



Fall 2011 Newsletter

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

Fall 2011 Newsletter in PDF Format for Printing

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2011 - 2012 Section Officers and Committee Members

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

Section Executive Committee Officers for 2011 – 2012

Chair	Daluss Siewert Black Hills State University Spearfish, SD 57799-9029	daluss.siewert@bhsu.edu 605-642-6209
Chair Elect	William Cherowitzo University of Colorado Denver Denver, CO 80217	william.cherowitzo@ucdenver.edu 303-556-8381
Vice-Chair	Sarah Pauley Western Wyoming Community College Rock Springs, WY 82902	spauley@wwcc.wy.edu 307-382-1755
Secretary/ Treasurer	Heidi Keck Western State College of Colorado Gunnison, CO 81231	hkeck@western.edu 970-943-3167
Governor	Mike Brilleslyper USAFA Colorado Springs, CO 80840	mike.brilleslyper@usafa.edu 719-333-9514
Program Chairs	Shahar Boneh John Ethier Metropolitan State College of Denver William Cherowitzo University of Colorado Denver Jean Hindie	bonehs@mscd.edu jethier@mscd.edu 303-556-2604; 303-556-5316 william.cherowitzo@ucdenver.edu 303-556-8381 jean.hindie@ccd.edu

Other Committee Members and Representatives

Section Nominating Committee

Cathy Bonan-Hamada (Chair), Mesa State College cbonan@mesastate.edu
Jeremy Muskat, Western State College jmuskat@western.edu
Lynne Ipina, University of Wyoming ipina@wyo.edu

Awards Selection Committee

William Cherowitzo (Chair), UCD william.cherowitzo@ucdenver.edu
Sarah Pauley, WWCC spauley@wwcc.wy.edu
Rich Bogdanovich, CCAurora rich.bogdanovich@ccaaurora.edu
Beth Schaubroeck, USAFA beth.schaubroeck@usafa.edu

Section NExT Committee

Diane Davis (Co-Chair), Metro State ddavi102@mscd.edu
Bob Cohen (Co-Chair), Western State College rcohen@western.edu
Michael Barrus, BHSU michael.barrus@bhsu.edu

Section Book Sales Coordinator

Janet Heine Barnett, CSU - Pueblo

janet.barnett@colostate-pueblo.edu

Section Student Activity Coordinator

Carl Lienert, Fort Lewis College

lienert_c@fortlewis.edu

Higher Education Representative on CCTM Governing Board

Gulden Karakok, University of Northern Colorado

gulden.karakok@unco.edu

Public Information Officer and Section Liaison Coordinator

Heidi Keck, Western State College

hkeck@western.edu

Website Editor

Bill Briggs

University of Colorado Denver

william.briggs@ucdenver.edu

Newsletter Editor

Linda Sundbye

Metropolitan State College of Denver

Department of Mathematical and Computer Sciences

P. O. Box 173362, Campus Box 38

Denver, CO 80217-3362

sundbyel@mscd.edu

303-556-8437

FAX: 303-556-5381

**Rich Bogdanovich
of the
Community College of Aurora
named
2011 Distinguished Teacher**

At the Rocky Mountain Section spring 2011 meeting, the Burton W. Jones award for outstanding contributions to college-level teaching was presented to **Rich Bogdanovich** of the Community College of Aurora. As in past years, the decision of the selection committee was difficult due to the high caliber of nominees. It is clear year after year that the quality of teaching and the commitment to students runs very high in the Rocky Mountain Section. This year, Rich stood out for his deep commitment to helping students who may have struggled in past mathematics courses or who lack confidence in mathematics. Comments from past students paint a picture of a superb educator, who is patient, kind, encouraging, and who brings a wealth of experience and relevance to his mathematics classes. After a long and successful career in industry and business, Rich found his way into the classroom and has never looked back. Beyond the classroom, Rich volunteers his time to a number of organizations that promote mathematics and engineering within the community. His administrators and colleagues speak with great enthusiasm about what Rich brings to their organization. For his commitment to promoting mathematics and for what he provides his students, Rich Bogdanovich is well-deserving of this award. Rich will present the opening keynote address at the 2012 Rocky Mountain Section meeting.

Mike Brilleslyper

USAFA

Chair DTA Selection Committee

**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** Richard Grassl
University of Northern Colorado
- 2010** Eric Stade
University of Colorado at Boulder
- 2011** Rich Bogdanovich
Community College of Aurora

2012 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 lifelong 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://sections.maa.org/rockymt> and in this newsletter) by **1 December 2011**. **Complete nomination materials** (described on the website) are due **15 January 2012**.

Attention Putnam Coordinators

Putnam coordinators at the participating schools please send Dick Gibbs at gibbs_d@fortlewis.edu the top three scores and their team score. No names are requested at this time. When we know the top three scores and the top team score we will contact the schools for the names.

Chair's Report

I was privileged to attend MathFest in Lexington, Kentucky in August. Lexington was a great location for MathFest. The meeting facilities were spectacular and the heat and humidity were not nearly as bad as I expected. It

was great to see members of the Rocky Mountain Section activity involved in the meeting. **Mike Brilleslyper's** Governor's Report contains a lot of interesting information about what is happening at the national level so I encourage you to read his report and I will try not to repeat those items in my report. There were a few items discussed at the Section Officer's Meeting in Lexington that I would like to make you aware of.

1. Planning is well underway for MAA's Centennial year in 2015. The heart of this celebration will be at the MathFest meeting in Washington, DC, August 5-8, 2015. The meeting has been extended by a day to make the event even larger. At this meeting will be a gala birthday celebration (including an opening procession of the section flags), musical and theatrical performances to go along with the art exhibit (our meeting will be held jointly with the Bridges conference), and, as always, great talks and many opportunities to meet old friends and make new ones. MAA sections are asked to dust off/update/write a section history. If you have interest in being involving in such a project, please let me know. We were also asked to consider displaying framed copies of historical documents and photographs at our section meeting in Spring 2015.
2. Due to state sales tax issues, MAA books purchased at section meetings will now all have to be ordered and there will be no books available to take home immediately after purchase as there has been in the past. The prices of the books will remain the same, that is, no shipping costs will be added and any sales tax will be covered by national. As before, a portion of book sales at the section meeting will go back to the section so I encourage you to consider purchasing books at the section meeting even though you will have to wait to enjoy reading the book until it can be shipped to you. Display copies (and current inventory) cannot be sold at the meeting and sections are encouraged to use creative ways – promotions, raffles, etc. – once titles are no longer needed for display.
3. The Section Officer's page on the MAA website is being completely redone with the goal of making all information a section officer may need available within 3 clicks. This will be of interest to those of you who

will become section officers in the next few years and those current or former officers who have had a difficult time locating information on the current site. This webpage will be available later this fall. This new webpage will include a tab for news/section events/deadlines and a tab for resources. The resources tab will be for obtaining information from national, as well as, for sections to share ideas with one another.

4. There are many opportunities to get plugged in with the MAA on the national level by serving on a MAA committee. Your expertise and willingness to serve the mathematics discipline and our professional organization in this manner are greatly appreciated. If you are interested in being nominated to serve on a national committee, please communicate this interest to me or anyone on the Executive Committee.

