



FALL 2008 NEWSLETTER

Section Website <http://sections.maa.org/rockymt>

Fall 2008 Newsletter in PDF Format for Printing

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2008 - 2009 Section Officers and Committee Members

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STEVEN JANKE
of
Colorado College
named
2008 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 and become the Section Nominee for the Deborah and Franklin Haimo Awards for Distinguished College or University Teaching of Mathematics.

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.

The 2007 Burton W. Jones Distinguished Teaching Award was presented to Professor Steven Janke of Colorado College at the MAA Rocky Mountain Section meeting in April 2008 at Black Hills State University. Professor Janke undeniably meets and exceeds the criteria for this award. His dedication to teaching mathematics and computer science, his commitment to inspiring students, and his devotion to the field of mathematics all testify to the worthiness of Professor Janke as the Burton W. Jones Award recipient.

Dr. Janke's teaching is praised and commended from supervisors, colleagues, and students. Mike Siddoway, Chair of Math and Computer Science at Colorado College, applauds Dr. Janke's ability to "create a peaceful and challenging learning environment and to deduce discovery from within all his students." Colleagues from across departments describe Steven as having an "amazing ability to explain complex ideas" and as someone who is "infinitely curious, thoughtful and engaged." They also praise Dr. Janke for helping his students appreciate the beauty and applicability

of mathematics. It is clear that Professor Janke creates a classroom that is engaging, challenging, and yet relaxed. Students have called him "consistently patient," "the most exceptional teacher I have ever encountered," and look up to him as a mentor.

Not only has Professor Janke demonstrated his merit in the classroom, but he has also made a difference through his dedication to working with and inspiring students. Dr. Janke has given 16 student-level lectures since 1996 which include topics such as "Iterated Function Systems: Drawing a Tree," and "Saving Turtles with Linear Algebra." Dr. Janke has taught 48 different courses at Colorado College and works to make math applicable to his students and his audience. For example, Professor Janke has been involved with the inter-departmental Environmental Studies Program and has developed and taught the course "Quantitative Methods in Environmental Science." Currently, he is developing a new course for the program, titled "Human Impacts on Biogeochemical Cycles." Professor Janke has also conducted research with his students in such areas as number theory and statistics.

Professor Janke has had a significant impact on students, faculty, and the mathematical community throughout the 32 years he has been teaching and involved in higher education. He has advised students from many different areas including computer science, mathematical biology, and psychology. Some of his advisees have gone on to accomplish master's and doctorate degrees. Dr. Janke has also been involved with seminars on the history of mathematics, developing a Linear Models course and textbook, and has served as department chair.

Professor Janke is truly an amazing and inspirational teacher and member of the mathematical community. His dedication to teaching and to the study of mathematics cannot be denied. Perhaps his gift and ability can best be revealed in the following quote from Dr. Janke: "So the obligation is to know who you are and to foster those aspects of living with mathematics that have inspired you, have proved useful, and have opened doors. Doing mathematics is often thought to be a solitary enterprise where heavy thought leads to deep theorems. Teaching is doing that mathematics in a social setting in an egoless way. Teaching done right puts you in the trenches with the

students smiling at every mathematical idea you uncover no matter how often you have seen it before." Congratulations, Professor Janke.

**Sarah Stanley, Western Wyoming
Community College
Vice Chair, Rock Mountain Section**

Distinguished Teaching Award to Increase

After careful deliberation and much scrutiny of the section budget, the Executive Committee voted to increase the monetary award for the Burton W. Jones Distinguished Teaching Award. For many years, the award was \$50 and it seemed appropriate to increase the award (though we know our award winners don't do it for the money!). Several amounts were suggested, but in keeping with the recent Euler celebrations the committee settled on \$271.82 as the new amount. We just wonder if the bank will cash a check that says \$100e on it?

Past Burton W. Jones DTA Recipients

- 1992** John H. "Jack" Hodges
University of Colorado, Boulder
- 1993** Gerald Diaz
United States Air Force Academy
- 1994** A. Duane Porter
University of Wyoming
- 1995** William D. Emerson
Metropolitan State College of Denver
- 1996** Zenas Hartvigson
University of Colorado at Denver
- 1997** Thomas Kelley
Metropolitan State College of Denver
- 1998** Monte Zerger
Adams State College
- 1999** Bill Briggs
University of Colorado at Denver
- 2000** Barbara Bath
Colorado School of Mines
- 2001** Jim Loats
Metropolitan State College of Denver
- 2002** Gene Abrams
University of Colorado at Colorado Springs
- 2003** Hugh King
Colorado School of Mines
- 2004** Don Teets
South Dakota School of Mines and Technology
- 2005** Bryan Shader
University of Wyoming
- 2006** Barbara Moskal
Colorado School of Mines
- 2007** Lynne Ipiña
University of Wyoming
- 2008** Steven Janke
Colorado College

2009 Distinguished Teaching Award Call for 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 an honorarium, a certificate and an invitation to deliver the opening lecture at the next Section Meeting, the recipient 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. All nominators also receive a certificate of in recognition of their efforts to support the section mission of promoting excellence in teaching; nominators and nominees both receive free meeting registration at the next section meeting. To begin the nomination process for an outstanding teacher that you know, simply submit the **one-page nomination form** (available at our website: <http://www-math.cudenver.edu/~maa-rm> and in this newsletter) by **1 December 2008**. **Complete nomination materials** (described on the website) are due **15 January 2009**.

Section Students Recognized for Mathematics Excellence

Dick Gibbs, Fort Lewis College

Chair's Report

The latest poll shows abstract algebra 42%, topology 42% with 8% of math majors undecided. In case you have not noticed, it is election season and the polls and statistics are a daily occurrence in the press and the media. Not to be out done, the Rocky Mountain section will hold its own special election for a new chair-elect this spring. It's not just that we wanted in on all the voting action, but also because our current chair-elect has resigned from the position and we need to elect someone new. Our current chair-elect, **Graeme Fairweather**, has retired from Colorado School of Mines and has accepted a position as with AMS Mathematical Reviews. He felt that he could not give the chair position the time it deserved while taking on this new and important challenge with the AMS. We will certainly miss Graeme's leadership in the section, but we wish him the best of luck in his future endeavors. Graeme will always have a home in the RMS and we hope to see him at future section meetings.

As a result of Graeme's resignation, several decisions were made by the Executive committee in conjunction with guidance from the National MAA office. The first is that **Sarah Stanley** and I would stay on as vice-chair and chair for one more year. This decision was based on providing continuity for the section and to give the new chair-elect an opportunity to learn the position before taking over. There was also some shuffling of personnel among the Teaching Award committee and the Nominating committee. The current memberships and chairs of all section committees are listed in this newsletter and on the section website. Finally, please consider nominating someone for the position of chair (of course make sure they are willing to do it first). It is a rewarding position and an interesting way to serve the section and the MAA. You will find the Call for Nominations in this newsletter.

Speaking of serving the section, **Barb Moskal** (Colorado School of Mines) is doing a phenomenal job of organizing the spring section meeting. It will be held April 17 – 18 at Mines. I am very excited to be going to Golden and expect this to be a very well-attended meeting. In addition, Barb was able to secure substantial funding from the Exxon-Mobil Education Foundation to help cover all the extensive meeting costs and to allow an additional emphasis on including math teachers from the K-12 community in the program. Please consider giving a talk at the meeting. There is a call for papers in this newsletter along with a preliminary announcement about the meeting. Barb and the program committee have some exciting new things in store for us in 2009, including the option of registering online with a credit card and some great invited speakers. I also expect our student program to continue to thrive. We are doing a very good job of including undergraduates and graduate students in our meetings. This is a great way to introduce future MAA members to the profession. If you have a student doing interesting independent study work, then please consider having the student give a talk this spring. Always remember: friends don't let friends attend math meetings alone. Bring a friend and prepare to have a great time in Golden this spring!

