



March 2010



Matters Mathematical
The Newsletter of the Pacific Northwest Section of the Mathematical Association of America

SEATTLE MEETING

April 9-10, 2010

April 2010 PNW MAA Meeting at Seattle University

This year's PNW MAA meeting will be held at Seattle University April 9-10. Registration is now open at <http://www.seattleu.edu/scieng/math/Default.aspx?id=28096>

The invited speakers are **Jeff Weeks**, Freelance Mathematician and author of "The Shape of Space", **Gerard Venema**, Calvin College, Associate Secretary of the MAA, and **Steve Dunbar**, University of Nebraska. Director, MAA's American Mathematics Competitions.

The meeting begins Friday, April 9 with three afternoon minicourses. Jeff Weeks is offering a course entitled "Visualizing 4-Dimensional Space." Steve Dunbar is offering a course entitled "Thinking

about Problem Solving by Learning about Problem Posing." William Stein and Rob Beezer are offering the computer course "Using Sage to Spice Up Your Undergraduate Courses.

Saturday morning, Jeff Weeks will speak on "Visual Introduction to Curvature". Saturday afternoon Ge-

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Jeff Weeks at the Seattle University Meeting

Friday minicourse: Visualizing 4-Dimensional Space

Friday public lecture: The Space of Space

Saturday lecture: Visual Introduction to Curvature

Western Washington Community College Student Mathematics Conference

On Saturday, February 27, 2010, 55 students, 5 guests and 20 faculty and staff gathered on the Edmonds Community College campus to participate in the fourth annual Western Washington Community College Student Mathematics Conference. In addition to EdCC, participants came from Bellevue College, Big Bend Community College, Clark College, Green River Community College, Lower Columbia College, North Seattle Community College, Pierce College, Shoreline Community College and Central Washington University.

Student speakers from Edmonds, Green River and Clark gave presentations about a variety of mathematical topics, including Möbius strips and other topological curiosities, visualizing the imaginary roots of quadratic equations, properties of Pascal's triangle, the history of Fermat's Last Theorem, the importance of prime numbers in cryptography, digital data compression, using a computer simulation to analyze the 2D Ising model, and a mathematical derivation of the Stefan-Boltzmann law.

The event also featured two invited guest speakers. Mathematician Fritz Klein from The Boeing Co. discussed the types of problems that Boeing's Applied Mathematics Group tackles and how its mathematicians work together with Boeing's engineers. He presented some fascinating examples of problems in geometry and optimization that arise in the design and production of airplanes and spacecraft. Computer scientist (and recent Oscar winner) Per Christensen from Pixar discussed the use of ray tracing in Pixar movies. Pixar's RenderMan team employs this technique, which involves solving geometric equations to find the intersection between a line and a surface in order to create 2D and 3D images with realistic shadows and reflections.

Funding for the event came via grants from the MAA Regional Undergraduate Mathematics Conferences program (NSF grant DMS-0846477) and the Edmonds Community College Foundation. The next WWCCSMC is tentatively scheduled for February 2011. More information is available at wwwccsmc.org.

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rald Venema will present "Dimension, Fractals, and Wild Cantor Sets" Our Saturday evening banquet speaker, Steve Dunbar, will give a talk entitled "MAA's American Mathematics Competitions: Easy Problems, Hard Problems, History and Outcomes."

There will be a variety of contributed paper sessions on Saturday morning and afternoon. We will have poster presentations and special sessions for student speakers, so please encourage your students to attend.

For more details and registration information, visit the meeting website at <http://www.seattleu.edu/scieng/math/Default.aspx?id=28096>.

For additional information contact Local Arrangements Chair, Mary Ehlers at mehlers@seattleu.edu.



Meet the Officers of the Section!

Do you ever wonder who makes decisions for the Section? You may realize that we have people called officers, but do you ever wonder what the officers do? Well, here's everything you wanted to know about the section officers & their duties. Perhaps you may one day find yourself among them.

Chair: While a member is officially Chair of the Section for 2 years, the chair is eased into the position by a year as Chair-Elect, and eased out of the position by a year as Past-Chair. Thus, the Chair is a member of the executive committee for 4 years. The Chair of the Section has the following responsibilities:



Jennifer Nordstrom

- Preside at the meeting of the Section and the Executive Committee of the Section
- Appoint committees as needed, such as the committee to select the winner of the Section's Distinguished Teaching Award.
- Appoint the non-elected officers of the Section, with approval of the Executive Committee.

The Chair position is currently held by Jennifer Nordstrom of Linfield College.

Chair-Elect: The Chair-Elect is elected in even-numbered years at the Annual Meeting of the Section. The duties of the Chair-Elect are determined by the chair, but essentially the Chair-Elect is in training to take over as chair. The Chair-Elect serves a one-year term before becoming Chair. This position is currently vacant, and waiting to be filled at the upcoming 2010 Section meeting at Seattle University.