For those of you who were privileged to attend the Rocky Mountain Section meeting at CU-Boulder know what a great job **Eric Stade** and **Rob Tubbs** did in organizing a great meeting with many excellent keynote addresses and a wide variety of special sessions of contributed papers. As expected, attendance at the meeting was strong. It had been more than 30 years since the section meeting was at CU so it is as great to have the meeting back in Boulder. Thank you Eric and Rob for stepping up to become program chairs and offering CU-Boulder as the location of the Spring 2011 meeting.

The Spring 2012 meeting will be held on the Auraria Campus in downtown Denver on April 13th and 14th and will be co-hosted by Metropolitan State College of Denver, the University of Colorado Denver, and the Community College of Denver. Program co-chairs: **Shahar Boneh** (MSCD), **John Ethier** (MSCD), and **William Cherowitzo** (UCD) are putting together what is sure to be a great meeting. We are fortunate to be in the first group of sections to participate in the MAA's new Editor Lecture Series. **Walter Stromquist**, editor of *Mathematics Magazine*, will be our guest and will give a lecture at our Spring 2012 section meeting. **Doug Ensley**, MAA Second Vice-President, will be our visitor from national under the MAA Section Visitor Program. We look forward to having these two excellent speakers participate in our section meeting!

We have just one election to conduct this year – it is for Section Vice-Chair. This is a two-year term that begins in April 2012 and the election will take place at the Spring 2012 section meeting. This position must be filled by a person associated with a two-year college. If you know of a colleague interested in serving in this position, or if you yourself are interested, please contact the nominating committee chair, **Cathy Bonan-Hamada** at cbonan@mesastate.edu.

I will end this report with a request. Please consider nominating one of your excellent colleagues for the Burton W. Jones Distinguished Teaching Award. Our section has many fabulous teachers and we would love to have the opportunity to honor that commitment and talent with this award.

Respectfully submitted,
Daluss Siewert, BHSU
Chair, Rocky Mountain Section

Governor's Report

I have just returned from Mathfest in Lexington, KY and my first MAA Board of Governors (BoG) Meeting. It was an interesting and rewarding experience and I am looking forward to serving in this role over the next few years. I will say that I went into the meeting with a bit of trepidation. Perhaps it was the 8 hours scheduled for the meeting or the lengthy agenda supported by 128 pages of proposals and reports. As it turned out, we finished in only 7 hours and it only required one latte (venti, of course) to get through it. I was helped by the fact that our own former RMS secretary/treasurer, **Hortensia Soto-Johnson**, is also on the Board as the Governor-at-Large for Minority Affairs. I took a lot of notes as the day went on—far too many to relay in this report. However, it is important that the members of the MAA understand the issues and work being done at the national level. Thus, I have distilled my many screens of notes down to just ten items. Think of it as a combination of David Letterman's top 10 list and ESPN's top 10 plays of the week.

10. Paul Zorn (St. Olaf College) took over from David Bressoud (McAlister College) as MAA president and this was his first BoG

meeting. He has a clear vision for the MAA and is committed to making the MAA the preeminent organization concerned with all aspects of undergraduate mathematics. He spoke of the scope of the organization to include meetings, professional development opportunities, publishing, curriculum guides, undergraduate research, and the MAA's ever-increasing web-presence and services. There was also quite a bit of banter about the state of Minnesota's recent hold on the MAA presidency.

9. There are many questions about the future of MAA publishing. The publishing world is changing at a rapid pace with the advent of print-on-demand texts, e-readers, interactive e-books, increased competition to attract buyers, free web-content, etc. While there is no doubt that the quality of MAA publications is among the highest in the industry, it is not completely clear of the best directions. Should the MAA publish books for niche markets? Should the MAA publish entry-level texts (a currently lucrative market)? In addition, there are questions about MAA journals (I'll have more to say about this when I talk about membership).

8. The MAA is nearing completion of a complete cycle of strategic planning that began in 2003. Each year, several areas were targeted for a complete review. A committee was formed that included key committee members from the area as well as the staff director from the MAA. These strategic reviews have contained numerous recommendations, many of which have been enacted by the Executive Committee over the years. The complete reports from each strategic planning committee are available in the members section of the MAA website. Executive Director, Tina Straley, noted that the way ahead is not completely clear, but recommended that 2011-2012 is a very good time to take stock of where we are as an organization to determine the best approach to continue moving the MAA towards meetings it goals.

7. The Exxon-Mobil Corporation has been generously supporting Project NEXt since its inception in 1995. This year is the last year of their financial support. Though this is disappointing, we should note that the length of their support is almost unprecedented in terms of corporate sponsorship. Over the years, Project NEXt has garnered other donors and means of financial support. The MAA Office of Development will continue to seek outside

sources of funding for what is arguably the MAA's most successful professional development program. As a side note, it was heartening to see the enormous Project NEXt presence represented among the governance and the leadership of the MAA. This could just mean that the early groups of NEXt Fellows are getting old, but I suspect it means that Project NEXt is doing an extraordinary job with the Fellows of engendering long-term commitment to the MAA and the profession.

6. The American Mathematics Competitions (AMC 8, 10 & 12) continues to flourish with record numbers of students participating. At the highest levels, the students selected for the U.S. Math Olympiad Team, took 2nd place at the International Math Olympiad, their best showing since 1994. This program may be responsible for encouraging some of our brightest high school students to pursue the mathematics major in college. The MAA is, by far, the largest provider of mathematics competition exams in the U.S.

5. There was a discussion concerning MAA membership. While overall membership has stayed somewhat stable, the distribution and types of memberships has been changing. All student memberships are now completely electronic. There are also reduced rate memberships for high school teachers. A central question in all cases is what benefits should accompany an MAA membership. Are there certain items that should be included with all memberships (such as receiving MAA Focus) or should the MAA adopt a "cafeteria style" approach, allowing members to pick and choose among various options. The MAA Director of Member Services is very interested in what the current members think about this issue.

4. A number of technical, behind-the-scenes, improvements have been made regarding the MAA website. There is a wealth of information on the website (both for members and the general public), but it is often hard to find or access. A complete overhaul in terms of organization and design is in the works. Additionally, MAA is moving forward in expanding their ability to host WebWork courses. Currently, free trials for courses with up to 100 students are still available. The MAA will be moving towards a pay system where institutions will pay \$200 (for institutional member) or \$300 (non-members) per course. Note that this cost is per course and not per

student! Projected availability of this service is late August 2011.

3. The financial health of the MAA is sound. Between real-estate holdings, investments, and the operating budget, the MAA has total assets of roughly \$15 million. The past several years the MAA has run a deficit in the operating budget. Due to excellent fiscal planning and responsibility, the MAA has been able to cover these short-run deficits. However, consistently running a deficit is not a good business model and the Executive Committee and the Budget Committee are adopting a number of cost-cutting measures to bring the operating budget back in line with expected revenue. The MAA hired a new audit firm last year and has received a very clear audit report. It is evident that the leadership of the MAA, along with the treasurer, investment committee, and budget committee has been excellent stewards of the MAA holdings.

2. The current MAA treasure, John Kenelly (Clemson), is stepping down after 10 years in office. The new treasurer, elected by the Board, will be Jim Daniels (UT Austin). In addition, there are some new faces on the investment and budget committees.

