students and 39 teachers for outstanding performances on seven national mathematics competitions: MATHCOUNTS, the American Mathematics Contests 8, 10 and 12, the High School Mathematical Contest in Modeling, the William Lowell Putnam Mathematical Competition, and the Mathematical Contest in Modeling. The AMC 8, AMC 10, AMC 12, and Putnam Competitions are sponsored programs of the national MAA, which also provides support for the other three competitions. Professor **Jim Loats** (Metro) gave the opening remarks. The Rocky Mountain Section is an educational sponsor of the Colorado Mathematics Awards Ceremony.

Other MAA members on the Awards Steering Committee include **David Larue** (Mines) and **Lou Talman** (Metro). Special thanks to David for his AMC 10, 12 website: http://www.mines.edu/amc/. Pictures (many of them!) of this year's CMA can be found there.

Once again a team from University of Colorado-Boulder excelled in

the Mathematical Contest in Modeling. Team members were **Darin Gillis, David Lindstone, and Aaron Windfield** and their coach was Professor **Anne Dougherty** (Department of Applied Mathematics). The team received the designation **Outstanding** for their solution. Reserved for those papers that provide excellent analysis, thoughtful insights and exceptionally clear exposition, only 16 of 638 teams worldwide received this highest possible designation. Excellent work, Darin, David, Aaron and Anne!

Colorado State University once again excelled in the Putnam Competition. Individual top Putnam scorers were **Jonathan Batchelder**, **Manfred Georg,** and **Travis King**, all from Colorado State University. They also comprised the top Putnam team. The CSU team placed 12th out of 376 teams nationwide. Congratulations, students and CSU coach Professor **Alexander Hulpke**.

In addition to supporting the Colorado Mathematics Awards Ceremony, the Section also recognizes top section scorers on two exams. This year, the Rocky Mountain **Section Putnam Exam Top Score** belongs to **Jonathan Batchelder,** Colorado State University. **SeHyoun Ahn**, a sophomore at Boulder High School, earned the Rocky Mountain Section AMC 12 Top Score. Congratulations, John and SeHyoun!

Also recognized at the ceremony was Colorado School of Mines Professor **Hugh King**, recipient of this year's Rocky Mountain Section Burton W. Jones Distinguished Teaching Award.

Special thanks to the CMA Steering Committee for identifying and recognizing these outstanding young mathematicians.

Dick Gibbs, Fort Lewis College

CCTM News

The Colorado Council of Teachers of Mathematics (CCTM) held its annual meeting September 25-26 at the Colorado Convention Center in Denver. Interactive sessions of 75 minutes replaced the usual sessions and workshops. Cathy Seeley, President-Elect of NCTM; James Heibert, co-author of 'The Teaching Gap;' and Lorrie Shepard, Dean, CU School of Education, gave keynote addresses.

Next year's conference will be held on September 23-24, 2004 in Denver. In 2005, the CCTM Annual Conference will be held on November 10-12 along with the Regional NCTM Conference. Reserve these dates.

Tensia Soto-Johnson, CSU-Pueblo

Governor's Report

The 2003 MathFest in Boulder was a huge success. There were over 1,000 people in attendance, which I am told is a large number for a meeting out west. Many people remarked on the perfect weather and the beautiful scenery. I would like to say thanks to Marty Walter from CU for his assistance with local arrangements. Learning to square dance with other mathematicians was an unforgettable event.

Below are a few of the highlights from the Board of Governor's meeting.

1. Membership continues to be a fervent issue for the organization. Plans are well on underway to implement membership e-commerce capability onto MAA On-Line. There are two parallel components that will be added to the website - functionality for existing members to see, modify and pay next year's membership online, and functionality for new members to join on-line. We are also investigating the possibility of a joint membership with AMS. Remember to renew your membership and encourage new faculty members to join the MAA.

2. The MAA has put together a new career brochure entitled "We Do Math!" The brochure highlights eleven profiles from *101 Careers in Mathematics*. The MAA is offering math departments the opportunity to print their school logo and/or contact information on the front of the brochure for a one-time setup fee of $150.00. For more information contact Chris Proesel at cproesel@maa.org.

3. The following cites and dates were approved for future MathFest meetings.

   - Aug. 10-12, 2006: Knoxville, Tennessee
   - Aug. 3-5, 2007: San Jose, California
   - July 31- Aug. 2, 2008: Madison, Wisconsin

4. I am sure none of you will be surprised to hear that the MAA's first study tour was a phenomenal success. Thirty-two participants traveled to Greece to learn about Greek mathematics. Plans are underway for the MAA's 2nd Annual Mathematical Study Tour. It will be held in England, on May 20 - June 3, 2004. Full details, itinerary, and pricing will be available on October 1, 2003 at www.maa.org and in the October issue of FOCUS. For more information contact Lisa Kolbe at lkolbe@maa.org.

5. Before his recent death, Henry Alder endowed a new MAA teaching award to be known as the **Henry Alder for Distinguished Teaching by a Beginning College or University Mathematics Faculty**. The awards "are to be made to college or university faculty who have taught full time in a mathematics science in the U.S. or Canada for at least two but not more than seven years since receiving their Ph.D. and whose teaching has been extraordinarily successful. Their effectiveness in teaching undergraduate mathematics must be documented and shown to have influence beyond their own classroom." For more information contact Linda Sons, chair of the Alder Awards Committee by phone 815-753-6760 or by email at sons@math.niu.edu.

6. This year Project NExT celebrated its tenth birthday at the MathFest in Boulder. I had the opportunity to meet with the 70 new "sky dots." It was a joy to share ideas and experiences with them. I have a list of where all "dots" of all colors work; let me know if you are looking for a fellow dot.

Respectfully, ***Hortensia Soto-Johnson, Governor***

MAA's 2nd Annual Mathematical Study Tour
London, Oxford and Cambridge
May 20 to June 3, 2004

Take a mathematical tour of London, Oxford and Cambridge. Follow the footsteps of Newton, Hardy, Littlewood, Russell and Whitehead. For pricing information, itinerary and registration form, visit http://maa.org/england or contact Lisa Kolbe at lkolbe@maa.org or Paul Wolfson at pwolfson2@juno.com. The tour is limited to 30 participants.

The tour concludes with the additional opportunity to sail home (six day voyage) on The Queen Mary 2 which will debut in January 2004.