Past-Chair: At the end of a 2-year term, the chair is eased into retirement by spending a year as Past Chair. The Past-Chair supports the current Section Chair in whatever way is needed. This 1-year position is currently held by John Thurber of Eastern Oregon University, and will be vacated once the Chair-Elect is elected in April.

Secretary-Treasurer: This is an elected position, with duties that include:

- Keeping the minutes of the Section
- Keeping custody of the records of the section
- Arranging for the collection of section dues, which is very easy since we collect no section dues
- Making annual reports to the national office of the MAA
- Paying the bills and balancing the checkbook of the Section
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The Secretary-Treasurer is currently Chris Black of Central Washington University.



Aaron Montgomery

Newsletter Editor: The Newsletter Editor gathers information from members to publish in a bi-annual newsletter. Currently, Colin Starr of Willamette University is the Editor of our fine newsletter, which you are reading now.

Home Page Editor: The Home Page Editor is responsible for keeping the section website (<http://sections.maa.org/pnw/>) modern and up-to-date, both in design and content. Aaron Montgomery of Central Washington University is currently the Home Page Editor, and he's recently redesigned the section website.



Colin Starr

Liaison Coordinator: The Liaison Coordinator, currently Mike Boardman of Pacific University, serves as a liaison between the Section and the MAA Departmental Liaisons.



Mike Boardman



Jenny McNulty

Project NExT Coordinator: Jenny McNulty of Montana State University is currently the Project NExT Director for the Section. Her duties include coordinating the annual PNW Project NExT meeting with the Section meeting.

Student Program Coordinator: The Student Program is currently Donna Pierce of Whitworth College. Donna promotes student involvement at Section meetings.



Donna Pierce



Stuart Boersema

Governor: I suppose we should mention the Governor, even though the Governor is not officially an officer of the Section. The Governor is elected for a 3-year term and is part of the Board of Governors for the MAA. Currently, Stuart Boersma of Central Washington University serves as Governor, with his term expiring in 2012.

Every year officer positions, as well as various committee positions open up. If you are interested in becoming more involved in the affairs of the section, contact Jennifer Nordstrom (jnordstrom@linfield.edu).

NUMS Conference April 24

Call for Undergraduate Presentations

Announcing the 2nd annual Northwest Undergraduate Mathematics Symposium at Oregon State University in Corvallis to be held on Saturday, April 24, 2010.

The OSU Math Club and the Pi Mu Epsilon Oregon Beta Chapter invite all mathematics students in the Pacific Northwest to present their work at NUMS this spring. First-year graduate students are welcome to present research completed while still undergraduates. Talks may be short (10 mins) or long (25 mins). Prizes in various categories will be awarded (including longest distance traveled to attend!).

This year we are pleased to announce that a keynote address will be given by Professor David Perkinson of Reed College. Also, thanks to NSF-RUMC funding from the MAA, travel support will be available to students (please inquire to nums@math.oregonstate.edu for details). A free lunch will also be provided. There is no registration fee.

Registration for participants and speakers begins March 29 and continues until April 12.

For more information (including last year's titles and abstracts), and to register online, visit <http://oregonstate.edu/groups/mathclub/nums>.

Upcoming Events and Conferences

Upcoming Meetings:

2010 PNWMAA at Seattle University
2010 NUMS at Oregon State University (see p. 4)
2011 PNWMAA in Juneau, Alaska
<http://www.math.ubc.ca/~cayf/events.html> (section)
http://www.maa.org/subpage_4.html (national)

Juneau meeting website:

http://www.uas.alaska.edu/arts_sciences/naturalsciences/math/maa/index.html

Tentative Schedule of Events at Seattle

Friday 4/9/2010

NeXT Packet Pickup	7:45 – 8:00
Project NeXT	8:00– 2:15
Packet Pickup	2:00 – 3:30
Minicourses	2:30 – 5:00
Jeff Weeks	“Visualizing 4-Dimensional Space”
Steve Dunbar	“Thinking about Problem Solving by Learning about Problem Posing”
William Stein and Rob Beezer	“Using Sage to Spice Up Your Undergraduate Courses”
Undergraduate Student Social	5:00 – 6:30 p.m.
Evening Public Lecture	8:00 p.m.
Jeff Weeks “The Shape of Space”	
Reception	9:00 – 10:00 p.m.