Even though we are well into the fall semester, I would like to reflect back to last spring and to the great meeting we had at Black Hills State University. **Daluss Siewert** (BHSU) did a fantastic job as program chair and I would like to publicly thank him and all the folks in Spearfish that helped make the meeting a success. MAA President, **Joe Gallian**, commented that he has never been treated better at a section meeting and that he was very impressed by the quality of the presentations he attended. It was also quite a treat to have Joe give two fascinating talks. Pulling together a section meeting in the middle of a busy school year is never easy, but Daluss and BHSU did a great job—many thanks to all involved.

The National meeting, MathFest, was also a great success. Madison was a terrific host city and the convention facilities were top notch. There was the usual assortment of keynote talks, mini-lectures, panels, and student presentations. A real highlight for me was the editor's panel with all the current editors from the various MAA journals. As usual the RMS was

well-represented at the meeting. I attended the section officers meeting along with our section Governor, **Kyle Riley**. The Governor's report details the happenings at the National level. Currently there is focus on clarifying and refining the relationship between the National office and the sections. Many suggestions were made and it will be interesting to see what evolves in the future.

Since I did not give a talk in Madison, I still felt obligated to represent the RMS in some meaningful way. Well, it turns out this year was the first annual MathFest 5K run/walk. The course was flat and ran along beautiful Lake Monona. It was a lot of fun, but they shouldn't allow students to declare math as a major and still be on their college cross country teams! There are some really fast math majors out there. Also, I'll take the hills, altitude, and dry air of the Rockies over the heat and humidity any day. Still, it was a great event and I hope they plan another one for MathFest 2009 in Portland, OR. Come out and run!

It was just about a year ago that I wrote my first newsletter as chair of the section. In that article I asked that anyone with suggestions to improve the section let me know. I would like to extend that invitation again. We are a diverse group of educators and mathematicians from an equally diverse set of colleges and universities. Yet, we all have a role to play in improving and advancing our profession. If you have an idea or would like to see the section engage in some activity please let me or anyone on the Executive Committee know about it. The MAA exists to serve its members—let us hear from you.

A new poll has just come out: it's now 51% topology, 49% abstract algebra with a margin of error of $\pm 4\%$, whatever that means...

Respectfully submitted,

Mike Brilleslyper, USAFA

Chair, Rocky Mountain Section

Governor's Report

My first MAA meeting as a section governor was the MathFest in Madison in early August. This conference had over 1,300 participants and the Rocky Mountain Section was well represented. A quick scan of the program revealed at least eight different presentations

delivered by members of the Rocky Mountain Section and at least one section member organized a large contributed paper session. I also managed to see several other familiar faces whilst attending the conference.

The MAA Board of Governors Meeting was very informative, but I will try to boil things down to just a few items. The MAA is hard at work trying to provide resources that will be of use to the mathematics community.

The MAA website, <http://www.maa.org>, has a wealth of information: links to other sections, the combined membership list, professional development, student chapter newsletter, Mathematical Digital Library (MathDL), publications, book reviews, and so much more! Much of the Governors Meeting was focused on strategic planning. All members can review the strategic planning documents that have been filed at http://www.maa.org/subpage_5.html. One particular area of effort is growing the membership of the association. Please consider renewing your membership to the MAA, or becoming a new member, and encouraging your colleagues to join our professional organization. The major strength of the MAA is built on the dynamic professionals we have as members ... like you!

I would also like to take this opportunity to encourage you to participate in some the activities sponsored by the national organization. You can submit a paper to one of the periodicals: The American Mathematical Monthly, Mathematics Magazine, The College Mathematics Journal, Math Horizons, or the MAA Focus. Of course, the MAA has been very active in electronic publication and you could also contribute to MathDL, or the other online resources: LOCI, MAA Reviews, and the online version of Classroom Capsules and Notes. If you have much more material then maybe you want to step up to a manuscript submission for publication in one of the many book series that MAA offers, and this would also be a good time to draw your attention to the fact that the MAA has recently been developing book offerings that are meant to serve as textbooks for courses in upper level mathematics. The MAA also offers interest groups that are focused on specific items of interest that could be of interest to you. These interest groups are generically labeled as SIGMAAs and you can find a complete list at <http://www.maa.org/SIGMAA/SIGMAA.html>. As I recall, we have a history of math session at just

about every section meeting, perhaps there is interest in the History of Mathematics interest group (<http://www.homsigmaa.org/>)? Another area that you could participate in the national community is by becoming involved in a national committee, which is something you can contact me about or you can use the contacts through your department liaison. Attending one of the MAA meetings is another great way to get involved:

Joint Mathematics Meetings, Washington, DC, January 5-8, 2009

Rocky Mountain Section Meeting, Golden, CO, April 17-18, 2009

Mathfest, Portland, OR, August 6-8, 2009

I am really looking forward to our section meeting at the Colorado School of Mines and hope to see you there.

Respectfully submitted,

Kyle Riley, SDSMT

Governor, Rocky Mountain Section

Section News

Arapahoe Community College

Jeff Berg is serving as President of the Colorado Mathematical Association of Two Year Colleges. The March conference will be at the Westminster campus of Front Range Community College.

Erica Hastert is serving her second year as both Faculty Senate President and advisor for Phi Theta Kappa, a national honor society

Colorado School of Mines

Graeme Fairweather has retired after fourteen years as Professor and Head of the Department of Mathematical and Computer Sciences at the Colorado School of Mines. A native of Scotland, he received his B.Sc. and Ph.D. in Applied Mathematics from the University of St. Andrews. Before joining Mines, he held faculty positions at the University of St. Andrews, Rice University, and the University of Kentucky where he was instrumental in establishing the Center for Computational Sciences and served as its associate director for several years. He also held visiting appointments in several foreign countries as well as in the United States. His primary research interests are in numerical analysis and scientific computing, and he has published over 100

journal articles and a research monograph in these areas. In November, Dr. Fairweather will join the American Mathematical Society as Executive Editor of Mathematical Reviews. He has been a member of the Rocky Mountain Section since his arrival in Colorado in 1994.

Metropolitan State College of Denver

South Dakota School of Mines and Technology

Karen Braman was accepted to the Householder Symposium last June. The Householder Symposium is an international gathering of the outstanding researchers in matrix computations and linear algebra, plus the symposium is only held once every three years. We have also been very fortunate in hiring two new additions to the Department of Mathematics & Computer Science with **Patrick Fleming** (local alumnus and PhD graduate from the University of Wyoming) and **Ziliang Zong** (PhD graduate in Computer Science from Auburn University).

University of Colorado at Boulder

This past year, Professors **Richard Laver** and **Walter Taylor** retired. This year we have a new assistant professor, **Sebastian Casalaina-Martin**; his field is algebraic geometry.

University of Colorado at Denver

Our department has officially been renamed the Department of Mathematical & Statistical Sciences, which is more reflective of the department interests.

We had two retirements over the past academic year -- **William Briggs** and **Harvey Greenberg** - both of whom joined the department in 1982.

We hired four new tenure/tenure track full time faculty including: **Stephanie Santorico** -- Who was hired as a tenured Associate Professor -- Dr. Santorico's research interests are in the area of statistical genetics, specifically in the development of statistical methods and study designs for gene discovery through the use of pedigree and population-based data. Through the use of complementary information gained by applying statistical genetics principles to gene expression studies, Dr. Santorico's current research is aimed at enhancing the ability to dissect complex interacting pathways

that lead to disease susceptibility. Dr. Santorico has developed algorithms, software and advanced experimental designs that incorporate genetic variation, patterns of genetic inheritance, measures of relevant environmental influences and gene expression components, all facilitated by the latest in microarray technology. She has a track record of conducting research in a collaborative setting among federal, state, private and corporate institutions.