Section News

Adams State College

Cassie Williams is recipient of 5th Annual **Merle Milligan Award.** The Milligan Award recognizes the work of one student a year in the Adams State College Department of Mathematics, Computer Science and Physics. It comes with a $1000 grant to be used any way the recipient chooses. Adams State alumnus **Bob Weems** established the prize to honor former Adams State mathematics professor **Merle Milligan**. Weems said he was inspired by the unwavering high standards Milligan held up for his students. This year's recipient, Cassie Williams, came to Adams State College from Loveland, Colorado and currently teaches in a charter middle school in Fort Collins, Colorado.

Ron Loser retired after teaching 37 years for the ASC Mathematics Department. He will spend some of his free time this year providing statistical support for ASC's Title V grant and cleaning out his office (37 year's worth of collecting). During his tenure at ASC, Ron initiated the college's minor and major in computer science and was instrumental in writing nearly one million dollars worth of grants for computer equipment for the college and the school.

The math department is testing *WebWork* in three sections this fall, one section of finite mathematics and two of college algebra. *WebWorK* is a web-based method for delivering homework problems to students over the internet. It gives students instant feedback when they submit a problem. *WebWork* was developed at the University of Rochester (http://webwork.math.rochester.edu/) and is currently used by a number of schools across the country.

Arapahoe Community College

The Arapahoe Community College Mathematics Department hired two new full-time faculty members in 2002. **Karen Walters** has a MS in Accounting from the University of Hartford, MA in Mathematics from the University of Kentucky, a MEd in Secondary Mathematics from Harvard University, and a PhD in Mathematics from the University of Kentucky. Karen is expecting her first child in November. **David Heddens** has a MA in Chemistry from the University of Arizona and a MS in Statistics from Northern Illinois University.

LuAnn Malik (formerly LuAnn Linton) has left the department and is now teaching in a Pittsburgh area school district. **Dr. Erica Johnson** has assumed the Department Chair responsibilities.

The department has been privileged to participate in the MAA CUPM SAUM assessment workshop program offered through the MAA's Professional Enhancement Program (PREP). **Erica Johnson**

and **Jeff Berg** attended the first workshop in Burlington, VT in July 2002, and **Erica Johnson** and **David Heddens** attended the second workshop in Baltimore, MD in January 2003. The department also presented at a special SAUM session at MathFest in Boulder in August 2003. More details on department assessment activities can be found at http://www.arapahoe.edu/custom/assessmentmain.html.

Finally, the department has been awarded the responsibility of developmental mathematics offerings and now manages all courses with a MAT prefix at ACC.

Colorado College

We moved! Our new home in the recently completed Tutt Science Building gives us more space, better technology in the classrooms, and great new computer labs. This move also gave us the opportunity to honor the much loved and still very active **Dave Roeder** by naming our new seminar room for him in gratitude for the inspiration (both mathematical and otherwise) he has provided over the years. So we are especially looking forward this year to hosting the Spring Meeting April 16-17, 2004 in our new digs and we hope to see you there.

Kathy Merrill a long-time faculty member has relinquished the chair of the department and is taking a well-deserved leave during this year. **Steven Janke** is now filling her shoes as the new chair of the department. We are pleased that both **Travis Kowalski** and **Josh Laison** are back for another year, and **Mike Siddoway** has returned from his rejuvenating year-long sabbatical. **Marlow Anderson** was enjoying a half-year sabbatical last spring, but now resumes his position as assistant chair (aka “department stool”).

We hired a new faculty member in our department, **David Brown**, an applied mathematician interested in biology. David is finishing work on an NSF grant and will be joining us in January. We will also have several visitors again this year: **Stoyan Kaprolov** (from the Technical University in Bulgaria), **Wojciech Kosek** (completed his Ph.D. at the University of North Dakota), **Gene Abrams** (long-time visitor from UCCS), and the irrepressible **Robin Wilson** (from the Open University in England).

Colorado School of Mines

Ardel (Oscar) Boes has completed his transitional retirement. He has served the department as professor and, for many years, as department head. Many folks know of his running accomplishments and his many championships in burro racing. He continues coaching the cross country team.

Barbara Bath and **Robert Underwood** have started the transitional retirement track. They are both teaching this fall semester. **Lars Nyland** has joined the faculty as an Associate Professor. He came from the University of North Carolina. **Roman Tankelevich** has been ap-

pointed as a lecturer in the department. **Scott Strong** and **Terry Bridgman** have new appointments as instructors.

Barb Moskal won the CSM Alumni Teaching award in the spring. **Hugh King** was the MAA Section Distinguished Teaching Award winner.

Our enrollment is way up, but we are holding our own.

Colorado State University—Pueblo

We have changed our name! We also promoted three mathematics faculty in Spring 2003: **Bruce Lundberg** to full professor, **John McArthur** and **Karly Oty** to associate professors.

Mesa State College

Natalie Puckett was a high school student concurrently enrolled at Mesa State in 2002-2003. She presented a talk, "Center of Art", at the MAA MathFest in Boulder. Her talk was judged one of nine (out of 53) "Best Student Presentations" for this year's MathFest, earning her a cash award of $150.00. Natalie's presentation described how to count the number of ways to draw "unique" artwork designs by connecting vertices on a graph with nine vertices (eight arranged in a circle with one in the center). She completed this work under the direction of **Dr. Tracii Friedman** (Mesa State College) and **Dr. Cindy Wyels** (California Lutheran University/Visiting Scholar at Mesa State during Spring 2003). Natalie is now a Freshman at Colorado School of the Mines.

Mesa State student **Nathan Atkinson** also presented a talk at the MAA MathFest in Boulder, entitled "Haar Wavelets and the Orthogonal Decomposition Theorem." This work was directed by **Dr. Phil Gustafson** at Mesa State College .

Metropolitan State College of Denver

Ken Rager and **Gail Gliner** retired in 02-03. **Judy Gurka** in our computer science program was awarded tenure in 02-03.

Jim Loats is continuing part-time as consultant to the Denver Public School system for 03-04 working on curriculum revision in mathematics.

Our Computer Science program, under the direction of **Noel LeJeune** and **Hector Urroz**, is in year two of a three-year $283,000 grant from the Colorado Institute of Technology (CIT) that enables MSCD to provide coursework in technology areas of TCP/IP Networking, Dynamic Website Programming, UNIX System Administration, Database Application Development, Advanced Software Engineering, and Computing Technology Literacy. Upon completion of approximately 15 credit-hours of coursework, students are awarded Certificates from the CIT. We currently have 39 students working toward certificates with 18 students nearing completion of their required courses.