Saturday 4/10/2010

Executive Committee Meeting	7:30 – 8:30 a.m.
Packet Pickup	8:00 – 12:30 p.m.
Coffee and Pastries	8:30 – 9:00 a.m.
Introduction and Welcome	9:00 – 9:15 a.m.
Morning Lecture Jeff Weeks	9:15 a.m.
	“Visual Introduction to Curvature”
Contributed talks	10:30 – 12:25 p.m.
Lunch and Poster Presentations	12:30 – 1:55 p.m.
Business Meeting	1:15 – 1:50
Afternoon Lecture Gerald Venema	2:00 p.m.
	“Dimension, Fractals, and Wild Cantor Sets”
Contributed Talks	3:15 – 5:10 p.m.
Social Hour	5:15 – 6:15 p.m.
Awards Banquet	6:15 p.m.
Evening Lecture, Steve Dunbar:	“MAA’s American Mathematics Competitions: Easy Problems, Hard Problems, History and Outcomes.”

Nancy Neudauer is the 2010 PNW MAA Section Distinguished Teaching Award Recipient

Congratulations to **Nancy Neudauer** of Pacific University who has been selected as the Pacific Northwest Section winner of the 2010 MAA Award for Distinguished College or University Teaching of Mathematics. During her time in the Pacific Northwest Nancy has compiled an impressive record of classroom, departmental, campus-wide, regional and national activity and service.

In the classroom, students recognize Nancy as a clear, enthusiastic teacher who is able to demonstrate the applicability of even the most abstract of topics. Nancy engages her students through the use of math history materials, documentary films and journal readings. Through her collaborative and encouraging teaching style she has fostered student involvement in mathematical research and has helped her students become true independent learners.

Nancy has played a major role in teaching and service within the Pacific University mathematics department and the University itself. In the mathematics department she has served as advisor for the Math Club, as “coach” for the Putnam and COMAP Math Modeling teams, and as the department’s liaison to the campus library; secured several faculty development grants; organized a departmental colloquium series; and sparked student interest in attending and presenting at a number of conferences. Further, across campus Nancy is known to be interested in a wide variety of subjects outside of mathematics and is sought out by other professors to discuss teaching philosophy and techniques.

Nancy has worked tirelessly as a math educator regionally and nationally as well. She serves or has served in a multitude of roles within the MAA Pacific Northwest Section including Section Governor, Program Chair or Co-Chair for Section meetings and Pacific Northwest Project NeXT Associate Director. Additionally, with assistance from colleagues at other schools in the Pacific Northwest, Nancy helped revitalize several regional conferences including the Portland Area Lecture Series in Graph Theory and Combinatorics and the annual “Combinatorial Potlatch” conference.

The accomplishments listed above, coupled with Nancy’s presentations at national conferences and workshops and her list of publications, show that Nancy is indeed a worthy recipient of this year’s MAA Award for Distinguished College or University Teaching of Mathematics. Congratulations, Nancy!

Editor’s Greetings

Thanks to all contributors, and welcome to all of the new faculty in our region. Be sure to register right away for the Seattle meeting — March 8 is the deadline for abstracts and to get the group hotel rate.

Colin Starr, cstarr@willamette.edu

Dolciani Mathematics Enrichment Program

Call for Proposals

The Mary P. Dolciani Halloran Foundation has provided funding for the Mathematical Association of America (MAA) to award grants for projects designed to develop mathematical enrichment programs for talented students in middle school or high school. The goal of the program is to interest students who are ready for more challenge in the study of mathematics and encourage them to further their mathematical studies. Projects should provide enrichment and extension activities for students which lead to heightened interest in and appreciation of mathematics. The projects should encourage students to continue studies of mathematics in high school and college and should better prepare them for those studies.

Proposals are sought from college and university mathematical sciences faculty working in partnership with middle and/or high school mathematics teachers. Interested middle and high school teachers are strongly encouraged to seek out college and university mathematical sciences faculty in the formulation of proposals to benefit middle and high school students; the Foundation is particularly interested in projects originating from the middle or high schools.

Grants will be up to \$6000 and will be made to the college or university of the project director for a one-year project. To provide maximum flexibility, unexpended funds may be carried forward. Some grants may be renewed up to a maximum of three years.

*Deadline for Proposals is
15 April 2010*

More detailed information is available on the program webpage www.maa.org/dolciani



SECTION NEWS

British Columbia

You may not have heard of **Quest University**; we're a new (3-year-old) liberal arts college north of Vancouver, BC, modeled somewhat after Colorado College and the block plan. Until this year I (Glen Van Brummelen) was the only faculty member, but now we have doubled in size with the arrival of Ryan Derby-Talbot, a topologist from the University of Texas Austin who just finished teaching three years at the American University of Cairo. Here is his page on the Quest U web site:



Ryan Derby-Talbot

http://www.questu.ca/academics/meet_the_faculty/ryan_derby_talbot.php



Montana



Richard Rossi

Richard Rossi has had his second book published: "Applied Biostatistics for the Health Sciences" (John Wiley & Sons, 2010). The focus is on statistical methods particularly relevant to the health sciences.