Steven Culpepper -- Who was hired as tenure track Assistant Professor. Steve Culpepper received his doctorate in quantitative methods in 2006 from the University of Minnesota. His research focuses on applied statistics in the social sciences with specific interest in developing nonlinear profile analysis methods and assessing the impact of methodological artifacts on statistical inferences. He also conducts educational research and in the past has worked with researchers from the Educational Testing Service in addition to serving as a member of a technical review panel for the U.S. Department of Education's longstanding National Assessment of Education Progress assessment.

Alexander Engau, a Ph.D. graduate in Mathematical Sciences from Clemson University, will join the Department of Mathematical and Statistical Sciences at University of Colorado Denver as Assistant Professor in the fall of 2009. "This is an exciting opportunity to engage in two of my favorite research subjects: math and stats, as well as to start teaching and working with dedicated students on both the graduate and undergraduate levels," says Alexander, who also holds a masters degree in Management Mathematics (with specialization in Optimization and Statistics) from Kaiserslautern University, Germany, and is currently in the second year of a two-year postdoctoral fellowship in the Faculty of Engineering at University of Waterloo in Canada. He completed his dissertation on domination concepts and decomposition techniques for optimization problems with multiple objectives in May 2007, when he also received the Outstanding Graduate Researcher Award from the College of Engineering and Science at Clemson University, and actively maintains many other interests in theory and methodology of mathematical programming, optimization, and decision making within the broad field of operations research and its

applications in the engineering, management, and life sciences.

Diana White -- Who was hired as tenure track Assistant Professor. Diana White joins the department after a post-doc at the University of South Carolina. She received her Ph.D. in pure mathematics (commutative algebra) from the University of Nebraska, where she developed a strong interest in the mathematical education of teachers. She wants to help increase communication and collaboration between mathematicians, mathematics educators, and teachers. She is part of our on-going effort to develop a departmental focus on mathematics education.

University of Northern Colorado

University of Wyoming

Is news from your school missing?

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

Student Activities

Students are invited to participate in the MAA Sectional meeting at Black Hills State University in South Dakota, April 25-26, 2008. There will be student sessions in which you can give a talk, as well as a student poster session. If you would like to give a talk, please submit your proposal as described in the general announcement for the meeting.

You may also present a poster, even if you're also giving a talk. Bring a poster relating to your independent study, senior seminar, modeling contest, etc. Anything with mathematical content will be appropriate. Prizes will be awarded in categories to be determined.

Ask a faculty member at your institution about the meeting and/or contact me at lienert_c@fortlewis.edu.

Carl Lienert

Section Student Activity Coordinator

**5th Annual Pikes Peak Regional
Undergraduate Mathematics
Conference
Colorado College
Saturday, February 23, 2008**

The fifth annual Pikes Peak Regional Undergraduate Mathematics Conference (PPRUMC) is scheduled to take place on **23 February 2008** at **Colorado College** in Colorado Springs.

PPRUMC is a one-day mathematics conference held each spring at one of several host institutions in the Pikes Peak region. The focus of the conference is to give undergraduate mathematics students the opportunity to present in a professional setting. This is also an occasion for students to become acquainted with other students, to become aware of opportunities for undergraduates in mathematics, to investigate the possibility of graduate school, and to learn more about career options in mathematics.

Faculty, now is the time to start working with students on projects for presentation next February!!! Presentation topics could include the results of classroom, independent study, REU or other research projects; both research and expository topics are welcome.

Student talks will be scheduled for 15 minutes, each in parallel sessions throughout the day. The conference will also feature a morning keynote address by a noted mathematician, and an afternoon panel discussion on career or graduate school options. The conference day lasts roughly from 9:00 - 4:30, and time will be scheduled for optional participation in an informal celebratory dinner. The steering committee expects that lunch will be provided for all participants and that travel stipends will be available for students traveling longer distances, pending renewed funding from the MAA Undergraduate Mathematics Conferences Program (NSF Grant DMS – 0241090).

Details on conference scheduling and registration will be available in the Rocky Mountain Section Spring Newsletter. The **steering committee also seeks faculty volunteers** at Rocky Mountain Section schools to assist us in locally disseminating conference

information to students, and in encouraging other faculty to undertake supervision of student projects with students who are interested in presenting at the conference.

To volunteer as a local contact, or for more information about the conference, please contact **Jane McDougall** (email: JMcDougall@ColoradoCollege.edu).

Nominees Sought

This year we are seeking nominations for three positions to serve on the executive committee. We are soliciting names for **chairperson-elect**, for **secretary/treasurer**, and for section **governor**. The elections for the chairperson-elect and secretary/treasurer will be held at the Spring 2008 meeting to be held at Black Hills State University. The election of our new section governor is handled by MAA headquarters and will require early nominations.

The chairperson-elect serves a 1-year term then serves a 2-year term as chair of the section. In the fourth year, this person will serve as past-chair. Both the secretary/treasurer and governor serve a three-year term. The secretary/treasurer is responsible for the budget, the preparation of reports, and all details not assigned to other officers. During the 3-year term, the governor attends all national meetings and serves as a liaison between our section and national.

Send your nominations to Graeme Fairweather (gfairwea@mines.edu), the chair of the nominating committee. Please include contact information and a brief bio of the candidate along with your nomination.

4th Annual Pikes Peak Regional Undergraduate Mathematics Conference Report

Braving blizzard warnings and Air Force security, eighty hardy souls attended the 4th Annual Pikes Peak Regional Undergraduate Mathematics Conference (PPRUMC) on February 24, 2007 at the United States Air Force Academy in Colorado Springs. The sleet and dark clouds soon gave way to bright blue skies and views of the conference namesake. The participants had a fascinating day learning about interesting mathematical ideas and enjoying the historic Air Force Academy.



PPRUMC participants with the Cadet Chapel in the background

Despite the local nature of the regional conference, contingents of students came from as far away as Kansas, Wyoming and New Mexico. Students also traversed the continental divide from the western half of Colorado to attend. It was a diverse and fun group of students and faculty members.

The meeting opened with a keynote address by Professor Dan Rudolph of Colorado State University. He discussed an open-ended undergraduate research project involving “chasing rabbits” and other discrete mathematics ideas. In the second half of his talk, he summarized many of the different career paths available in mathematics, from actuarial science, to industry, to academia. The remainder of the morning session included talks by undergraduates and spanned an impressive array of topics. Talks included music and mathematics, strange attractors and chaotic maps, fluid flow, numerical analysis, and large-scale computer searches.

The participants were then treated to lunch in the cadet dining facility, Mitchell Hall, with seating for 4000 under a single span of roof. Lunch was followed by cadet-led tours of some of the Academy facilities including aircraft displays and the world renowned Cadet Chapel. After all that walking around at 7200 feet above sea level, the participants were ready for more mathematics.

The afternoon began with an all military panel discussion focusing on how mathematics is used in Department of Defense applications. The discussion spanned the spectrum from keeping track of space debris in orbit, to the accuracy of weapon systems, to the allocation of personnel across the Air Force.

The student speakers in the afternoon session covered topics in abstract algebra, number theory, and statistics in baseball. A particularly enjoyable talk by two students was an overview of the mathematical arguments for and against the existence of a supreme being.