1. On Jan 1, 2012, Michael Pearson will take over as Executive Director of the MAA. The current Executive Director, Tina Straley, has faithfully served the organization for 12 years. Under Tina's leadership the MAA has grown as an organization both financially and in its influence on the mathematics profession. Tina has worked with four MAA presidents and dozens of different members of the Executive Committee during her tenure. Current MAA President, Paul Zorn, lauded Tina's vision, commitment, and leadership over the years. Michael Pearson was selected as the new Executive Director by a search committee consisting of long-time MAA members representing a diverse cross-section of MAA experience and governance. Their unanimous view that Michael was the best candidate for the job is a ringing endorsement of his potential to lead the MAA over the next many years. The Board of Governors voted to approve the search committee's recommendation.

The next Board of Governors Meeting will be in January at the Joint Mathematics Meetings in Boston. Please contact me with any ideas, suggestions, or concerns about the MAA. The

MAA exists to serve its members and to advance the profession.

I hope you are having a great fall semester!

Respectfully submitted,

Mike Brilleslyper, USAFA

Governor, Rocky Mountain Section

Section News

Black Hills State University

We have two new instructors at Black Hills State University. **Kristel Ehrhardt** from the Baltimore-Washington, D.C. area was hired as an instructor to work primarily with our developmental math program. Kristel has a MA in Teaching Mathematics from the University of Maryland, Baltimore County and two bachelor's degrees: a BA in Mathematics from the University of Maryland, Baltimore County and a BS in International Business from Strayer University. Kristel is the former president of two honor societies: Pi Mu Epsilon and Alpha Chi Honor Society. **Gretchen Thompson** who recently completed her Master's degree in Mathematics from East Carolina University was hired as an instructor to replace **Curtis Card** who is currently serving as Interim Dean of the College of Liberal Arts at BHSU. Gretchen also has a Bachelor's degree in Mathematics from Randolph College. Gretchen will also be working with our developmental math program, as well as, teach our general education mathematics courses. We are very pleased to have these two new very talented colleagues join us and we expect they will quickly become actively involved in the Rocky Mountain Section of the MAA.

Many of you in the Rocky Mountain Section of the MAA may be interested to know that Black Hills State University is moving up to NCAA Division II and will be joining the Rocky Mountain Athletic Conference (RMAC) next year. Many of the institutions in the Rocky Mountain Section of the MAA are also a part of RMAC.

Colorado School of Mines

Due to a strategic realignment at the Colorado School of Mines, the former Department of Mathematical and Computer Sciences has been split. **Willy Hereman**, an applied mathematician who has been at Mines since 1989, was appointed as the Interim Head

of the newly created Department of Applied Mathematics and Statistics (AMS). **Gus Greivel** serves as Assistant Department Head and **Barbara Moskal** (Interim Director of the Trefny Institute for Educational Innovation) continues as liaison with the MAA.



Willy Hereman, Colorado School of Mines

This fall, **Cory Ahrens** joined the AMS Department as an Assistant Professor. Cory received his B.S. and M.S. degrees in Nuclear Engineering from Kansas State University and the University of Michigan, respectively. In 2006, he received his Ph.D. in Applied Mathematics from the University of Colorado in Boulder. With the addition of Cory, the AMS Department has 15 faculty members.

The curriculum of the AMS Department focuses on the synergy between computational, applied mathematics and statistics. The AMS Department is a destination for students who want to gain expertise in all of these fields as an entry way to a rewarding career in academia, government, or industry.

Colorado State University - Pueblo

Congratulations to **Igor Melnykov** on his recent promotion to associate professor of mathematics with tenure. Congratulations also to **Janet Nichols** for winning the 2010 University Award for Excellence in Teaching at CSU – Pueblo.

This fall the department received a five-year, \$1.26 million grant from the NSF Robert Noyce Teacher Scholarship Program to address the critical shortage of K-12 mathematics teachers in southeastern Colorado. **Janet Barnett** is the

PI and **Victoria Marquesen, Janet Nichols** and **Frank Zizza** are co-PI's.

Shajid Haque is a new visiting professor in the department. He recently completed his Ph.D. in theoretical physics at The University of Wisconsin – Madison.

Senior math major **Tyler Bongers** had an REU at California State University, Channel Islands. His project was titled "Constructible Sets and the Borel sigma-Algebra" under the direction of **Jorge Garcia**. Senior **David Borrego** participated in an SROP through Pennsylvania State University. He spent nearly three months in South Africa learning non-intrusive subsurface mapping techniques to locate faults, dykes and ground water.

Metropolitan State College of Denver

The Department welcomes new hires: **John Carter** in Mathematics Education, **Weiyang Zhu** in Computer Science, and **Aaron Gordon** who is returning to our Computer Science program after spending the last seven years at Fort Lewis College.

South Dakota School of Mines and Technology

It looks to be another exciting year at SDSM&T. **Julie Dahl** was honored last spring with the Ennenga Teaching award, which is the annual teaching award the campus gives to just one faculty member to recognized excellence in teaching. We also have a new faculty member, Dr. **Kyle Caudle**, who is a Statistician coming from the Naval Academy. We have two other hires in the Computer Science area with Dr. **Mengyu Qiao** from the New Mexico Institute of Mining and Technology, and Dr. **Fuming Wu** who is coming from Texas A&M International University in Laredo, TX.

University of Colorado at Boulder

Robert 'Kent' Goodrich retired from our Department in December 2010, and was named a Professor Emeritus. There was a grand celebration in his honor in April 2011 at the Koenig Alumni Center in Boulder.

Professor Emeritus **Irving Weiss** passed away in May 2011. Hundreds of people attended a memorial service in his honor held at the Chautauqua center in Boulder.

Our first **Burnett Meyer** postdoctoral fellow, **Graeme Wilkin**, moved on to take up a tenure-track Assistant Professor position at the National

University of Singapore beginning in July 2011. Our new Burnett Meyer postdoctoral fellow, **Rahbar Virk**, who received his Ph.D. from the University of Wisconsin Madison, joined us for the Fall Semester of 2011.

We are very pleased to announce that **Carla Farsi** has been promoted to full professor in the Department, effective for the 2011-2012 academic year, and to announce that our colleague **Keith Kearnes** was awarded a Fulbright Fellowship for the fall semester of 2010 to collaborate with a group of researchers in Hungary on applications of relational clones to algebra and theoretical computer science. Also, our former chair **Eric Stade**, winner of the 2010 Burton Jones award for teaching excellence, has been named a President's Teaching Scholar in the University of Colorado system. This is a lifetime appointment, and is designed to honor faculty who have excelled in effective and exemplary teaching, creative work, scholarship, and research. The President's Teaching Scholars are chosen from all University of Colorado campuses designated not only for skill in their own classrooms, but for their promise of improving education and enlarging its possibilities across the University.

In Fall 2010, **Markus Pflaum** received a conference grant from the NSF for his project entitled 'Quantization for singular spaces'. In the summer of 2011, **Stephen Preston** was awarded a three-year NSF grant for his project titled 'Geometric aspects of hydrodynamic blowup', and **Sebastian Casalaina-Martin** was awarded a three-year NSF grant for his project titled 'Geometry of Moduli Spaces, Arithmetic Quotients and Theta Divisors'.