Oregon



Greg Fredricks

Greg Fredricks came to LC in 1985, after positions at Texas Tech and Southern Utah University. The author of many papers in several complex variables and analytic spaces, he also served LC in many roles, including as the faculty athletic representative to the NCAA and as department chair for many years. The department wishes to thank Prof. Fredricks for his many years of service and wishes him all the best in his retirement. You will be missed!

The Department welcomes **Paul T. Allen**, who was appointed to a tenure-track Assistant Professor position at Lewis



Paul Allen

& Clark College. Prof. Allen joined the Department of Mathematical Sciences at LC in January 2010, arriving from the Max Planck Institute for Gravitational Physics (AEI) and the University of Washington, Tacoma. He is a graduate of both the University of Puget Sound (2001) and the University of Oregon (2007). When off-campus, Paul enjoys exploring the outdoors by ski and by foot, and exploring bakeries in search of treats.

Greg Fredricks retired from the Department of Mathematical Sciences at **Lewis & Clark College** last year. Prof.

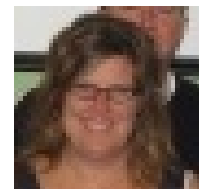
The Department also wishes to acknowledge Emeritus Professor **Roger Nelson** on two of his



Roger Nelson

recent books published by the MAA: "When Less is More: Visualizing Basic Inequalities" (with co-author Claudi Alsina) and "The Calculus Collection: A Resource for AP and Beyond" (with co-editor Caren Diefenderfer). Congratulations Roger!

Nancy Neudauer of **Pacific University** was appointed the Program Director for the Dolciani Mathematics Enrichment Grants program of the MAA.



Nancy Neudauer

At **Willamette University**, **Colin Starr** has been sentenced to two and a half years of penal servitude as chair of the mathematics department.



Colin Starr



Washington

This has been an exciting year at **Pacific Lutheran University**. Last fall, we welcomed two new tenure-track faculty members to our department: **Tom Edgar** and **Ashlyn Munson**. Tom is an algebraist who recently com-



Tom Edgar



Ashlyn Munson

Colorado School of Mines. **Celine Dorner**, who officially retired last spring, remains active with her involvement in mathematics education issues.



Celine Dorner



Chris Meyer

Chris Meyer is finishing his last semester, and is looking forward to well-deserved retirement. Meanwhile, **Jessica Sklar** has been on sabbatical this year, editing a collection of essays on mathematics and popular culture. Finally, **Amy Shell-Gellasch**, who taught for us for several years, has moved to Wisconsin, where she is a visiting faculty member at Beloit College.



Jessica Sklar

who taught for us for several years, has moved to Wisconsin, where she is a visiting faculty member at Beloit College.

Bellevue College now offers two different 4-year degree programs, Bachelor of Applied Arts Degree in Interior Design and Bachelor of Applied Science Degree in Radiation and Imaging Sciences, which prompted a name change from Bellevue

pleted his Ph.D. at the University of Notre Dame. Ashlyn is a statistician who recently received her Ph.D. from the

Community College to **Bellevue College**. BC's Mathematics Department hired two new faculty in 2009: **Ryan Bauer** (Ph.D. in Mathematics from the University of Idaho) and **Mausumi Maulik** (M.S. in Mathematics from HNB Garwhal University, India). Regular activities for math students at BC include the Western Washington Community College Math Conference, held in February in the Puget Sound region, the AMATYC Student Math League Competition, held on campus twice per academic year.

Lyle Cochran of **Whitworth University** is a coauthor with Bill Briggs (UC Denver) of



Lyle Cochran

a new calculus textbook, "Calculus," also available in an early transcendentals version. More information and details are available at <http://www.pearsonhighered.com/briggscochran1einfo/index.html>

At **Washington State University**, The Ostrom Lecture Series speaker for 2010 was Dr. James 'Mac' Hyman, former SIAM President and Los Alamos Lab group leader, now at Tulane University. He spoke on February 24 about "The Science Behind Science-Based Simulations," and February 25 about "Mathematical Models Provide New Insights into Stopping Epidemics."

The Newest PNW MAA Member

by Glen Van Brummelen

Quest University is a new liberal arts college in its 3rd year of operation in Squamish, BC, Canada, about 40 minutes north of Vancouver. Our slogan is "intimate" (class sizes under 20), "integrated" (lots of cross-disciplinary work), and international" (half of students Canadian, 1/4 US, and 1/4 elsewhere). After a diverse foundation program that introduces students to the various ways in which scientists and scholars approach the world, students design their own program of study, geared to answer a "Question" that they propose at the end of their second year. Quest uses the block plan pioneered by Colorado College, where students take one course at a time for 3 1/2 weeks each rather than four or five courses throughout a semester. Quest is the first private secular liberal arts college in Canada. We hope to have just over 300 students next year, with an eventual enrollment target of 640.

Our web site is www.questu.ca, in case people want to see more.