The interest and participation from throughout the region indicates the continued need for conferences such as the PPRUMC. The opportunity to give a talk in a professional conference setting is a significant milestone for many mathematics majors. Now in its fourth year, the conference has been held at Colorado State University-Pueblo (2004 & 2006), Colorado College (2005), and the Air Force Academy (2007). In each year the conference has been generously supported by NSF grant DMS-0536991 through the MAA Regional Undergraduate Conferences Program.

Mike Brilleslyper and Beth Schaubroeck

USAFA

Colorado School of Mines to Host 2009 Meeting

The Department of Mathematics at Black Hills State University is pleased to announce the results of its preliminary planning for the 2008 Spring Section Meeting, to be held at Black Hills State University on April 25-26, 2008. 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. Lynne Ipiña** of the University of Wyoming. Dr. Ipiña is an innovative teacher that is involved with improving education at many levels, both inside and outside the university. In particular, she has played a major role in the NSF funded Middle-Level Math Initiative and she plans to speak about her work with middle level in-service teachers.

This years Invited Keynote Speaker will be **Dr. Joseph Gallian** of the University of Minnesota Duluth and current president of the MAA. Dr. Gallian is an inspiring speaker, a highly respected author, and an innovative educator who has received numerous prestigious awards and honors for his work. Dr. Gallian's banquet address and Saturday morning lecture on *Using Groups and Graphs to Create Symmetry Patterns* is sure to make the drive to Spearfish worthwhile.

A special featured address on Friday afternoon by **Dr. Ben Saylor**, Director of the South Dakota Center for the Advancement of Mathematics and Science Education (CAMSE) at Black Hills State University, will focus on university-school district partnerships in improving K-12 education. Dr. Saylor is the principle investigator on Project PRIME, an NSF funded project focusing on improving K-12 mathematics in the Rapid City school district.

Rounding out the scientific program will be talks contributed by intelligent, involved and inspirational people like you! Although talks on all topics mathematical are welcome, special sessions are being organized around the following themes: **History of Mathematics – Emphasis on American Mathematics**, **Partnering to Improve K-12 Mathematics**, and **Ideas and Applications in Ordinary Differential Equations**. A **Graduate Student Research Session** and **Undergraduate Student Papers Session** are also being planned. For more information about these sessions, or to submit a talk for the general session, please see the **First Call for Papers** and **Speaker Response Form**.

Additional topics under consideration for inclusion in the program are: *The Placement Process*, *The Role of Algebra in Applied Mathematics*, *Finite Geometry*, and *Project-Based Mathematics Courses*. Volunteers to organize special sessions or panel discussions around these or other themes of interest to the section membership are welcome!

Preceding the program on Friday morning, **Dr. Gary Hagerty** of Black Hills State University will conduct a workshop on **ALEKS**. ALEKS is a web-based, artificially intelligent assessment and learning system. This hands-on workshop will discuss what ALEKS is, how it works, and how to implement it successfully. The workshop will also provide information on how ALEKS has been used in the college algebra courses at BSHU and the results that were obtained – these results include cutting our failure rate by more than half. Current and prospective teachers of remedial mathematics through precalculus level courses are encouraged to participate. Registration is limited to 15 participants; the registration fee is \$5 per person.

The BHSU mathematics and mathematics education faculty are excited about this opportunity to host the section meeting next spring. Most of you have never been to our beautiful campus nestled in the foothills of the northern Black Hills. We hope you and your students will come see what's happening up north. We encourage attendees to visit some of the areas attractions, such as Mount Rushmore or Devil's Tower, while in the area. Some attendees may want to bring their family and visit some family attractions like Reptile Gardens and Bear Country near Rapid City.

About Our Featured Speakers

Lynne Ipiña received her B.S. in Mathematics from South Dakota State University in 1972. As an undergraduate, she received a Fulbright award to travel to Argentina, which awakened an interest in opportunities abroad. As a result she spent four years in Bolivia before returning to the United States to complete her M.A. and Ph.D in Mathematics from New York State University in 1978 and 1986, respectively. Dr. Ipiña is currently an associate professor at the University of Wyoming. At the University of Wyoming, she has had central involvement in two large NSF grants. One to deliver curriculum to enable in-service middle-school mathematics teachers in Wyoming to become highly proficient teachers, and another to prepare secondary mathematics teachers from around the United States to be leading mathematics educators in their districts. She is currently co-director of the Wyoming State Math Contest for high school students, she is active in both AMATYC and WCTM, and she provides a valuable bridge to the Wyoming community colleges. Dr. Ipiña has a passion for excellence in teaching and has had a significant impact on improving mathematics education at all levels.

Ben Sayler is a professor at Black Hills State University, and he's in his ninth year as director of South Dakota's Center for the Advancement of Mathematics and Science Education (CAMSE), a statewide "Center of Excellence." He holds bachelor and master's degrees from Yale University and a Ph.D. in Atmospheric Sciences from the University of Washington. Following his doctoral work, he completed an NSF-funded postdoctoral fellowship in math and science education. The bulk of his work has focused on partnerships between universities and K-12 schools. He currently serves as lead faculty or principal investigator on eight grant-funded initiatives designed to improve the teaching and learning of K-12 math and science.

Joseph Gallian received his undergraduate degree in mathematics from Slippery Rock University in 1966, a Master's degree in Mathematics from the University of Kansas in 1968, and a Ph.D. in Mathematics from Notre Dame in 1971. Dr. Gallian is currently a professor at the University of Minnesota Duluth where he has been teaching since 1972. Dr. Gallian has received numerous prestigious awards and honors. These include teaching awards at both the state and national levels, awards for excellence in research with undergraduates, and exposition/scholarly awards. Dr. Gallian has been the author, co-author, or editor of seven books. He has written 100 journal articles and supervised 124 papers written by undergraduate students published in mainstream journals. Dr. Gallian has delivered numerous invited addresses, including 19 at national meetings and 47 at regional MAA meetings. Articles about his work have also appeared in the mainstream media, including twice in the Washington Post. Dr. Gallian has been actively involved in the MAA and the greater mathematical community. He is currently co-director of project NExT and has served as Associate Editor of the American Mathematical Monthly and Mathematics Magazine just to name a few. Currently, Dr. Gallian serves as the President of the Mathematical Association of America.

First Call for Papers

The **deadline** for submission of abstracts for the 2008 Spring Section Meeting is **March 3, 2008**. 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:

History of Mathematics – Emphasis on American Mathematics

Organized by Janet Barnett (CSU - Pueblo) and Don Teets (SDSM&T)

While all talks on the history of mathematics are welcome in this session, we would like to especially encourage talks pertaining to American mathematicians, the development of mathematics in America, the history of American mathematics organizations, etc.

Partnering to Improve K-12 Mathematics

Organized by Ben Saylor (BHSU - CAMSE)

In this session, we invite talks on university-school district partnerships, changes in K-12 instruction, teacher professional development projects, and any other topic related to how university faculty and K-12 leaders are working together to strengthen mathematics education.

Ideas and Applications in Ordinary Differential Equations

Organized by Parthasarathi Nag (BHSU)

In this session, we invite talks on broad range of topics involving ordinary differential equations, such as, but not limited to, modeling physical phenomena, control theoretic analysis, describing phenomena related to bifurcation and chaos, numerical solutions of differential equations, and existence uniqueness results. Speakers should take into account that their talk will address an audience with a broad range of backgrounds and varied mathematical interests.

Research by Graduate Students

Organized by Hortensia Soto-Johnson (UNC)

In this session, graduate students will present their research to faculty, other graduate students and undergraduates. Graduate students in pure mathematics, applied mathematics, and mathematics education are invited to participate. Presenters need not be near completion of his/her program.

Undergraduate Student Papers

Organized by Carl Lienert (Fort Lewis College) and Kyle Riley (SDSM&T)

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.