University of Colorado Denver

In faculty news, **Dr. Julien Langou** has earned tenure and been promoted to Associate Professor, **Gary Olson** is spending the year teaching in China as part of the UCD International College of Beijing program, **Dr. Bill Cherowitzo** was elected chair-elect of the Rocky Mountain Section of the MAA, and current postdoctoral fellow **Dr. Paul Wenger** has accepted a tenure track position at the Rochester Institute of Technology, to begin in Fall 2012.

It has been a good year for both research and educational grant activity in the department: **Dr. Lynn Bennethum** is co-PI on a state Math Science Partnership grant entitled "Physics First

Science Partnership", **Dr. Mike Ferrara** won a Simons Foundation Collaboration Grant, **Dr. Andrew Knayev** is P.I. on an NSF grant entitled "Parallel Preconditioned Eigenvalue and Singular Value Solvers", and **Dr. Diana White** is co-P.I. on an NSF DR-K 12 grant to study the national Math Teachers' Circle Program.

Most notably, **Dr. Julien Langou** has been awarded NSF Career Grant, only the third such award ever received on the UCD campus, and the first ever in the Department of Mathematical and Statistical Sciences.

The department eagerly welcomes several new faculty:

Dr. Rodney James is an Assistant Research Professor. Prior to coming to UCD, he was a Postdoctoral Fellow in the Mathematics Department at Colorado State University, where he also received his Ph.D. with Rick Miranda in 2010. His research interests include algebraic geometry, discrete geometry, and numerical analysis.

Dr. Lane Andrew is a full-time instructor. He earned his Ph.D. in mathematics education from the University of Northern Colorado in 2010. His research interests focus on mathematical induction and rubrics for grading mathematical proofs.

Joseph Bilello is a full-time instructor. He comes to UCD with a masters' degree in mathematics education and over 20 years of high school teaching experience. He will be helping with the department's assessment for the CU Succeed Program, a dual enrollment program for high school students in Colorado.

Finally, in student news, graduate students **Breann Flesch**, advised by **Dr. Rich Lundgren**, and **Keith Wojciechowski**, advised by **Dr. Lynn Bennethum**, earned their Ph.D.s and now have tenure track jobs at Western Oregon University and the University of Wisconsin Stout, respectively. Additionally, Ph.D. student **Yaugen (Eugene) Vecharynski**, advised by **Dr. Andrew Knayev**, won the College of Liberal Arts and Sciences Outstanding Ph.D. Student Award, and **Manuchehr Aminian** won the 2011 Undergraduate Outstanding Research Award.

University of Colorado at Colorado Springs

Greg Oman is a new Assistant Professor from Ohio University. Greg's research is in Ring and Module theory. The Math dept. at UCCS

has undergone a series of retirements and corresponding replacement hiring of faculty over the past few years. Assistant Professors **Barbara Prinari** and **Zak Mesyan** were hired in previous consecutive years prior to this year's hiring of Greg Oman. This year Senior Instructor **Shannon Michaux** won a Campus level Outstanding Instructor award.

Western State College

In the last year we have had several changes to our faculty. **Bob Cohen** was awarded tenure and promoted to associate professor. **Tanya Rivers** has joined UNC as a graduate student. And we hired **Ann Scheels** and **Ron Bingaman** as math lecturers.

Edith Cranor-Buck is in her third year leading a combined developmental math and English course. She and a faculty member from English co-teach a 6-credit block of courses integrating remedial skills and college readiness. Early data indicate improved retention for the initial cohort of students.

University of Northern Colorado

We have some transitions to report. **Terry Scott**, Professor of Computer Science, retired this summer. We are very pleased to announce two new hires. **Oscar Levin** is a new tenure-track faculty member in mathematics. He received his Ph.D. from the University of Connecticut and his research area is mathematical logic and effective algebra. **Anurag Dasgupta** is in a visiting position in computer science this year. He received his Ph.D. from the University of Iowa and his research area is in distributed systems.

We have several faculty members working on grant related projects. The Educational Advancement Foundation is supporting the work of Nat Miller to mentor grad students in inquiry based learning methods in geometry. **Tensia Soto-Johnson** has a grant from the Association of Inquiry Based Learning to support her project in the teaching and learning of complex variables. **Jodie Novak** and **Rob Powers** are working on an MSP grant with District 6 in Greeley; and **Cathleen Craviotto**, **Tensia Soto-Johnson** and **Gulden Karakok** are working on an MSP grant with the Adams 14 school district.

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.

9th Annual Pikes Peak Regional Undergraduate Mathematics Conference

Colorado College

Saturday, February 25, 2012

Please mark your calendars for the next PPRUMC. This one-day conference will feature talks by students, a keynote speaker, and a panel discussion on careers and graduate school. Based on recent attendance, we expect several dozen student presenters and over one hundred attendees, from all over Colorado and neighboring states. There are no registration fees, lunch will be provided, and some financial reimbursement for travel expenses will be available.

Please encourage your students to present their research, independent study projects, or other mathematics-related topics. Each student presenter will give a 20-minute talk. The deadline for submitting an abstract will be approximately February 11, 2012. More details and registration information will be available later this fall at:

www.coloradocollege.edu/dept/MA/PPRUMC

For more information, please contact Dr. **David Brown**, dbrown@coloradocollege.edu or (719) 227-8215.

Funding for the PPRUMC is provided by NSF grant DMS-0846477 through the MAA Regional Undergraduate Mathematics Conference program, www.maa.org/RUMC

Rocky Mountain Section Certificate of Meritorious Service

The Rocky Mountain Section of the MAA has selected **Dr. Hortensia Soto-Johnson** from the University of Northern Colorado for the MAA Certificate of Meritorious Service. Hortensia (known as Tensia to MAA members) has a long record of outstanding service to the MAA. Tensia's outstanding leadership as the section Secretary/Treasurer has provided a pillar of strength for the section and proved a pivotal role in getting our section to establish a graduate student session at the section meetings. Tensia managed to leverage section resources to provide partial travel support to graduate students at the local research universities, which has resulted in the students recruiting additional peers to attend the section meeting. The graduate student session has been a great addition to the program and it has also provided a catalyst for other research based sessions at the section meeting. Tensia has served on several national MAA committees, has chaired some of these national committees, and has served on the Board of Governors twice. She has also served on the editorial board for the Focus and for MAA Online plus she currently serves on the committee that organizes the Jim Leitzel Lecture Series. Tensia has made numerous contributions to the section and to the MAA, see the partial list below, but more importantly it is the quality of her contributions that has made her a valued resource to our section. Tensia has an outgoing and positive attitude that makes her a joy to work with along with a strong ability to get the job done. It is fortunate that the timing of this award lends us the opportunity to recognize Tensia for her service as she steps down from the position of secretary/treasurer and we look forward to the contributions that she will make in the future.