The Department was awarded a $100,000 grant from the Sun

Foundation to improve the participation of under-represented groups in computer science. Under the direction of **Jody Paul, Steve Beaty** and **Aaron Gordon**, programs targeting high school teachers and students in the Denver metro area will be developed, as will joint efforts with the Denver Public Schools Computer Magnet program and Boulder High School.

United States Air Force Academy

The Department of Mathematical Sciences continues to push hard to integrate technology into all of its core mathematics courses. The Calculus I, II and III courses, as well as the Differential Equations and Advanced Engineering Mathematics courses are making extensive use of laptop computers on a daily basis. Technology use covers a wide range from Excel, Mathematica, and Matlab, all the way to course-specific applets and free web-based tools. Our emphasis is on using technology for exploration, discovery, problem solving and as an aid to visualization, in addition to the traditional computational uses. The nature of today's available software allows taking much more of a modeling approach to the topics covered. As a result we are requiring interdisciplinary projects in all courses and an increased emphasis on writing to explain mathematical concepts. We see our reformed curriculum as keeping with the intent of the MAA guidelines for undergraduate mathematics curriculum and as strongly supporting our Engineering departments with ABET accreditation.

University of Colorado at Boulder

The year 2003 was a big one for mathematics meetings in Boulder; the MAA summer MathFest July 30- August 2, and the Joint Central and Western Section meeting of the AMS, October 2-4.

Arlan Ramsay retired this past spring. And we welcome two new faculty members this fall: **Richard Green** (algebra and combinatorics), and **Agnes Szendrei** (algebra, combinatorics and logic).

Longtime MAA Members Honored

Each spring, the section recognizes some of our longtime active MAA members. At the 2003 Section Meeting Banquet, two individuals were officially recognized as "new" twenty-five year supporters of the MAA: **Curtis L. Card** and **Suzanne Wolfram**. Each received a certificate honoring their long-term commitment to the mission of the MAA. Congratulations, Curtis and Suzanne!

Is news from your school missing?

Send your news to your department liaison now with a request to forward it to the Newsletter Editor for inclusion in the next issue!

Math of Ages - 03

1003

- Al-Biruni observes lunar eclipses in Gurgan on Feb 19 and Aug 14.

1303

- Chu Shih-Chieh writes *Szu-yuen Yu-chien* (*The Precious Mirror of the Four Elements*), in which he includes a number of methods for solving equations up to degree 14 and uses the symbol O for zero.

1503

- Copernicus decides formally to obtain his doctorate in Canon Law.
- Charles de Bouvelles publishes *Goemetricae Introductionis*. He tells of his attempts to solve the problem of squaring the circle.

1603

- Pietro Cataldi finds the sixth and seventh perfect numbers, 216(217 - 1) =8,589,869,056 and 218(219 - 1) = 137,438,691,328.
- The Accademia dei Lincei is founded in Rome.
- François Viète dies on 13 December in Paris, France.

1703

- Sir Isaac Newton is elected president of the Royal Society for the first time; he is re-elected each year until his death.
- Luigi Grandi's study of the *Witch of Agnesi* introduces Leibniz's calculus into Italy.
- Filippovich Magnitsky writes *Arithmetic*, the first mathematics guide published in Russia.
- John Wallis dies on 28 October in Oxford, England.
- Robert Hooke dies on 3 March in London, England.

1803

- Lazare Carnot publishes *Géométrie de position,* in which sensed magnitudes are first used systematically in geometry.
- André Marie Ampère submits a treatise on probability, *The Mathematical Theory of Games,* to the Paris Academy.

1903

- B. Leendert van der Waerden is born on 2 February in Amsterdam.
- Frank Plumpton Ramsey is born on 22 February in Cambridge.
- *John von Neumann* is born on 28 December in Budapest, Hungary
- Bertrand Russell publishes *Principles of Mathematics*.
- Edmund Georg Hermann Landau gives a proof of the prime number theorem that is simpler those given by Vallee Poussin and Hadamard in 1896 .
- Hilda Phoebe Hudson was bracketed with the 7th Wrangler In the examinations of 1903; as was then customary, her achievement was not officially classed. ***Janet Barnett, CSU-Pueblo***

* Historical details courtesy of St. Andrew's website, http://www-groups.dcs.st-and.ac.uk/~history.

Pike's Peak Regional Undergraduate Mathematics Conference

Funding from the MAA Undergraduate Mathematics Conferences will help support the first annual Pikes Peak Regional Undergraduate Mathematics Conference (PPRUMC). It will be held February 28, 2004 at Colorado State University-Pueblo. The PPRUMC is a one-day mathematics conference that will be held each spring in one of four institutions in the Pikes Peak region of Colorado. The host institutions include: Colorado College (CC), Colorado State University-Pueblo (CSU-Pueblo), University of Colorado at Colorado Springs (UCCS), and the United States Air Force Academy (USAFA).

The focus of the conference is to give undergraduate mathematics students the opportunity to present their classroom, independent study research or REU projects in a professional setting. This is also an occasion for students to become acquainted with other students, to become aware of undergraduate opportunities in mathematics and to investigate the possibility of graduate school.

Faculty, please encourage your students to present at the first Pikes Peak Undergraduate Research Mathematics Conference. Below is the anticipated schedule.

9:00 - 9:15	Registration
9:15 - 9:30	Welcome & Opening Remarks
9:30 - 10:20	Keynote Speaker
10:30 - 11:50	Parallel Sessions (each session will be 15 minutes with 5 minutes in between sessions)
12:00 - 1:00	Lunch **(Free to presenters)**
1:00 - 2:00	Panel Presentation *"Planting the Graduate School Seed"*
2:00 - 4:30	Parallel Sessions (each session will be 15 minutes with 5 minutes in between sessions)
4:30	Closing Remarks
5:30	Optional pizza & ice cream party at a local establishment

Travel funds are available for students traveling longer distances. For more information about travel funds or the conference contact:

Hortensia Soto-Johnson at hortensia.soto@colostate-pueblo.edu.