Additional topics under consideration for inclusion in the program are *The Placement Process*, *The Role of Algebra in Applied Mathematics*, *Finite Geometry*, and *Project-Based Mathematics Courses*. To volunteer to organize special sessions or panel discussions around these or to suggest other themes, please contact the Program Chair, Daluss Siewert at dsiewert@bhsu.edu, 605-642-6209.

Speaker Response Form – Due March 3, 2008

E-Mail submissions strongly preferred

Speaker Name _____

Affiliation _____

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

Email Address _____ Phone Number _____

Faculty Sponsor¹ _____

MAA Member Sponsor² _____

Title: _____

Abstract (100 words or less):

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

- _____ History of Mathematics – Emphasis on American Mathematics
- _____ Partnering to Improve K-12 Mathematics
- _____ Ideas and Applications in Ordinary Differential Equations
- _____ Graduate Student Research Session
- _____ Undergraduate Student Paper Session

Special Equipment Needs: _____

Schedule Preference Request: _____

Special Talk Length Request: _____

PLEASE E-MAIL ELECTRONIC MATERIALS, AND RETURN THIS FORM OR AN E-MAIL EQUIVALENT TO:

Daluss Siewert
Department of Mathematics
Black Hills State University
1200 University Street, Unit 9029
Spearfish, SD 57799-9209
dsiewert@bhsu.edu

¹ For student speakers only

² For non-MAA members/non-students only

MAA Rocky Mountain Section Suggestions for Speakers

The Section offers the following suggestions which might be of assistance, *especially to first-timers*, during preparation of a talk for a Section Meeting.

1. The default talk length is 20 minutes, but longer times can be requested. Program organizers will attempt to provide the amount of time requested for your presentation, within the limitations of the program. Once you have been notified of the amount of time allotted, carefully prepare your presentation accordingly. If possible, plan to leave a few minutes at the end of your presentation for questions.
2. A presider will be assigned to facilitate each session of presentations. The presider will introduce the speaker, assist in distribution of any handouts, signal the end of the presentation, and ask for questions from the audience.
3. If handouts are to be provided, give them to the presider prior to the beginning of the session including your talk. Plan to bring about 30 handouts and be prepared to give attendees your address in case the supply runs out. It may also be possible to arrange for posting of electronic materials from your talk on the section website; check with program organizers concerning this possibility.
4. Do not plan to present so much detailed material that your presentation becomes rushed. Focus on providing the audience with insight into your topic and its key notion during the presentation. Remember that very few members of the audience will be experts in the field you are discussing and that the audience will include some students.
5. The use of transparencies on an overhead projector greatly enhances the pace of a presentation. But make sure that notes on transparencies are written or typed in a font big enough and with spacing adequate to be seen clearly 50 to 100 feet away. Simply copying ordinary typewritten pages will not produce readable transparencies. Power Point or PDF presentations can serve a similar purpose in providing pacing for a talk, but be sure to check with program organizers concerning available technology and means of transferring data.

2008 Section Meeting Report

A Rocky Mountain Spring snow storm didn't deter nearly 200 mathematicians, mathematics educators and mathematics students from celebrating the 300th anniversary of the birth of Leonhard Euler at the 2007 Annual Spring Section Meeting at Colorado State University – Pueblo on April 14 – 15.

The centerpiece of the birthday celebration was a special Friday Keynote Address Euler - 300th anniversary lecture delivered by Mr. Euler himself! The good-natured Mr. Euler (aka **Robin Wilson** of The Open University) also graced the Friday evening reception and banquet with his presence, helping to award special Euler Birthday Quiz door prizes and even blowing out the candles on Saturday's Birthday Cake. Congratulations to Robin for his fine performance as Mr. Euler at the meeting! Other birthday activities included a Celebrating Euler contributed paper session organized by **Janet Barnett** (CSU-Pueblo) and **George Heine** (BLM), an Euler's 300th Birthday Undergraduate Poster Session organized by **Carl Lienert** (Fort Lewis), and traditional Russian birthday pies at Friday's banquet to honor Euler's time in St. Petersburg.

The meeting was officially opened on Friday afternoon with a welcoming message from University President **Joe Garcia**. Our 2006 Burton W. Jones Distinguished Teacher Award Recipient **Barbara Moskal** (Colorado School of Mines) then offered insights into the impact of the growing demand for assessment and evaluation on higher education mathematics programs. Barbara's talk *Assessing Mathematics: Historical Significance and Future Directions* examined both the potential benefits and challenges of assessment, and shared the experiences of the Mathematical and Computer Sciences Department at the Colorado School of Mines.

Following the banquet dinner on Friday evening, MAA Associate Secretary **Jim Tattersall** (Providence College) introduced us to several sets of numbers – including polite numbers and sad numbers - and the history of these sets. Jim also introduced participants to the intriguing characters Nicholas Sanderson and John Colson in his Saturday Keynote Address *The Early Lucasians*, uncovering

several untold stories and some interesting mathematical results along the way.

The scientific program also featured the workshop *A Hands-On Tour of the MAA Digital Library* led by **Linda Sundbye** (Metro), the panel discussion *Math Job Search 101* with special attention to Academia organized by **Jeff Berg** (Arapahoe) and a total of 66 contributed papers delivered in four special and two general sessions. The section's first ever *Research by Graduate Students Special Session* organized by **Tensia Soto-Johnson** (UNC) was a particular success with 18 talks by 19 graduate student speakers. Speakers in the *Interesting Ideas in Mathematics Special Session* organized by **Jane Arledge** (Mesa) and **Rob Tubbs** (CU-Boulder) again offered insight into mathematical tidbits too tantalizing not to share, while speakers in the *Mathematics in K-12 Teacher Preparation Special Session* organized by **Pam Smith** (Fort Lewis) offered insight into the challenges and rewards of preparing future teachers of K-12 mathematics. Participants in the latter session also discussed the formation of a Colorado Association of Mathematics Teachers Educators (AMTE) affiliate, an endeavor which now seems to be off and running. Contact Pam Smith for more information about AMTE.

Other meeting activities included a Department Chairs and Liaison Luncheon, a highly successful MAA Book Sales Display, the usual early morning Business Meeting, and door prizes for more than a few lucky winners at Friday's Banquet. Special thanks go out to CSU-Pueblo Department Chair **Paul Chacon**, both for hosting the Chair & Liaison luncheon and for creating and donating three beautiful fractal images as special door prizes.

Congratulations and thanks to all speakers, panelists and session organizers for the success of the meeting program! The Section also wishes to acknowledge the following exhibitors and publishers for their **support of the meeting and the section**:

- *Calc for the Forgetful*, Representative and Author **Wojciech Kosek**
- Flannery Group, Representative Matthew Ours
- Houghton Mifflin, Representative Natalie Eldridge
- McGraw-Hill, Representative Marcy Capell

- Pearson Addison-Wesley & Pearson Benjamin Cummings, Representative Lisa Moller
 - Pearson Prentice Hall, Representative Scott Day
 - Thomson Brooks/Cole Wadsworth and Duxbury, Representative Dwala Canon
- Finally, many thanks to the **Colorado State University – Pueblo Mathematics faculty and students** for their many hours of volunteer work and hospitality throughout the meeting.