MAA Service Record for Dr. Hortensia Soto-Johnson

- MAA Board of Governor Minority Representative (2011-Present)
- Jim Leitzel MAA Lecture Series Committee Member (2011-Present)
- Secretary/Treasurer of the MAA Rocky Mountain Section (2005-2011)
- Editorial Board of The Focus and MAA Online, published by the Mathematical Association of America, (2002-2010)
- MAA Minicourse Committee (2005-2011)
- Review Panel for the MAA Tensor Grant Proposals (2010)

- Chair of RUME Committee on Mentoring (2009-2010)
- MAA Web Policy and Procedures Committee (2004-2010; chair 2007-2010)
- Member of the Mathematical Association of America Conference Center Advisory Board, (2002- 2008)
- MAA Strategic Planning Committee Finance Working Group (2005-2006)
- Organized Section NExT Meeting at MAA Rocky Mountain Section Spring Meeting (2004)
- Organized the 1st Annual Pikes Peak Regional Undergraduate Mathematics Research Conference (2003-2004)
- Governor for the Mathematical Association of America Rocky Mountain Section, (2002-2005)
- Mathematical Association of America Electronics Committee, (2002 – 2005)

Student Activities

Students are invited to participate in the MAA Sectional meeting on the Auraria Campus, and hosted by Metropolitan State College of Denver, the University of Colorado Denver and the Community College of Denver, April 13-14, 2012. There will be student sessions in which you can attend, as well as a student poster session.

You may also present a poster. Bring a poster relating to your independent study, senior seminar, modeling contest, etc. Anything with mathematical content will be appropriate.

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

**Rocky Mountain
Section NExT News**

Project NExT (New Experiences in Teaching) is a national faculty development program of the MAA for new or recent Ph.D.s in

the mathematical sciences. It addresses all aspects of an academic career: improving the teaching and learning of mathematics, engaging in research and scholarship, and participating in professional activities. It also provides the participants with a network of peers and mentors as they assume these responsibilities. Section NExT-RM is a smaller scale, regional, version of the national Project NExT program, specifically serving the members of the Rocky Mountain Section of the Mathematical Association of America (MAA). The goals of Section NExT-RM are similar to those of the national program, but Section NExT-RM has the additional focus of establishing links between the different types of institutions in the Section. This program also has a broader eligibility than the national program and provides activities which incorporate issues specific to the Section.

Section NExT-RM is open to non-tenured faculty members who are within their first five years of teaching at a two-year college, four-year college, or university within the Rocky Mountain Section of the MAA.

The 2011 meeting for our Section NExT-RM fellows was at the section meeting in April 2011 at the University of Colorado in Boulder. We had four great sessions on recruiting and keeping math majors, innovative teaching, tips for tenure, and grant writing. Sessions were organized by returning fellows and included panelists and speakers from institutions in the Section.

Our next meeting for the Section NExT-RM Fellows will be part of the MAA section meeting that will be held April 13-14, 2012 and co-hosted by Metropolitan State College of Denver and University of Colorado-Denver. The Section NExT-RM sessions will occur both just prior to and just following the annual section meeting. At this workshop, participants will discuss topics suggested by, and of special relevance to beginning faculty. Section NExT-RM Fellows will remain in contact with one another via an electronic network, and are expected to attend the Spring 2013 Rocky Mountain MAA Section meeting.

Section NExT-RM is a wonderful way for new faculty to become involved in the mathematical community at a regional level by building strong connections with peers and institutions throughout the Rocky Mountain Section.

Further information on the program will be

available at:

<http://faculty1.coloradocollege.edu/~ataylor/SectionNextHomePage.html>

Look for the application for 2012 Section NExT-RM Fellows posted at this website beginning in November. For more information, please contact:

Bob Cohen (rcohen@western.edu) or Diane Davis (ddavi102@mscd.edu), Co-Chairs of the Section NExT-RM steering committee, or any of the other members of the steering committee: Sarah Pauley (spauley@wwcc.wy.edu), or Michael Barrus (michael.barrus@bhsu.edu).

Diane Davis and Bob Cohen
Section NExT Co-Chairs

A Message from your MAA Higher Ed Liaison to the CCTM

My name is **Gulden Karakok**, and I am the new MAA/Higher education liaison on the Colorado Council of Teacher of Mathematics (CCTM) board of directors. I will continue to establish better communication between CCTM, MAA and higher education community. **Clark Dollard**, former MAA/Higher education liaison,

created an email list of higher education faculty who are interested in receiving updates about the implementation of the new Colorado Academic Standards and the national Common Core Standards, as well as other information about current events in the Colorado K-12 mathematics education community. We will continue with the existing email list, and if you would like to be added to this email list, please contact me at gulden.karakok@unco.edu

The CCTM started to offer a series of workshops in cooperation with the Colorado Department of Education to support teachers for implementation of new Colorado's Academic Standards. During their first series the focus was to enhance understanding of ratio and percent. The workshop series will continue throughout the year and more information can be found on the CCTM website: <http://www.cctmath.org>.

Also, the 2011 CCTM Conference, *Setting the New Standard for Mathematics Teaching and Learning*, will be held at the Denver Merchandise Mart on Thursday evening, October 27 and Friday, October 28. The conference includes workshops, presentations, exhibits, networking, and discussions of important challenges and issues. You can register online at CCTM website:

<http://www.cctmath.org>.

The Rocky Mountain Math Teacher's Circle

Section Activities Grant Report

Beginning its second year, the Rocky Mountain Math Teachers' Circle (RM-MTC) continues to provide a summer workshop and an academic year monthly forum for middle level math teachers to come together to work on their mathematical problem solving. In Fall 2010, we were awarded a Section Activities Grant through the Rocky Mountain Section of the MAA. This funding came at a key time in the growth of the program, enabling us to fund last year's academic year workshops. From November through May, we held four Saturday morning sessions on the UCD downtown campus. These allowed us to continue our efforts from the Summer 2010 workshop as well as build up a larger base of teachers for this past summer's workshop. In Spring 2011, we were awarded a

generous grant from the Mikkelson Foundation, which funded the bulk of the Summer 2011 workshop, which drew 23 teachers from 13 different districts around Colorado. We are following this up with nine academic year sessions, held on Saturday mornings from 8:30-noon. In total, we have served over 80 teachers representing approximately 20 school districts. A variety of mathematicians and statisticians have facilitated sessions over the past year, to include UCD faculty members **Mike Ferrara**, **Stephanie Santorico**, and **Diana White**, as well as teachers **Carmen Rubino**, **Linda Goertz**, and **Joshua Hagin** from the St. Vrain Valley School District.

The RM-MTC is part of a national network of Math Teachers' Circles, loosely organized by the American Institute of Mathematics. This growing national network has approximately 34 active MTCs and 11 in their initial planning year. It is worth noting that there are now three Math Teachers' Circles in the state of Colorado: the **Pikes' Peak MTC**, led by **Gene Abrams** from UCCS, is in its third year, the **Rocky Mountain MTC**, led by **Diana White** from UCD, is in its second year, and the **Northern Colorado MTC**, led by **Cathleen Craviotto** from UNC, is in its initial planning year.

If you are interested in getting involved in the RM-MTC or in facilitating a problem-solving session during the academic year or next summer, please contact Diana White (diana.white@ucdenver.edu).

For more information on the RM-MTC, visit <http://rmmtc.ucdenver.edu> and for additional information on the national Math Teachers' Circle Network, visit

<http://www.mathteachercircle.org>.

The Three Institutions of the Auraria Campus to Host the 2012 Meeting

The 2012 Rocky Mountain Section Meeting will be held at the Auraria campus, near downtown Denver, on April 13 and 14, 2012.

The meeting will be hosted jointly by the Metropolitan State College of Denver, the University of Colorado Denver, and the Community College of Denver.

Details of the meeting will be forthcoming.