Funding through the MAA NSF-RUMC (NSF Grant DMS 0241090)

Tensia Soto-Johnson, CSU-Pueblo

Pikes Peak Regional Undergraduate Mathematics Conference

Speaker Registration Form - Submit by January 26, 2004

Student Name_____

Affiliation_____

Mailing Address _____
_____

E-Mail Address_____

Phone Number_____

Faculty Sponsor & E-Mail_____
_____

Project/Research Title_____
_____

Abstract (100 words or less)_____
_____
_____
_____
_____

Special Equipment Needs_____

Schedule Preference Request_____

T-Shirt Size (available if sufficient funds) _____

PLEASE RETURN THIS FORM OR AN E-MAIL EQUIVALENT TO:
(Note: e-mail submissions are strongly preferred)

Hortensia Soto-Johnson
Department of Mathematics
Colorado State University-Pueblo
Pueblo, CO 81001

hortensia.soto@colostate-pueblo.edu

Funding through the MAA NSF-RUMC (NSF Grant DMS 0241090)

Colorado College to Host 2004 Meeting

The Program Committee is pleased to announce the results of its preliminary planning for the 2004 Spring Section Meeting, to be held at Colorado College on April 16 - 17.

In keeping with tradition, the meeting will officially open with a special address by our most recent Burton W. Jones Distinguished Teaching Award Recipient, **Dr. Hugh King** of the Colorado School of Mines. The citation of Hugh's outstanding accomplishments in teaching on page 1 of this newsletter provides ample testimony to this much-deserved recognition.

This year's Invited Keynote Speaker will be **Dr. Lowell Beineke**, current editor of the *College Mathematics Journal* and Schrey Professor of Mathematics at Indiana-Purdue University at Fort Wayne. Dr. Beineke will tell us about *Splendor in the Graphs* at Friday's Banquet; his Saturday Keynote Address is tentatively titled *Graphs are Finally Surfacing*.

A special featured address will also be delivered on Friday by **Dr. Robin Wilson** of the Open University (England). Internationally recognized for his work in the history of combinatorics (as well as for his colorful clothing), Robin can always be counted on for a lively talk. His topic at this year's meeting will likely be something to do with Steiner triple systems and the history of designs.

A new program feature planned for this year will be a **Section NExT** workshop, organized by **Tensia Soto-Johnson** (CSU-Pueblo) and **Josh Laison** (CC) and modeled after the successful **New Experiences in Teaching** national program. Recently hired teachers, soon-to-be doctoral graduates, and their department chairs should watch for more details in the spring newsletter, or contact Tensia directly.

Also watch for information on a panel/discussion session entitled **Involving Your Students in Mathematical Research**, which is sure to be of interest to all of us who work with undergraduates. Program co-chairs **John Watkins** (CC) and **Josh Laison** (CC), who will be organizing this session, invite your suggestions for other panel/discussion sessions that would be of particular interest to our section membership.

Preceding the program on Friday morning, **Steven Janke** (CC) and **Fred Tinsley** (CC) will conduct on a workshop on **Issues in Teaching Statistics**. This workshop will discuss how the mathematician's perspective helps or hinders the teaching of modern statistics. All current and prospective teachers of statistics are encouraged to attend. Workshop times and registration fees will be announced in the spring newsletter.

Rounding out the scientific program will be talks contributed by **intelligent, involved and inspirational people like you!**

First Call for Papers

The **deadline** for submission of abstracts for the 2004 Spring Section Meeting is **March 5, 2004.** Proposals received from students and MAA members after this date will be scheduled on a first-come, first-scheduled, space-available basis. Proposals from non-members sponsored by MAA members must be received by the deadline.

Although talks on all topics mathematical are welcome, special sessions are being organized around the following themes:

Interesting Ideas in Number Theory and Geometry*:*
Organized by Jane Arledge (Mesa) and Rob Tubbs (CU-Boulder)

In this session, we will share interesting tidbits of knowledge and explore connections in the broad areas of number theory and geometry. Talks should be addressed to general mathematics faculty.

History of Mathematics and Its Use in Teaching
Organized by Janet Barnett (Colorado State University-Pueblo)

This session invites talks on historical topics and their use in teaching mathematics, especially in courses other than a history of mathematics course.

Student Papers
Organized by Travis Kowalski (Colorado College)

Are you supervising a student research project? Encourage your student to present their results at the meeting! Registration is free for all students, and student speakers receive a complimentary one-year membership in the MAA, including the journal of their choice.

The default talk length will be 20 minutes, with every effort made (within the constraints of the schedule) to accommodate requests for longer talks and other scheduling preferences. **Please submit special requests early.**

For non-electronic submissions, please use the Speaker Response Form located on the following page. **E-mail equivalents of this form are encouraged!** Please be sure to include all requested information if using e-mail.

(see http://www-math.cudenver.edu/~maa-rm/rmnewslett.html)

Please direct questions and suggestions about the program, including ideas for panel discussion, to Program Chair **John Watkins** at jwatkins@ColoradoCollege.edu, 719-389-6542.

Speaker Response Form - Due March 5, 2004

Speaker Name _____

Affiliation _____

Mailing Address (Please include affiliation if needed for U.S. mail)

_____

_____

Email Address _____Phone_____

Faculty Sponsor* _____

MAA Member Sponsor**_____

Title:_____

Abstract (100 words or less): _____

_____

_____

_____

Is this talk intended for any of the following special sessions?

Interesting Ideas in Number Theory and Geometry _____
History of Mathematics _____
Student Paper Session _____
Students: Are you a graduate or undergraduate? _____

Special Equipment Needs: _____

Schedule Preference Request: _____

Special Talk Length Request: _____

PLEASE RETURN THIS FORM OR AN E-MAIL EQUIVALENT TO:
(Note: e-mail submissions are strongly preferred.)

John Watkins
Department of Mathematics
14 East Cache La Poudre
Colorado Springs, CO 80903-3294
jwatkins@ColoradoCollege.edu

* For student speakers only ** For non-MAA members/non-students only

Nominees Sought

Nominees for Section Chair Solicited

Nominees are now being sought for the position of 2005-2007 Section Chair. This individual will serve a one-year term as Chair Elect beginning April 2004, as well as a one-year term as Past Chair ending April 2008. In addition to providing leadership for the section, the Section Chair serves on the Section Executive and Program Committees, handles all correspondence between the national MAA and the section, and oversees appointments for the Awards Selection and Nominating Committees.

The election will take place at the 2004 Spring Section Meeting at Colorado College. If you would like more information about the responsibilities of the position, please contact the Section Secretary.

To make a nomination, please contact the Nominating Committee Chair **Bill Briggs**, UCD, wbriggs@math.cudenver.edu, 303-556-4809.