Janet Barnett and Janet Nichols
Program Co-Chairs

Contributed Papers

Undergraduate Student Paper Session

Organized by Kyle Riley, SDSMT

Colin Carrick, Chris Carlsgaard, Michael Corson, Austin Hazzard, Keren Herrera, Vance Holzmann, Zac Milby, Mathew Piccolo, AJ Waski, Cody Weller and Ryan Yost,
 Bridges High School

Geometric Transformations
Simulating Digital Circuits on a TI – 84
Graphing Calculator
Teaching Students How to Become Geometers

Thomas Chartier and Douglas Warner, Pikes Peak Community College

Non-Euclidean Geometry – The Problem of Distance in Hyperbolic Geometry

Alby Graham, Regis University

Poncelet's Closure Theorem:

Amanda Hannah, Regis University

Untangling DNA

Gregory Kaiser, Metro State College Denver

Playfully Partitioning Eratosthenes

Christine Lee, University of Colorado, Denver

Irregular Graph Colorings of Paths and Cycles

Tom Leps, Fort Lewis College

Laplace Transforms in Fractional Calculus

Stephanie Proksch, Regis University

Energy in Stick Knots

Gretchen Tracy, Fort Lewis College

EXTENSIONS: not just for washed-up pop stars any longer!

Graduate Student Paper Session

Organized by Tensia Soto-Johnson, UNC

Lane Andrew, University of Northern Colorado

The Relationship Between Mathematical Induction and Functional Ability

Jesse Gilbert, University of Colorado at Denver

On Irregularity Strength of $\bar{C}_{4k} \times \bar{C}_j$

Angela K. Harris, University of Colorado at Denver

H-avoiding Hamiltonian Cycles

Matt Leonard, University of Wyoming

Knots and Unknotting - Nakanishi's Conjecture

Beth Malmskog, Colorado State University

An Introduction to Sato-Tate

Bernadette Mendoza-Spencer, University of Northern Colorado

A Road Less Traveled: One Hispanic Woman's path to the Ph.D

Jeremy Muskat, Colorado State University

Alternating Group Galois Coverings of the Projective Line

Aditya Nagrath, University of Colorado at Denver

Supercritical Boolean Algebras and Scattered Lattices

Frieda Parker, University of Northern Colorado

Use of Student Generated Concept Maps to Analyze Student Understanding of Linear Independence

Ryan Pedersen, University of Colorado and Health Sciences Center

On the Classification of Hyperovals

Kyle Pula, University of Denver

Edge-colored multigraphs lacking colorful triangles.

Noel Sagullo, University of Colorado at Boulder

A Drinfeld Analog of the Brownawell-Waldschmidt Theorem

Elizabeth Untiedt, University of Colorado at Denver

Algorithm Selection in Fuzzy Optimization

Celebrating Euler Special Session

Organized by Janet Barnett, CSU-Pueblo and George Heine, BLM

Janet Heine Barnett, CSU – Pueblo

Euler and the Military?

Gregory Carlson, Canon City High School

Easy as Pi

George W. Heine, Math and Maps

From Euler to the Bering Sea

Lynne Ipiña, University of Wyoming

What evil can be wrought: $1+-1+1+-1+ \dots$

Milan Lukic, University of Northern Colorado
*Variae Observationes Circa Series Infinitas:
Theorema 7*

Bruce Lundberg, CSU - Pueblo

*Eulerian Butter and Bread in the Current
Practice of Astrodynamics*

Stan Payne, University of Colorado at Denver
and Health Science Center (UCDHSC)

Euler and the Riemann Zeta Function

E. Keith Sinkhorn, CSU - Pueblo

*Graph theory applications 300 years after
Euler*

Rob Tubbs, University of Colorado, Boulder

*What Euler did not know about values of the
zeta function*

Interesting Ideas in Mathematics

Special Session

Organized by Jane Arledge, Mesa State and
Rob Tubbs, CU-Boulder

Edward Bonan-Hamada, Mesa State College

*Finite Choice, Countable Choice and the
Foundations of Mathematics*

Mike Brilleslyper, U. S. Air Force Academy

*Connections between really Nice Vector Fields
and Analytic Functions*

Joe Champion, University of Northern Colorado

The Inverse of the Open Box Problem

Gerald Harnett, St. Mary's Academy High
School

*The Geometry of Logarithms and Powers
Abstract*

Markus Reitenbach, Mesa State College

The Axiom of Choice for Non-Experts

William S. Weber, Jr., University of Wyoming

A Simple Derivation of the Vertex Formula

Mathematics in K-12 Teacher

Preparation Special Session

Organized by Pam Smith, Fort Lewis College

Brooke Evans, Don Gilmore, Jim Loats, Patty

McKenna, and Lew Romagnano, Metropolitan
State College of Denver

*Content Courses for Rural Teachers: An
Electronic Classroom Model*

Michael Ewing, Colorado School of Mines

*Understanding Gifted/Talented Students through
International Teacher Collaboration*

Andrew Hoegh & Michael Ewing, Colorado
School of Mines

*Popular Television to Motivate Mathematical
Learning: "Numb3rs"*

Robert Powers, University of Northern
Colorado

*Applying the Synectics Method of Instruction
to Writing in Mathematics*

**Lew Romagnano, Don Gilmore, Brooke
Evans, James T. Loats**, Metropolitan State
College of Denver

**Hortensia Soto-Johnson, Michelle
Chamberlin, Robert Powers**, University of
Northern Colorado

*The Pedagogical Preparation of Prospective
Mathematics Teachers*

**Lew Romagnano, James T. Loats, Don
Gilmore, Brooke Evans**, The Metropolitan
State College of Denver

*Creating a Mathematical Community for
Prospective Elementary Teachers*

Pam Smith, Fort Lewis College

Activities for Fraction Understanding

Louis A. Talman, Metropolitan State College of
Denver

Questions my Calculus Teacher Didn't Answer

Ann Wheeler, University of Northern Colorado

*The Impact of IMAP Videos on Prospective
Elementary Teachers*

Math Job Search 101 with Special Attention to Academia

Organized by Jeff Berg, ACC

Panelists:

Curtis Card, Black Hills State University

George Heine, Bureau of Land Management

Michael Martinez, US Air Force

Chip Nava, Pueblo Community College

Dana Pickup, Walmart Corporation

Markus Reitenbach, Mesa State College

Mathematics General Session

Bill Cherowitzo, University of Colorado at
Denver and Health Science Center

Every little bit counts

Howard A. Flanders, Metropolitan State
College of Denver

*Lower Triangular Matrices as a Function of the
shift Matrix*

Nels Grevstad, Metropolitan State College of
Denver

An Introduction to Penalized Least Squares Regression, with Application to Censored Environmental Data

Sylvia Hobart, University of Wyoming
Saving the Loggerhead Sea Turtle: Linear Algebra in Action.

Andrew G. Keck, Western State College
Detecting transient signals in chemical spectra

Wojciech Kosek, Colorado College
Green-Tao Theorem and some other recent results about primes

Leo A. Maslov, Otero Junior College
The Pyramid problem

Lindsay Packer, Metro State College
Mathematical models in the control of diabetes

Jonathan Poritz, Colorado State University - Pueblo
Perlmann Proves Poincaré

Hugo Rodríguez Ordóñez, Colorado State University-Pueblo
Nonsingular bilinear maps and octonion polynomial

Daluss Siewert, Black Hills State University
Tournament Ranks

Glen van Brummelen, Quest University
Controversies in the Early History of Trigonometry

Teaching General Session

David Anton, University of Wyoming
The Importance of Receiving a D

Cathy Bonan-Hamada and Tracii Friedman, Mesa State College
Teaching College Algebra from a Modeling Perspective

Shahar Boneh, Metropolitan State College of Denver
The Elusive Nature of Conditional Probability

Benito Chen-Charpentier, University of Wyoming

Testing for Learning in College Algebra

Michelle Ghrist, US Air Force Academy
Cubic splines – there's more than one?