SESSION PROPOSAL SUBMISSIONS

An invitation to attend the meeting and contribute is extended to all mathematicians and anyone interested in mathematics, particularly mathematics teachers at all levels including middle school, high school and college, as well as undergraduate and graduate students.

We are currently inviting proposals for organizing parallel sessions and/or panel discussion topics in all areas of Mathematics. A typical session will consist of 4-9 talks of 20-25 minutes each.

Anyone interested, please submit session and panel discussion topic proposals by December 20, 2011 to **Shahar Boneh** at bonehs@mscd.edu.

REGISTRATION AND ABSTRACT SUBMISSIONS

Registration information will be forthcoming.

For full consideration, talk titles and abstracts should be submitted by March 16, 2012. Please submit by e-mail to **John Ethier** at jethier@mscd.edu.

INVITED SPEAKERS

The meeting will feature three invited speakers:

- 1) **Mr. Richard Bogdanovich**, Community College of Aurora
The 2011 Burton W. Jones Distinguished Teaching Award Recipient.
- 2) **Dr. Douglas Ensley**, Shippensburg University, Shippensburg, PA
Second Vice President of MAA.
- 3) **Dr. Walter Stromquist**, Editor of *Mathematics Magazine*

For any questions or requests, please contact any of the Program Co-Chairs:

Shahar Boneh at bonehs@mscd.edu

John Ethier at jethier@mscd.edu

William Cherowitzo at william.cherowitzo@ucdenver.edu

Jean Hindie at jean.hindie@ccd.edu

2011 Section Meeting Report

The 2011 Annual Meeting of the Rocky Mountain Section of the MAA was held April 8 and 9, 2011, at the University of Colorado, Boulder. Among the registered participants were graduate and undergraduate students, K-12 teachers, and several members of the business, government, and industry sector.

The meeting officially opened on Friday afternoon with a welcome message from Judy Packer, Chair of the Department of Mathematics at CU-Boulder. The program then started with a lecture by the 2010 Burton W. Jones Distinguished Teacher Award Recipient **Eric Stade** (University of Colorado, Boulder) *FTs, DFTs, and FFTs, or: Joe Fourier and the Birth of Disco*. Later on Friday afternoon **Edward Burger** (Williams College) gave an invited address, *Planting Your Roots in the Natural Numbers: A Rational and Irrational Look at 1, 2, 3, 4*. Following Friday evening's banquet, **Joseph W. Dauben** (Herbert H. Lehman College, CUNY) spoke on *Writing Biographies: Mathematicians as Historical Subjects*. On the morning of April 9, **Frank A. Farris** (Santa Clara University) delivered the meeting's fourth invited talk, *The Gini Index and Measuring Inequality*.

The contributed paper program on Friday afternoon and Saturday morning included 52 talks, including talks given by both undergraduate and graduate students. The program sessions were dedicated to *Combinatorics, Mathematics Education, History of Mathematics, and Student Presentations*; there was also *General Session*.

Other meeting activities included a workshop on Friday morning, conducted by Laurie Langdon (University of Colorado, Boulder), *Using Learning Assistants at Your University*. The topic under discussion at Friday's luncheon for Department Chair's and MAA Liasion's was the *Common Core State Standards in Mathematics*. There was also a concurrent Section NeXT meeting on both days of the conference.

Eric Stade and Rob Tubbs, Program Co-Chairs



Rob Tubb, Hortensia Soto-Johnson, and Eric Stade

Contributed Papers - 2011 Section Meeting

Combinatorics

Michael Barrus, Black Hills State University
Residues and Independence Numbers of Unigraphs

William Cherowitzo, University of Colorado Denver
Using Duality

Michael Ferrara, University of Colorado Denver
List-Distinguishing Colorings of Graphs

Young Jo Kwak, University of Colorado at Boulder
Automorphisms of Lie Algebras Equipped with Some Combinatorial Basis over $GF(2)$

Paul Wenger, University of Colorado Denver
Saturation Numbers for Families of Subdivisions

Everett Piper, University of Colorado at Boulder
A Combinatoric Problem Related to Fermat's Last Theorem

Morgan Rodgers, University of Colorado Denver
Special Line Classes in Projective Space

Tim Morris, University of Colorado Denver
Pancyclicity of 4-Connected, Claw-Free, P_{10} -Free Graphs

General Session

Andy Keck, Western State College
Modeling Disease in a Network

Tianyu Zhang, Montana State University
Electrodiffusion in Microbial Biofilms

Michael Brilleslyper, U. S. Air Force Academy
Student Mastery of Derivative and Integral Skills: Wishful Thinking?

Michelle Ghrist, U. S. Air Force Academy / Air Force Space Command Applied Mathematics
Finding Beauty in the Details and Messiness

Markus Pflaum, University of Colorado at Boulder
Liber Mathematicae: A New Mathematics Collaboration and Publication Tool

Kyle Riley, South Dakota School of Mines and Technology
The View from the (soon to be former) Section Governor

Tim Trenary, Regis College
Hybrid Domain Processing of JPEG Images

Shahar Boneh, Metropolitan State College of Denver
Some Interesting and Unexpected Results in a Probability Course

Igor Melnykov, Colorado State University – Pueblo
An Effective Clustering Algorithm for Gaussian Mixture Models

Louis Talman, Metropolitan State College of Denver
Extending Some Elementary Numerical Quadratures

Zim Olson, Zim Mathematics
Summary of Zim Mathematics

Ivan Raykov, CSU – Pueblo
Optimization Problems with Fitzpatrick Functions

Mathematics Education

Mary Nelson, University of Colorado at Boulder
Saving Mathematically Unprepared Aspiring STEM Majors: Two-Semester Calculus I with Orals

Rebecca-Anne Dibbs & Viktor Blasjo, University of Northern Colorado
Formative Writing and Student Achievement in First Semester Calculus

Michael Klymkowsky, University of Colorado at Boulder
Calculus, Stochastics, & Modeling (CSM): Foundational Mathematics for Analytical Sciences

James Haley and Benjamin Dyhr, Metropolitan State College of Denver
JAVA Applets for Introductory Statistics

Jim Loats, Metropolitan State College of Denver
Using “Just-in-Time-Teaching (JiTT)” to increase student preparation for each class

Curtis Card, Black Hills State University
A Second Chance for Algebra Success (@ No Extra Charge)

Sarah Rozner, University of Northern Colorado
The Dynamic Visualization of Complex Variables: The Case of Ricardo

David Glassmeyer & Melissa Goss, University of Northern Colorado
Discourse Variation between Online Mathematics Sections

Diana White, University of Colorado Denver
A Preliminary Investigation into Math Teachers' Circles

Silva Chang & Anne Dougherty, University of Colorado at Boulder
Colorado Math Circle: The First Five Years

Dan Hawkey, foundationalmathematics.info
Why is there Mathematics rather than Nothing?