New Deadlines for Distinguished Teaching Nominations

Each year, the section recognizes one outstanding teacher of collegiate mathematics with an award named in honor of Burton W. Jones, a life long advocate of excellence in teaching at all levels. In addition to a $50 honorarium, the recipient receives a certificate and an invitation to deliver the opening lecture at the next Section Meeting. The section recipient also becomes the section's nominee for the Deborah and Franklin Haimo Awards for Distinguished College or University Teaching of Mathematics. These national awardees (at most three) are honored at the MAA winter meeting with a certificate and $1000 check.

Due to changes at the national level, the section has been able to extend nomination deadlines for next year's award. To begin the nomination process, nominators simply submit the **one-page nomination form** (available on the section website) by **1 December 2003**. **Complete nomination materials** should then reach the section secretary by **29 January 2004**. These materials are limited to a narrative description of nominee's credentials (not to exceed five pages), no more than three additional pages of evidence to document the nominee's teaching success, and as many as five letters of recommendation. All nominators will receive a certificate of appreciation from the section in recognition of their efforts to support the section mission of promoting excellence in teaching; nominators and nominees will also receive free meeting registration at the next section meeting.

Any section member may nominate any other section member, including those who teach at another institution. Nominees should be widely recognized as extraordinarily successful at the post-secondary

level, have documented teaching effectiveness, where “teaching” is interpreted in its broadest sense, have had influence in their teaching beyond their institution, and be recognized for their ability to foster curiosity and generate excitement about mathematics in their students. A nominee must also be assigned at least half time to the teaching of mathematics in a U.S. or Canadian college or university, and have at least five years teaching experience. We know there are many extraordinary teachers within our section who deserve the honor of being nominated for this award --- nominate one today!!

Grants Available

Section Activity Grants Available

Applications for Section Activities Grants are again being accepted to assist Section members with projects in support of the Section Mission. Proposals may request up to $500; matching funds are preferred, but not required.

The project director(s) must be a current member(s) of MAA, and the proposal must be clearly tied to one or more of the Rocky Mountain Section Mission Goals. A copy of these goals appears on the inside back cover of this newsletter. All applications must include the following:

(a) Description of project (no more than one page);

(b) Statement of how project supports Section Goals (no more than one page);

(c) Estimated budget, including description of matching funds available, if any;

(d) Vitae of project director(s).

Upon completion of the project, the director(s) of the funded projects are required to file a brief report (no more than one page), and to present a project report at the next meeting of the Section.

Two non-officer members of the Section will review applications; the Executive Committee on the basis of the reviewers’ reports will make final funding decisions. Although applications are accepted at any time, please note that notification of funding decisions may take up to two months following receipt of the application by the section secretary.

Student Recognition Grants Available

The establishment of a Student Recognition Grant Program was approved by the section membership at the 2003 Annual Business Meeting. In support of this program, the Section will set aside $500 every calendar year. From these monies, the Section will make grants for the purpose of recognizing superior achievement in mathematics on

the part of (1) students enrolled in post-secondary institutions within the geographic region served by the Section and (2) high school students whose school districts, or other appropriate political subdivisions, substantially intersect the geographic region served by the Section.

Proposals for such grants must

1. Originate from a member of the Rocky Mountain Section of the Mathematical Association of America on behalf of an agency, institution, or organization whose stated purposes are consistent with recognizing or encouraging superior academic achievement at the high school level;
2. Be in the hands of the Chair of the Rocky Mountain Section no later than March 15 of the year in which the proposed recognition is to be made;
3. Include the criteria under which superior achievement in mathematics is to be recognized, together with the time and the manner of such recognition;
4. Report, insofar as possible at the time of the proposal, other potential sources of support together with proposals or requests made or intended; and
5. Be limited to a maximum amount of $250.

The Executive Committee will review all proposals for grants under this policy and will make such grants as, in its sole judgment, it deems proper. In keeping with the section mission, funding priority will be given to grants that include recognition of undergraduate students. Funding decisions will be announced no later than the Annual Business Meeting of the Section. Monies not expended during any particular year shall revert to the Section's general fund.

Section Logo Shirts Available

First unveiled at the 2002 Spring Section Meeting in Laramie, Rocky Mountain Section Logo shirts are now available in two styles: a **long-sleeved button-front denim shirt** and a **short-sleeved white polo shirt**. Both styles are 100% cotton and feature the section logo in high-quality color embroidery on the front left.

In order to promote awareness of the MAA and the Rocky Mountain Section, prices have been set in order to recover production costs, rather than as a section fund-raiser: just **$35 for denim** and **$30 for polo**. Proceeds, if any, will be used to support section activities.

If you are interested in obtaining one of these special (limited availability!) shirts for yourself, a colleague, a friend, a student, or a loved one, please contact the section secretary**, Janet Barnett,** with information on desired quantities and sizes.

Voluntary Section Dues

Many thanks to those members who have made a voluntary dues contribution to the section along with your 2003 Spring Meeting Registration!

Although the section has found itself in good financial health in recent years, additional funds are always needed in order to pursue special initiatives suggested by the membership. The successful John Fauvel Memorial Conference and William Dunham Special Lecture, both supported in part by the Section Activity Grant program, provide excellent examples of what can be done with even a small amount of funding to support our section mission and goals.

A voluntary section dues contribution from you now can help build up funds in support of similar initiatives!

To submit your dues, simply return the coupon below with a check for any amount you wish - every little bit will help, and all contributors will receive a letter acknowledging the contribution for their financial records.

MAA Rocky Mountain Section Voluntary Dues Contribution Form

Name_____

Address_____

_____ **ZIP** _____

Please indicate in the space provided how you would like your dues to be used:

_____	Undergraduate Student Initiatives
_____	Graduate Student Initiatives
_____	Burton W. Jones DTA Fund
_____	Section Activity Grant Program
_____	Wherever needed most
_____	Other:_____
_____	**TOTAL DUES PAID** ($10 recommended)

Please make checks payable to: **MAA Rocky Mountain Section** and return to: Janet Barnett; MAA Rocky Mountain Section Treasurer; Department of Mathematics & Physics; Colorado State University - Pueblo, 2200 Bonforte Boulevard; Pueblo, CO 81001-4901.