Roger W. Johnson, South Dakota School of Mines and Technology
Two 'Pig' Dice Games

Janet Nichols, Colorado State University - Pueblo

Remedial Learning Communities

Robert Powers and Dean Allison (Co-author Richard Grassl), University of Northern Colorado

A Study of the Use of the TI-92 in Discrete Mathematics

Brian D. Rogers, University of Northern Colorado

Stranger in a Strange Land: The adventures of a traditionalist in the land of cooperative learning

Beth Schaubroeck (Coauthor: Nicholas Sawruk), U.S. Air Force Academy
Racecars and Calculus

2008 Section Business Meeting Minutes Saturday, April 14, 2008

Section Chair, Jeff Berg (Arapahoe Community College) called the meeting to order at 8:00 a.m. Minutes from the 2006 section meeting were approved. Jeff Berg then introduced the executive committee, he also introduced other committee members.

Graeme Fairweather, member of the nominating committee from Colorado School of Mines introduced the nominees for section vice-chairperson. The nominees were Sarah Stanley from Western Wyoming College and Karen Walters from Arapahoe Community College. Sarah was not present at the section meeting. Karen was given an opportunity to state her goals for the section. She commented on her involvement in updating the section web-page and her commitment to AMAYTC and the MAA. She hopes to play a role in organizing the Rocky Mountain Section's materials for the MAA Centennial which takes place in 2015. Graeme opened the floor for other nominations. Graeme and Barbara Moskal counted the votes and Karen Walters was elected as the new vice-chairperson. She will serve in this capacity for two years; her term will expire April 2009. As part of her duties, she will serve on the Section Awards Selection Committee.

Since the spring meeting Karen has moved out of the MAA Rocky Mountain Section, thus Sarah Stanley will serve as our vice-chair.

Hortensia Soto-Johnson provided the financial report that was provided to National in January. She also provided an up to date summary of the budget. (See Below) This year the executive committee allocated \$500.00 for the graduate student session. Four graduate students were invited to present at this year's session designed specifically for graduate students. We also agreed to contribute \$250.00

for the Colorado Mathematics Awards ceremony and \$50.00 was awarded to the Distinguished Teaching Award Recipient, as is customary.

**Financial Report
April 4, 2007**

Balance 12/31/06	Money Market	10,164.90	11,981.70
	Checking Account	1,816.80	
Expenses	Newsletter	173.88	
	Interest	30.45	
Income Balance 4/4/07			11,838.27

Questions arose as to how much the section's cash flow should be and how we should spend our money. Suggestions from the floor included increasing the monetary amount for the Distinguished Teaching Award (from Rob Tubbs), increasing the monetary amount for the Service Award (Janet Barnett), and contributing to the undergraduate research conference (Mike Brilleslyper). The executive committee will discuss these suggestions throughout the academic year.

Dick Gibbs announced the upcoming 12th annual Colorado Mathematics Awards Ceremony to be held in Denver on May 25, 2007. He asked that we send names of any students who had done well on the Putnam exam or the Mathematics Modeling Competition. Students from outside of Colorado will also be honored at this event if he receives their names. He also announced that the American Mathematics Competitions (AMC) is looking for universities who are willing to participate in the administration of the AMC exams. Currently CU is an AMC site.

During the chair's report, Jeff Berg congratulated Lynne Ipiña from University of Wyoming for being selected as the 2007 DTA recipient and announced the new registration fees for the 2008 section meeting. They will be \$20.00 in advance and \$30.00 on site. He thanked Hortensia Soto-Johnson, Kyle Riley and Mike Brilleslyper for organizing the graduate student session, the undergraduate student session, and the Pikes Peak Undergraduate Mathematics Research Conference respectively. He reported that he would like to see more on

the web such as: the by-laws, handouts for presentations given at section meeting, and history of the section. Jeff reported on the executive committee meeting. He commended Janet Barnett and Janet Nichols for their efforts in initiating this endeavor. He announced that an election would take place during the meeting to have the Rocky Mountain Section Meeting endorse the American Association of University Professors statement of academic freedom.

Kyle Riley, the section's student activity coordinator announced that he would be stepping down as the student activity coordinator. Carl Lienert from Fort Lewis College will serve in this role. Carl facilitated the poster session for the section meeting and announced that the theme for the 2008 poster session will be "Pick Your Theme."

Linda Sundbye, the section newsletter editor announced that the post cards are working nicely in announcing that the newsletter is available on the web. Only a few postcards were returned in the spring mailing. The newsletter is available in both PDF and HTML format.

Jim Tattersall, the associate secretary of the MAA the report from national. He announced the change in the web page and that 4300 people attended the National meeting in New Orleans with 20% of the attendants were students. He also announced the grand opening of the Carriage House to be held on April 19-22.

Jane Arledge, the section governor gave her report. She is beginning her last year as section governor. She announced the new MAA dues structure which is based on the journals to which one subscribes. Jane announced that the Tensor Foundation and SUMMA both have funds to facilitate programs for underrepresented groups.

Jeff Berg facilitated discussion on the AAUP motion. He and Janet Barnett intend to write a letter to the Rocky Mountain News and/or The Denver Post to promote awareness of academic freedom. Members present at the meeting elected to support the AAUP academic freedom statement. He announced that the 2008 section meeting will be held in Spearfish, South Dakota (Black Hills State University) on April 25-26; Daluss Siewert will serve as program chair. The 2009 section meeting will be in Golden, Colorado (Colorado School of Mines); Graeme Fairweather and Barbara Moskal will serve as program co-chairs. Next year elections will be held for the positions of governor,

secretary/treasurer, and chair-elect. Graeme Fairweather will serve as the chair of the nominating committee.

There was a motion to thank CSU-Pueblo for hosting the 2007 Rocky Mountain Section Meeting. All were in favor. The meeting closed with the passing of the section banner from Janet Barnett to Daluss Siewert and Mike Brilleslyper serving as the new section chair.

Respectfully Submitted –

Hortensia Soto-Johnson,
Secretary/Treasurer

**2008 Executive Committee
Meeting Minutes
Thursday, April 12, 2008**

Members Present:

Jane Arledge, Janet Barnett, Jeff Berg, Michael Brilleslyper, Janet, Nichols, Hortensia Soto-Johnson, Karen Walters

Guests Present:

Curtis Card, Graeme Fairweather, George Heine, Daluss Siewert, Jim Tattersall

The meeting was called to order by the Chair, Jeff Berg, at 7:00 p.m.

Agenda Item 1 - Approval of Agenda and Minutes

The agenda of the meeting and the minutes of the meeting for the preceding year were approved without amendment; a copy of the approved agenda is included in Appendix A below.

Agenda Item 2 – Review of agendas for Banquet and Business Meetings and Conference Program

Assignments for introductions and agendas for the banquet and the business meeting were reviewed (see Appendix A & B). Hortensia Soto-Johnson, the section secretary/treasurer announced that Graeme Fairweather would announce the DTA lecturer, Barbara Moskal. It was decided that Michael Brilleslyper, chair of the nominating committee, would introduce Sylvia Hobart, the nominator for this year's DTA recipient at the banquet.

Agenda Item 3a – Financial Report

Hortensia Soto-Johnson announced that the current balance was \$11,838.27. Our holdings were about \$500.00 more than the previous

year. Hortensia announced that she transferred \$500.00 from the money market account to the checking account in order to pay the DTA recipient, pay 4 graduate students for participating in the graduate student session. The four recipients were Jeremy Muskat from CSU, Ryan Pederson from CU-Denver, Noel Sagullo from CU, and Matt Leonard from UW. Originally \$350.00 was allocated for a bowling party for undergraduates, but Janet Barnett announced this was not going to occur.