(This session ended with a short meeting of the *Rocky Mountain Association of Mathematics Teacher Educators* chaired by Rob Powers, UNC)

History of Mathematics

Dave Ruch, Metropolitan State College of Denver
Some Early History of Linear Difference Equations

Janet Barnett, Colorado State University – Pueblo
An American Postulate Theorist: Edward V. Huntington

Daniel Swenson, Black Hills State University
Hilbert's Fifth Problem and One Application

George Heine, Math and Maps
How Euler Proved Something Obvious

Student Research Session

Samantha Graffeo, University of Colorado Denver
Looking to Extend Path Partitionability to Tripartite Graphs

John Myers, South Dakota School of Mines and Technology
An Algorithm for Unitary Equivalence of Matrices and a Path-Connectedness Application

Daniel C. Jones, Colorado State University at Fort Collins
Controlling Chaos: Global Stability Analysis

Gentry Peppin, Fort Lewis College
Period Three Implies Chaos

Kristara Lee, Fort Lewis College
Building Bernoulli Numbers

Nicholas Harnish, Fort Lewis College
The Dynamics of Mobius Transformations on the Sphere

Jennifer Maple, Colorado State University at Fort Collins
Steady State Hopf Mode Interaction in Anisotropic Systems

Eric Robinson, United States Air Force Academy
A Visual Tour of the Mathematics behind Quantum Computer Science

Nolan Sweeney, United States Air Force Academy
Improving Physics Understanding via Math Instruction

Tara Dadah, South Dakota School of Mines and Technology
Real-Time Tracking of the International Space Station

Taylor Klotz, University of Colorado at Colorado Springs
Interaction of Soliton Solutions to the Two-Component Defocusing Nonlinear Schrödinger Equation

Tommy McDowell, University of Colorado at Colorado Springs
Classification of the KP Equation and the Cyclic Shift

Kendra Weiss, Metropolitan State College of Denver
A Play on Words

Lara Heiberger, South Dakota School of Mines and Technology
Classic Paper Folding Myth

Mary Rose Paiz, Fort Lewis College
Group Theory and the Rubik's Cube

Jacob Posey, Fort Lewis College
Toral Chaos

Peizhen Zhu, University of Colorado Denver
Principal Angles Between Subspaces and Majorization Bounds for Ritz Values

2011 Business Committee Meeting Minutes

Saturday, April 9, 2011

Minutes: MAA Business Meeting
Date: April 9, 2011; 8:00-8:50 am
Location: CU Math 350

1. Daluss called the meeting to order (Appendix A contains agenda). Kyle made a motion to accept the minutes from the 2010 business meeting (see Appendix B) and Bill seconded the motion. Minutes were approved.
2. Jeremy Muskat introduced the candidates for the secretary/treasurer and chair-elect. The secretary/treasurer candidates were Heidi Keck and Lynne Ipiña; the chair-elect nominees were Alexander Hulpke and Bill Cherowitzo. All biographies and statements are in Appendix A. Neither Lynne nor Alexander was present, but Jeremy mentioned that Alexander and Lynne are both happy to serve the section. The other two candidates were asked to say a few words. Bill is anxious to use his skill set to help the organization. Heidi thanked the committee for their support and trust in her. For her the organization has been valuable and thus feels it is a way to give back. Jeremy asked for other nominations; given there were none he handed out the ballots.
3. Hortensia gave the financial report (Appendix C). Although it looks like we have lost money, many of the funds for the 2011 meeting had not been retrieved. Eric confirmed that the section meeting is in the black and the section will make a profit.
4. Dick gave the Colorado Math Awards report. Forty-fifty students will be honored on May 10, 2011 in Denver. In Colorado the top Putnam scores were a 30 from students from UNC and DU and a 29 in CU. There was a perfect Putnam this year – this was the 5th time since the Putnam began. There was a perfect paper for AMC 10.
5. As part of the chair's report, Daluss conveyed that we increased the amount for Section Activities Grants from \$500.00 to \$750.00 and let folks know that we awarded two grants this past year. The first grant was for the CU Denver Math Circles Project and the second was for the PPRUMC. He also shared that the executive committee decided to have the same section meeting fees for MAA members and non-members. Daluss mentioned the possibility of using funds to help support our section governors attend the Board of Governor's meeting as a way to help National with finances.
6. Linda said the deadline for the fall newsletter information is September 15th.
7. Frank Farris thanked the section for the invitation to participate in our meeting and encouraged the section to strengthen our connections with National by volunteering with service for national committees such as CUPM and Math Education of Teachers. He reported the deficit in the 2010 budget was due to a decline in membership. The section can help by reaching out to students to become members. Frank reported that Kristina Knolls started charitable donations and asked that our section consider donating to this charity. Due to the budget, National will no longer pay for lunch at the Board of Governor's meeting and will no longer have a May meeting for the National Executive Committee. Frank let us know that the year 2013 is the year of the earth and several math organizations are going to commit to climate science. In 2015, the MAA celebrates its centennial and it will be celebrated in MathFest at DC. Frank asked that we all attend the festivities.
8. Kyle Riley reported that Mike Brilleslyper was elected as the new section governor and that Hortensia Soto-Johnson was also elected to serve as the Minority Representative for the MAA Board of Governors. He requested assistance to contribute to the history of the MAA and its sections. Kyle reminded those in attendance that the deadline for MathFest Abstracts is April 30th and he informed everyone that Hortensia Soto-Johnson was the nominee for the Meritorious Service Award that is given out every five years. Kyle served as the chair of this committee.
9. Daluss announced the 2011 DTA recipient, Rich Bogdanovich.

10. Diana Davis reported on the MAA RMS Section NExT. There were 4 new Fellows, one from UNC, one from Metro and two from the USAFA. Past fellows delivered the sessions for the new fellows. She also mentioned that she hopes to get the selection process started earlier next year.
11. Daluss announced that the 2012 meeting will be co-hosted by Metro and CU Denver, the 2013 meeting will be hosted by Adams State College, the 2014 meeting will be hosted by the University of Wyoming, and hopefully Colorado College will host the 2015 meeting. Daluss also gave the dates for upcoming National meetings.
12. Jeremy Muskat provided the election results. Bill Cherowitzo was elected for the position of Chair-Elect and Heidi Keck was elected for the position of secretary/treasurer.
13. Janet Barnett made her sales pitch for books and mentioned that she supported the section providing travel support for our governor, in an effort to help National. She also thanked the executive committee for their support to PPRUMC.
14. Dan Swenson thanked the steering committee for Section NeXT.
15. Kyle made a motion to thank Eric Stade and Rob Tubbs for their work on such a successful meeting. Mike Brilleslyper seconded the motion and all agreed. Rob and Eric passed the banner to Shahar, who will serve as program co-chair for the 2012 section meeting.
16. Kyle made a motion to adjourn the meeting and the motion was seconded by Mike Brilleslyper. All were in favor.