2003 Section Meeting Report

The United States Air Force Academy hosted the 2003 Annual Spring Section Meeting over the weekend of April 25-26. The meeting was held jointly with the Service Academies Student Mathematics Conference. The 165 participants included 45 students and representatives from nearly every institution in the section, along with cadets and midshipmen from the USAFA, the U.S. Military Academy, the U.S. Coast Guard Academy, and the U.S. Naval Academy.

The meeting was officially opened with a warm welcome from **BGen David Wagie**, Dean of the Faculty at the Academy. Our 2002 Burton W. Jones Distinguished Teacher Award Recipient **Gene Abrams** of the University of Colorado at Colorado Springs, then shared some perspectives on "passion in teaching" in his talk *Teaching Mathematics: Sharing Passions, Sharing Perspectives*, inspired by his own experience in teaching an interdisciplinary senior capstone seminar.

Later on Friday afternoon, **Dr. William T. Trotter** (Georgia Institute of Technology) shared one of his own passions with participants in his keynote address *Planar Graphs and Partially Ordered Sets*. The enticing glimpse of the elegant and important interplay between graphs and partially ordered set which he provided made it easy to see how he became enthralled with this area of mathematics.

Executive Director of the MAA **Dr. Tina Straley** (Kennesaw State University) shared her passion for professional service with meeting participants in two invited talks. Friday's banquet address, *Mathematical Mentors*, spotlighted outstanding mathematical mentors who use their own passions to inspire others. Her Saturday Keynote Address, *Undergraduate Mathematics Today and Tomorrow*, shared information on opportunities being promoted and supported by the MAA to revitalize undergraduate mathematics and to attract students to majors that lead to exciting, and passionate, careers.

The program also included 54 contributed paper talks, including 29 by students [see pages 22-23], a panel session on teaching introductory statistics courses, and a workshop on **Writing Math Applets in Java Workshop**, led by **Dr. Jim Rolf** of the Air Academy. Other meeting features included the usual early morning Business Meeting [see pages 24-25], a Department Chairs Luncheon hosted by USAFA's Department Chair **Col. Daniel Litwhiler**, and a meeting of Department Liaisons.

The Section wishes to thank **Alan Bricker (International Thomson Publishing), Diane Basile (Prentice Hall Publishing)**, and **Wesley Lawton (John Wiley & Sons)** for their support at the meeting. Thanks also go out to the entire **United States Air Force Academy**

Mathematics faculty for their many hours of volunteer work and gracious hospitality throughout the meeting, and especially our program chair **Mike Brilleslyper** for his attention to detail and commitment to the meeting's success. Congratulations on a very fine meeting!

Contributed Papers

INNOVATIVE TEACHING METHODS SPECIAL SESSION

Jeff Berg and **David Heddens,** Arapahoe Community College
Discipline Level Mathematics Assessment at ACC

Michelle Ghrist, U.S. Air Force Academy
Incorporating Connections between Mathematics and the Humanities into the Classroom

Jeff Grobman, U.S. Air Force Academy
The Role of Competitive Games in Teaching Undergraduate Mathematics

Tracy Lawrence and **Jeff Berg,** Arapahoe Community College
Graphing Calculator Techniques for Intermediate Algebra

Robert A. Liebler, Colorado State University
The minimal polynomial in freshman matrix algebra

Jim Rolf, U.S. Air Force Academy
Applied Projects in Calculus

Beth Schaubroeck, U.S. Air Force Academy
Writing Assignments in Calculus—Examples and Lessons Learned

Linda Sundbye, Metropolitan State College of Denver
On Developing and Teaching a Course in Chaos and Nonlinear Dynamics

Kenneth Williams and **Alice Franey,** USAFA Prepatory School
Equal Grades for Equal Work!

INTERESTING IDEAS IN NUMBER THEORY AND GEOMETRY SPECIAL SESSION

Steven C. Leth, University of Northern Colorado
An illustration of rational vs. irrational numbers

William C. Ramaley, Fort Lewis College
Rituals and Geometry

William F. Trench, University of Texas, San Antonio (Emeritus)
A Simple Extension of Szego's Distribution Theorem

Rob Tubbs, University of Colorado
Transcendental Numbers and Lengths of Arcs

GENERAL SESSIONS

Janet Barnett, University of Southern Colorado
Mathematicians in War and Peace: The World Wars

Bill Briggs, CU-Denver

Domino Chain Reactions

Kenneth R. Driessel, Colorado State University

Some algebraic questions concerning eigen-problems.

George W. Heine III, Math and Maps

Mathematicians in War and Peace: The French Revolution War

Roger Johnson, South Dakota School of Mines & Technology

Some 'Lights Out' Puzzles

John Martin, University of Colorado, Boulder

Mathematicians in War and Peace: Are war/peace discussions appropriate topics in the mathematics classroom?

Kyle Riley, South Dakota School of Mines and Technology

Concepts Inventory Assessment in Probability and Statistics

Jim Seibert, Regis University

Reed-Solomon Codes and Compact Discs: How Abstract Algebra Helps You Hear The Flaming Lips

Mary Sloan, Arapahoe Community College

Sharing Good News of the Colorado Community Colleges

Igor Szczyrba, University of Northern Colorado

On Consequences of Rapid Rotations of a Human Head

Donald Teets, South Dakota School of Mines and Technology

Transits of Venus and the Astronomical Unit

PANEL DISCUSSION

War Stories, Case Studies and Philosophies of Teaching the Introduction to Statistics Course

Roger W. Johnson, University of Southern Colorado

Hortensia Soto-Johnson. University of Southern Colorado

STUDENT PAPERS

Nathan Atkinson, Mesa State College

Haar Wavelets and the Orthogonal Decomposition Theorem

Douglas Baldwin, Colorado School of Mines

Symbolic computation of exact solutions expressible in hyperbolic and elliptic functions for nonlinear PDEs

Lisa Brassell and **Karin Theisen ,** Regis University

The Verhoeff Check Digit Scheme

Ace Castle, Aaron Holler, Benjamin Pablo Smith, John Van Duzee, U.S. Coast Guard Academy

Response Boat Mix Allocation for San Francisco Bay

John. W. Councill, U.S. Military Academy

A mathematically modeling approach to national healthcare reform

Leslie G. Craig, U.S. Military Academy

Using techniques of cellular automation to compute the derivative of a polynomial

Kyle Deems, Kathryn High, Benjamin Marecki, Cara Norman, U.S. Coast Guard Academy