Mike Brilleslyper inquired about the amount of money in reserve. Executive committee members were not in agreement on this issue; suggestions ranged from \$5,000.00-\$10,000.00. Hortensia informed the committee that National's goal is to have 2-year's worth of spending in reserve. She followed-up by saying that our section spends on average \$1,000.00 a year. We are attempting to spend our money in a way that promotes the MAA to both undergraduates and graduates. Karen Walters suggested we use funds to help support a member of the executive committee to attend either Mathfest or the Winter Meeting. This will be discussed further at the business meeting.

Janet Barnett will facilitate the door prizes at the banquet. It was approved to donate \$42.00 for an MAA book to be given as a door prize.

Agenda Item 3b – Nominating Committee Report

In spring 2008 there will be an election for the position of Governor, Secretary/Treasurer, and Chair-Elect. National will facilitate the elections for the Governor position, but we must submit the candidates. Nominations for all positions will be solicited and Graeme Fairweather from Colorado School of Mines will serve as chair of the nominating committee.

Agenda Item 3c- Awards Committee Activities

Michael Brilleslyper, chair of the nominating committee announced that Lynn Ipiña from the University of Wyoming was the 2007 DTA recipient. There were several nominations this year and the candidates were very strong.

Agenda Item 4b – Website/Web-based newsletter/meeting registration

Karen Walters has been helping Bill Briggs with the section's website. Janet Barnett and Janet Nichols of CSU-Pueblo and co-chairs of the 2007 section meeting did an excellent job of putting meeting information on the website. Janet Barnett requested that our newsletter be

more web-based. Linda Sundbye, newsletter editor, and Karen Walters and Bill Briggs will work closely on this task.

Agenda Item 4c – Membership Recruitment

Governor Jane Arledge e-mailed welcome letters to new faculty at each institution. Jane did not receive as many names as she did last year. Hortensia, the secretary will attempt to let chairs and liaisons know that new members to the section will receive free registration to that year's section meeting. The executive committee hopes this will attract members and speakers to the section meeting.

Agenda 4d – Centennial Activities

Discussions took place as to where our section meeting might take place for the National MAA Centennial, which takes place in 2015. Suggestions included Colorado College and the USAFA. Members were asked to start thinking about a location for the 2015 meeting.

Agenda Item 4e - Student Recognition Grant Proposals

Dick Gibbs requested funds for the Colorado Mathematics Awards Ceremony to be held in Denver, Colorado on May 15, 2007 from 4:30-6:45. It was voted to award \$250.00 for this cause. Jane Arledge, our governor and Mike Brilleslyper our new section chair will represent our section at this ceremony.

Agenda Item 4g – Representative for MathFest and Joint Meeting

It was decided that Michael Brilleslyper will attend the Section Officers Meeting at MathFest (August 3-5, 2007) to be held in San Jose, CA. It was not yet decided who would attend the Section Officers Meeting at the Joint Meeting to be held in San Diego (January 6-8, 2008).

Agenda Item 5 – Future Section Meetings

The 2008 Rocky Mountain MAA Section Meeting will be held in Spearfish, SD at Black Hills State University on April 25-26, 2008. Jane suggested chartering a bus to take people to the meeting. Daluss Siewert will serve as program chair and thus will serve on the executive committee during the 2007-2008 academic year. It was agreed that registration would be \$20.00 in advance and \$30.00 on-site. The 2009 section meeting will be held in Golden, Colorado at the Colorado School of Mines. Graeme Fairweather and Barbara Moskal will serve as program co-chairs.

Agenda Item 6 – AAUP

As was decided last year and was announced in the Fall 2006 and Spring 2007

newsletter, the section will have an opportunity to vote to endorse the AAUP's statement on academic freedom (<http://www.aaup.org/statements/Redbook/1940stat.htm#endorsers>). Jeff Berg will present the AAUP statement and answer the question of "So What." If the section votes to endorse this statement, Jeff Berg and Janet Barnett will write a letter to the editor of the Denver Post and/or Rocky Mountain News in an attempt to make others aware of the meaning of academic freedom.

The meeting was adjourned at 9:30 p.m.

Respectively submitted,

Hortensia Soto-Johnson,
Secretary/Treasurer

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, 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 shirts, please contact **Janet Barnett**, janet.barnett@colostate-pueblo.edu, with information on desired quantities and sizes.

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 complementary to any mountain scene.”

NCTM annual meeting; Indianapolis, IN; April 13-16, 2011

Joint Mathematics Meetings; Boston, MA; January 4-7, 2012

NCTM annual meeting; Miami, FL; April 25-28, 2012

Joint Mathematics Meetings; San Diego, CA; January 9-12, 2013

NCTM annual meeting; Denver, CO; April 17-20, 2013

Joint Mathematics Meetings; Baltimore, MD; January 15-18, 2014

NCTM annual meeting; New Orleans, LA; April 9-12, 2014

Joint Mathematics Meetings; San Antonio, TX; January 9-12, 2015

NCTM annual meeting; Boston, MA; April 15-18, 2015

MAA 100th Anniversary MathFest, Washington, DC; August 5-8, 2015

NCTM annual meeting; San Francisco, CA; April 14-16, 2016

Meetings Calendar

Joint Mathematics Meetings; Washington, DC; January 5-8, 2009

NCTM annual meeting; Washington, DC; April 22-25, 2009

**MAA Rocky Mountain Section Meeting
Colorado School of Mines
Golden, CO
April 17-18, 2009**

MAA MathFest; Portland, OR; August 6-8, 2009

Joint Mathematics Meetings; San Francisco, CA; January 13-16, 2010

NCTM annual meeting; San Diego, CA; April 21-24, 2010

MAA MathFest; Pittsburgh, PA; August 5-7, 2010

Joint Mathematics Meetings; New Orleans, LA; January 5-8, 2011

**The Rocky Mountain Section of
The Mathematical Association of America**

**Burton W. Jones Award
for Distinguished College or University Teaching of Mathematics**

Burton W. Jones Award Nomination Form

Name of Nominee _____
(First name first)

College or University Affiliation _____

College or University Address _____

City _____ State _____ Zip: _____

Is the nominee a member of the MAA? _____

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)? _____

In the space below, please briefly describe the unusual personal and professional qualities of the nominee that contribute to her or his extraordinary teaching success.

Name of Nominator) _____
(first name first)

Address of Nominator _____

Email Address _____

Telephone: Work _____ Home _____ Fax _____

Nominator's Signature _____

Nomination form should reach Section Secretary by December 1.

Complete nomination materials should reach Section Secretary by January 15.

Please consult section webpage (<http://www-math.cudenver.edu/~maa-rm/>) for complete guidelines.

Section Secretary - Hortensia Soto-Johnson, UNC Dept of Mathematical Sciences, Ross 2240 A, Greeley, CO 80639.

Voluntary Section Dues

Many thanks to those members who have made a voluntary dues contribution to the section along with their 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 check payable to: **MAA Rocky Mountain Section** and return to: Hortensia Soto-Johnson, MAA Rocky Mountain Section Treasurer/Secretary: UNC Dept of Mathematical Sciences, Ross 2240 A, Greeley, CO 80639

MAA Rocky Mountain Section Mission Statement

**To promote excellence in mathematics education,
especially at the collegiate level.**

Mission Related Goals

1. To foster scholarship, professional development, and professional cooperation among the various constituencies of the mathematical community within the region.
2. To foster the implementation and study of recent research recommendations for the teaching, learning and assessment of collegiate mathematics.
3. To support the implementation of effective mathematics preparation programs of prospective teachers at all levels.
4. To enhance the interests, talents and achievements of all individuals in mathematics, especially of members of underrepresented groups.
5. To provide recognition of the importance of mathematics, mathematical research and quality mathematics teaching, and promote public understanding of the same.
6. To provide regional leadership in the promotion of systemic change in mathematics education, and in the enhancement of public understanding about the needs and importance of mathematical research and education.