Respectfully Submitted,

Hortensia Soto-Johnson

Secretary/Treasurer of the MAA Rocky Mountain Section

Appendix: Financial Report

APPENDIX

MAA RMS Budget Report Spring 2011

Balance on 12/31/09	\$14,484.97
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Balance on 12/31/10 (gain of \$1,718.05)	\$16,203.02
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Checking Account Transactions from 12/31/10

		Income	Expense	Total
15-Feb-11	Linda Sundbye Spring Newsletter		186.29	7692.13
21-Feb-11	James Gross donation	10.00		7702.13
21-Feb-11	ZIM	125.00		7827.13
8-Mar-11	Daluss Siewert reimburse Beth Schaubroeck PRUMC		105.89	7721.24
8-Mar-11	reimbursement		42.30	7678.94
5-Apr-11	St. Julien Hotel: Banquet Fees		4678.74	3000.20
7-Apr-11	Section Meeting Registration	687.32		3687.52
6-Apr-11	Checking Acct Balance			3687.52
6-Apr-11	Savings Acct Balance			9514.45
6-Apr-11	Total			13201.97

2011 Executive Committee Meeting Minutes

Thursday, April 7, 2011

Minutes: MAA Rocky Mountain Section Executive Committee Meeting
Date & Time: Thursday, April 7, 2011 at 7:00 – 10:00 pm.
Location: Walnut Brewery, 1123 Walnut Street Boulder, CO 80302
Attendance: Michael Barrus Shahar Boneh, Mike Brilleslyper, Ed Burger, Bill Cherowitzo, John Ethier, Frank Farris, Kyle Riley, Daluss Siewert, Hortensia Soto-Johnson, Eric Stade

1. Daluss Siewert brought the meeting to order. Mike Brilleslyper made a motion to accept the minutes and Eric Stade seconded the motion. There was no discussion and there was a unanimous vote to accept the minutes.
2. Daluss went through the executive committee agenda starting with the opening ceremony and banquet agenda. Eric announced that the CU chair of mathematics would give a welcome as part of the opening remarks. Eric will introduce both Ed Burger and Joseph W. Dauben. Kyle will introduce Frank Farris. It was agreed that door prizes would be announced after the keynote speaker gave his presentation.
3. Everyone approved the business agenda.
4. Hortensia gave the financial report and remarked that we are in good financial shape especially since we are still waiting for a majority of the finances for the 2011 section meeting. Eric mentioned that he thought the section would make money on the meeting. He also mentioned that some folks complained about the cost of the banquet, which is due to the location of the section meeting. Frank suggested that the section contribute to the cost for the section governor to attend the Board of Governor's meeting since National is experiencing some financial distress. This would be a mechanism for our section to help National.
5. Jeremy Muskat was not present but Hortensia commented that the secretary/treasurer and chair-elect candidates are all excited to serve the section. She also announced that in 2012 there would be an election for vice-chair. Someone from a 2-year institution holds this position.
6. Mike Brilleslyper gave the awards committee report and announced that Rich Bogdanovich was the 2011 DTA recipient. The section helped support the CU Denver Math Circles at the rate of \$750.00. The same amount was awarded to the PPRUMC, but they used very few of these funds. The snowstorm affected the attendance and the USAFA was able to provide meals for the students at a very reasonable rate. Mike Brilleslyper wanted to make sure that the executive committee was aware that this is not typical and PPRUMC would continue to request section funds.
7. Hortensia mentioned that only two institutions (UNC and CU Denver) provided us with names of graduate students to support at the 2011 section meeting. Thus only \$200.00 was used towards graduate student support for the 2011 section meeting. The executive committee agreed to help support the Colorado Math Awards with \$250.00, which will be held on May 10, 2011. Mike Brilleslyper also mentioned that Beth Schaubroeck from USAFA is interested in serving as the Section Student Activity Coordinator. Mike will get her in touch with Carl Lienert from Fort Lewis College who currently serves in this role.
8. Daluss presented Linda Sundbye's request to pay the Metro administrative assistant \$100.00/year because she helps mail the newsletter post-cards. The executive committee voted against this, but was in agreement to send her a bouquet of flowers for administrative assistant's day at the end of April. Daluss also presented Janet Barnett's request to buy the door prizes for the 2012 section meeting at the 2011 meeting. Her request is due to the changes at National regarding book sales. The executive committee voted to approve her request.

9. National has contacted each section to help write the History of the MAA and Its Sections and has requested someone to attend a special session on this topic at the 2012 Joint meetings. Daluss will contact Janet Barnett and Jeff Berg to see if they are interested in doing this.
10. Daluss, Mike Brilleslyper and Hortensia will all be at Mathfest 2011 in Kentucky and the Joint Meeting 2012 in Massachusetts. Daluss will attend the section officer's meeting.
11. Future Section Meetings: Kyle made a motion to have different fees for MAA and non-MAA members similar to National's structure. The question was raised about how one would determine whether someone was a member or not and Kyle remarked that it would be based on trust, similar to National's policy. There was no second motion to this motion and thus Mike Brilleslyper made a motion to leave the section meeting fees for 2012 the same as for the 2011 meeting. Eric seconded the motion and all agreed.
 - 2012: Metro State College & CU Denver
 - Program Chairs: Shahar Boneh, John Ethier & Bill Cherowitzo
 - Dates: April 13-14, 2012
 - Confirm Registration Fees (\$30 in advance, \$35 on site, price for banquet TBD by host institution (\$45.00 for 2011), \$10 for students, \$10 for K-12 teachers, new members, 25/50 year members, DTA nominators and awardee get free banquet and registration)
 - 2013: Adams State College (Confirmed and Dates TBD)
 - 2014: University of Wyoming (Confirmed and Dates TBD)
 - 2015: Colorado College (not confirmed)

Respectfully submitted,

Hortensia Soto-Johnson

Secretary/Treasurer of the MAA Rocky Mountain Section

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.

Grants Available

Section Activity Grants Program

The purpose of the Section Activity Grants program is to assist Section members in funding projects in support of Section Mission. These projects must be clearly tied to one or more of the Rocky Mountain Section Mission Goals and the project director must be a member of MAA. Grants will not exceed \$750 per project. Matching funds from host institution are preferred, but not required. To apply for a Section Activity Grant, submit the following to the Section Secretary/Treasurer:

- (a) Description of project (no more than one page);
- (b) Statement of how project supports Mission Goals (no more than one page);
- (c) Estimated budget;
- (d) Description of matching funds available, if any;
- (e) Vitae of project director(s).

If funded, a report on the project will be filed by the Project Director upon completion (no more than one page) and a report will be made at the next meeting of the Section. Complete details on the selection process and application guidelines are posted on the section website. Grants will be reviewed once a year. All application materials are due November 1st of each year.

Student Recognition Grants Program

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.

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.”

Meetings Calendar

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

MAA Rocky Mountain Section Meeting
Metropolitan State College of Denver
April 13-14, 2012

NCTM annual meeting; Philadelphia, PA
April 25-28, 2012

MAA MathFest; Madison, WI; August 2-4, 2012

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

MAA Rocky Mountain Section Meeting
Adams State College
April 2013

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

MAA MathFest; Hartford, CT; August 1-3, 2013

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

MAA Rocky Mountain Section Meeting
University of Wyoming
April 2014

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

MAA MathFest; Portland, OR; August 7-9, 2014

Joint Mathematics Meetings; San Antonio, TX
January 10-13, 2015

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

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

Joint Mathematics Meetings; Seattle, WA
January 6-9, 2016

NCTM annual meeting; San Francisco, CA
April 13-16, 2016

Joint Mathematics Meetings; Atlanta, GA
January 4-7, 2017

**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)? _____

On a separate page, briefly describe the unusual or extraordinary 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 forms should reach Section Secretary by December 1 of each year.
Complete nomination materials should reach Section Secretary by January 15 of each year.

Section Secretary: Heidi Keck, hkeck@western.edu
Western State College; Hurst Hall; Gunnison, CO 81231.

Please consult the Section webpage (<http://sections.maa.org/rockymt>) for complete guidelines.

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: Heidi Keck, MAA Rocky Mountain Section Treasurer/Secretary: Western State College, Hurst Hall; Gunnison, CO 81231

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.