Maximization of Aviation Student Throughput for the HH-65

Darryn Frafford, South Dakota School of Mines and Technology

Fractional Calculus and Its Applications

Branden Graversen, U.S. Military Academy
The Value of information

Dustin Greenhill, U.S. Military Academy
Locating Vaccine Stockpiles and Distribution Points

Michael Hamilton, U.S. Military Academy
Acquiring target points in images

Chris Harder, Metropolitan State College of Denver
The Fast Fourier Transform

Katrina Hebb, Colorado Christian University
Quilting and Mathematics: Symmetry and Tiling in Women's Art

Peter Hefley, U.S. Air Force Academy
Crypto 101: RSA Cryptography
Crypto 401: Elliptic Curve Cryptography

James King, Regis University
TSP: An Alternative Algorithm for the Pessimist Peddler

Kaloyan Kapralov, Colorado College
The Knapsack Problem and its Applications in Complexity-Based Cryptography

Robert E. Kirchhoff and **Taylor R. Rohde** Regis University ,
A Computer Search Engine to Optimize Expected Value μ for Bounded Signal to Noise μ/σ

Oscar Levin, University of Northern Colorado
Twin Relative Primes

Jordan Levine, U. S. Naval Academy
The Validity of Geometric-Brownian Motion with Respect to Black-Scholes Equation

Lucas Martin, U.S. Naval Academy
Analyzing the Campaign Game

Dan J. McConnel, U.S. Military Academy
Analyzing the Small Aircraft Transportation System Using a Graph Theoretic Model

Nathan Murphy, U.S. Air Force Academy
Stick Number of Knots

Brian Ray, U.S. Military Academy
Consequences of Fractal Dimension: A Study of Ideal, Random, and Natural Cases

Douglas Rosenstock, U. S. Naval Academy
Comparing Absorbing Markov Chains and Computer Simulation in Creating a Movement Algorithm for Agent Based Models

Darrell Stepter, U.S. Military Academy
Evasive Flight Patterns

Jamie Timm, South Dakota School of Mines and Technology
Predicting Sunrise and Sunset Times

Deanna Turk, University of Northern Colorado
Leibnitz Harmonic Triangle

Minutes: 2003 Section Business Meeting

Section Chair Lou Talman (Metro) called the meeting to order at 8:05, April 26, 2003. Minutes of the meeting for the preceding year were approved without amendment.

Nominating Committee Chair Jane Arledge (Mesa) reported that there were two candidates for Section Vice-Chair were introduced: Jeff Berg (Arapahoe) and Rick Reeves (Red Rocks). As there were no further nominations from the floor, ballots were then distributed.

The financial report was presented by Section Treasurer Janet Barnett (USC). In summary, section holdings as of 31 December 2003 were $10219.28, with revenues totaling $6669.57 and expenses totaling $6213.51 for the 2003 calendar year. She further reported that, after paying Spring Newsletter costs, the section held $9764.20 in interest-bearing accounts on 31 March 2003, of which $3345.61 is encumbered in some form. Although the total holdings are down slightly from the $9791.07 that the section held as of in 2 March 2002, Barnett noted that the amount currently encumbered is slightly less than was encumbered at the same time a year ago. She added that expenses related to the USAFA section meeting were as yet unknown, but some profit is expected. The UW meeting in 2002 also showed a profit, and the voluntary dues contributions program continues to bring in further revenue. Copies of a more detailed financial report are available from Barnett.

Talman reported the following items from the Section Executive Committee:

- Beginning in Fall 2003, Linda Sundbye (Metro) has agreed to accept responsibility for editing the newsletter on a trial business; the purpose of this trial period is to determine if it would be feasible to separate the responsibility for newsletter editing from the other duties of the secretary/treasurer.
- Like many other MAA sections, we continue to receive only a small number of nominations for the Section Distinguished Teaching Award. All members of the section are encouraged to consider nominating a colleague.
- Section Logo Shirts are now available in two styles: short-sleeved white polo shirts ($30) and long-sleeved blue denim button-front shirts ($35). Prices have been set to recover production costs. In response to a question about how to obtain a shirt after the meeting, Talman reported that shirts could be shipped; requests should go do the section secretary. Posters featuring the Section Logo which were produced by LuAnn Linton and Pat Hauss of Arapahoe Community College are avail-

able only at the meeting at a cost of $10 each.

- A proposal from the Executive Committee for the establishment of a Student Recognition Grant Program will be presented for membership approval later during the meeting. During the 2002-2003 academic year, the Committee approved an expenditure of $250 in support of 2003 Colorado Mathematics Award Reception organized each year by Dick Gibbs (Fort Lewis).
- Registration fees for the 2004 Annual Section Meeting were approved at the same level as the USAFA meeting.

Talman also reported the following items from the Section Officers Meeting in Baltimore:

- The national Board of Governors has voted to require that substitutes for an absent governor at a Board meeting be a former governor.
- MAA is sponsoring an electronic course entitled "Mathematics for Business Decisions", designed and facilitated by faulty from the University of Arizona in Tucson. Sections can arrange for workshops on the course by contacting Don Albers at the MAA. Normally, the cost for these is around $20/person.
- MAA has received funding from the NSF to help institutions establish "Undergraduate Mathematics Conferences". The deadline for the first round of applications is 1 May 2003; there will also be a fall deadline. Tina Straley (MAA Executive Director) commented that the goal is to help institutions or groups of institutions establish on-going program; she added that the conferences could be held in conjunction with section meetings.
- The American Mathematical Competition is in need of help in two areas: exam instruction and increasing participation. Those interested can obtain more information through MAA Online.

Talman closed his report with reflections on his two years as Section Chair and thanked the section membership for the opportunity to serve in this capacity.

Section Governor Tensia Soto-Johnson (USC) reported the following from the national Board of Governors.

- The use of electronic voting has been approved and is being used for the first time during Spring 2003 National Elections. The system appears to be working smoothly. It is also now possible to purchase books on-line, although minor difficulties have come up for individuals with hyphenated names.
- Summer PMET workshops took place in 2002 and are planned for 2003; flyers are available in the registration area.
- The Advisory Board for the Carriage House Project has been charged to focus on programmatic issues and will begin meeting this summer; Soto-Johnson is a member of this board.

- The 2004 MathFest will be held in Boulder on July 31-August 2; the Board of Governors will meet on July 30th in Boulder.

Dick Gibbs (Fort Lewis) reported on student competitions results in the section:

- AMERICAN MATHEMATICAL COMPETITION (AMC): At the 8th grade level, the top Colorado score on the AMC-8 was obtained by a 6th grader from Steamboat Springs, who completed one of the few perfect papers in the competition. At the 12th grade level, the top Colorado score on the AMC-12 was a sophomore from the Boulder area, who completed a nearly perfect paper. Four Colorado students qualified for the AIME, which is an invitation-only competition. Unfortunately, AKAMAI Foundation funds are no longer available to support the competition.
- MATHEMATICS MODELLING COMPETITION: A CU-Boulder team coached by Anne Dougherty earned the highest possible designation of "Outstanding" and was also selected for one of the national named prizes at the undergraduate level. A home-schooled team from the Boulder area also earned an "Outstanding" recognition on the high school level modeling competition. Since only a few schools in the section competed in the high school competition, we may wish to find ways to encourage more schools to take part.
- PUTNAM EXAM: A team from CSU placed 12th overall in the competition. The three members of the team were also the top three individuals in the state and the section.
- The Colorado Mathematics Award Reception will take place in Denver on May 15th in order to recognize the top performers on the above exams; funding is no longer available from either AKAMAI or Storage Tech for this event.

Reporting on the Association's current financial outlook Tina Straley (MAA Executive Director), noted that publications continue to be strong, although there is a slight downturn in membership and in contributions. It is as yet unclear how an expected decrease in travel funds at colleges will impact meeting attendance.

Talman presented a proposal developed by the Executive Committee for the establishment of a Student Recognition Grant Program in the section. In response to a question about the proposal's rationale, Talman remarked that the section has financially supported the Colorado Mathematics Awards since 1997 and the Executive Committee felt that there should be a policy in place for handling similar requests, should they be made. Barnett added that the Executive Committee has been seeking a means to encourage individuals residing in the section's other states to find ways to recognize student achievement outside of Colorado for some time; the proposed program would alert the membership to the availability of section support for this purpose. The pro-

posal was approved.

Election results were announced by Arledge; Jeff Berg was elected to serve a two-year term as Section Vice-Chair beginning in April 2003.

Various announcements were made by Talman, including the selection of Hugh King of the Colorado School of Mines as the 2003 Burton W. Jones Distinguished Teaching Award Recipient, dates of upcoming meetings, and information on MAA's CUPM Curriculum Guide Project.

Talman reported on the status of a proposal to expand an academic journal currently produced by MSCD into a Refereed Section Conference Proceedings as a service to the section membership at-large. Although the Executive Committee was charged with negotiating details with MSCD at the 2002 Business Meeting of the Section, the individuals who were responsible for following up on the proposal were unable to do so due to other commitments during the 2002-2003 academic year. It was the consensus of the membership in attendance that the proposal should be made a priority for the coming year. Talman indicated that he would take responsibility for ensuring that a revised proposal was prepared by the Executive Committee no later than September 1, allowing for an update to appear in the Fall Newsletter.

Talman led a discussion about the Undergraduate Mathematics Conference grants now available from the MAA (with funding from the NSF). Mike Brilleslyper (USAFA) and Tensia Soto-Johnson (USC) reported that, along with Gene Abrams of UCCS, they planned to submit a proposal during the first funding round for the establishment of a Pikes Peak Regional Conference; conference hosting would rotate between institutions in the Pikes Peak area, with the USAFA hosting in years that coincided with the Service Academies Undergraduate Conference at the Academy. Arledge remarked that it would be difficult for students off the Front Range to participate in this conference, especially if they were also intending to attend the Section Meeting in April; she suggested that the section might want to submit a proposal that would support student activities at the Annual Section Meeting instead. Barnett agreed that such a proposal would be useful in expanding student participation at the meetings, but noted that the May 1st deadline was not amenable to developing such a proposal for the first funding round; she suggested that the section consider submitting a section-wide proposal during the fall funding round instead, in addition to the Pikes Peak proposal. The discussion was ended at this point due to time constraints.

The Section approved a motion to thank the United States Air Force Academy and Program Chair Mike Brilleslyper for their efforts in organizing and hosting the meeting. Brilleslyper moved to thank Janet Barnett for her assistance with meeting arrangements. The business meeting was adjourned by Talman at 8:55 a.m.

Respectively submitted, ***Janet Heine Barnett, Secretary/Treasurer***

About Our Logo

The logo for the Rocky Mountain Section of the Mathematical Association of America was created in by Mark Petersen in 2001. A graduate student in the Applied Mathematics Department at the University of Colorado at Boulder at that time, Mark says of his design:

> "The mountain symbols were chosen because analysis is the foundation for all of mathematics. The equation $e^{i\pi} + 1 = 0$ must rank among the most beautiful formulas in mathematics. It connects the five most important constants of mathematics with the three most important operations - addition, multiplication, and exponentiation. These five constants symbolize the four major branches of classical mathematics: arithmetic, represented by 0 and 1; algebra, by *i*; geometry, by π; and analysis, by *e*. (Quoted from Eli Maor's *e, The Story of a Number*). I chose to portray this equation as a train because rail has historically been the life blood of the American West, and trains are complimentary to any mountain scene."

Meetings Calendar

AMATYC National Conference, Salt Lake City; November 13-16, 2003

Joint Mathematics Meetings, Phoenix; January 7-10, 2004
MAA Rocky Mountain Section Meeting, Colorado College; April 16-17, 2004
NCTM National Meeting, Philadelphia; April 22-24, 2004
ICME - 10, Copenhagen, Denmark; July 4-11, 2004
MAA MathFest, Providence; August 12-14, 2004
CCTM Annual Meeting, Denver; September 23-24, 2004
AMATYC National Conference, Orlando; November 18-21, 2004

Joint Mathematics Meetings, Atlanta; January 5-8, 2005
NCTM National Meeting, Anaheim; April 6-9, 2005
MAA MathFest, Albuquerque; August 4-6, 2005

Professional Development Opportunity in Phoenix

MAA Short Course - *The History of Mathematical Technologies: Exploring the Material Culture of Mathematics,* Monday and Tuesday, January 5th and 6th, organized by Amy Shell-Gellasch, SIAM-Germany, and Glen Van Brummelen, Bennington College.

This short course will explore the history, development, use, and significance of various mathematical devices throughout history. Devices investigated will include sun dials, linkages, navigational and surveying devices, early computing devices, early computers and mathematical devices from world's fairs. Topics will cover calculations and Mensuration devices from various eras, from ancient to modern times.