ST. NORBERT COLLEGE
DE PERE, WISCONSIN
1898

Twenty-Seventh Annual

Pi Mu Epsilon

Regional Undergraduate Math Conference

November 2-3, 2012

Featured Speaker: David Bressoud

Macalester College

Please contact John Frohliger at john.frohliger@snc.edu for more information.

David Bressoud

David Bressoud is DeWitt Wallace Professor of Mathematics at Macalester College and a former president of the Mathematical Association of America. He served in the Peace Corps, teaching math and science at the Clare Hall School in Antigua, West Indies before studying with Emil Grosswald at Temple University and then teaching at Penn State for 17 years. He chaired the Department of Mathematics and Computer Science at Macalester from 1995 until 2001. He has held visiting positions at the Institute for Advanced Study, the University of Wisconsin-Madison, the University of Minnesota, Université Louis Pasteur (Strasbourg, France), and the State College Area High School.

David has received the MAA Distinguished Teaching Award (Allegheny Mountain Section), the MAA Beckenbach Book Award for Proofs and Confirmations, and has been a Pólya Lecturer for the MAA. He has published over fifty research articles in number theory, combinatorics, and special functions. His other books include Factorization and Primality Testing, Second Year Calculus from Celestial Mechanics to Special Relativity, A Radical Approach to Real Analysis (now in 2nd edition), A Radical Approach to Lebesgue's Theory of Integration, and, with Stan Wagon, A Course in Computational Number Theory. He has chaired the AP Calculus Development Committee and currently serves on the College Board's Mathematical Sciences Academic Advisory Committee.

Four of My Favorite Mathematicians

In the early 1800s, our understanding of calculus changed dramatically, largely due to the efforts of four fascinating mathematicians: Joseph Fourier, the Frenchman who governed the Department of Isere from Grenoble in the French Alps; Augustin-Louis Cauchy, his countryman who worked to prepare the harbor at Cherbourg for Napoleon's invasion of England; Niels Henrik Abel, a poor Norwegian who, when he was 17 years old, solved one of the greatest problems in mathematics of his time; and Gustav Lejeune Dirichlet, a German who at age 16 headed off on his own to Paris to learn from the world's greatest mathematicians. This is their story.

Proofs and Confirmations: The Story of the Alternating Sign Matrix Conjecture

What is the role of proof in mathematics? Most of the time, the search for proof is less about establishing truth than it is about exploring unknown territory. In finding a route from what is known to the result one believes is out there, the mathematician often encounters unexpected insights into seemingly unrelated problems. I will illustrate this point with an example of recent research into a generalization of the permutation matrix known as the "alternating sign matrix." This is a story that began with Charles Dodgson (aka Lewis Carroll), matured at the Institute for Defense Analysis, drew in researchers from combinatorics, analysis, and algebra, and ultimately was solved with insights from statistical mechanics.

Again this year:

Face Off! The Mathematics Game Show

What is it? Face Off is a mathematics quiz show with questions from the broad realm of mathematics. And we mean broad! Teams of 2-4 students representing their schools compete to answer these questions. For more information, visit the Face Off website.

http://www.uwosh.edu/faculty_staff/szydliks/faceoff.htm

Face Off Organizers: Dr. Ken Price (pricek@uwosh.edu, (920)424-1057),
                         Dr. Steve Szydlik (szydliks@uwosh.edu, (920)424-7346)

Please contact one of the **Face Off** organizers if you would like to enter a team. Any (undergraduate) student who has taken or is enrolled in Calculus I is eligible to join a Face Off team representing their school. If a school doesn't have enough interested students, contact the organizers anyway – we can combine interested students to form hybrid teams. Space will be limited, so form a team soon and let us know of your interest!

TENTATIVE SCHEDULE

FRIDAY, NOVEMBER 2, 2012

5:00 p.m.	Cookies and Registration in Cofrin Hall
5:30 p.m.	Student Talks

7:30 p.m   **David Bressoud**   "Four of My Favorite Mathematicians"

8:30 p.m.   Face Off! The Mathematics Game Show

Pizza Social to follow immediately.

SATURDAY, NOVEMBER 3, 2012

8:30 a.m.	Conference Registration and Continental Breakfast in Cofrin Hall
9:00 a.m.	Student Talks

11:00 a.m**.**   **David Bressoud** "Proofs and Confirmations: The Story of the Alternating Sign Matrix Conjecture"

This conference is free and open to anyone interested in undergraduate mathematics. Any full-time student who has not yet earned a master's degree is welcome to give a student talk.

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ACCOMMODATIONS

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Kress Inn	SNC campus--across the street from Cofrin Hall A block of rooms at the Kress Inn is being held at $72.95 each until at least October 14. Mention the math conference!	(800) 221-5070 or (920) 403-5100
Sleep Inn	1600 Lawrence Dr., De Pere	(920) 338-8800
Comfort Inn	2841 Ramada Way, Green Bay	(920) 498-2060
Country Inn & Suites	2945 Allied St., Green Bay	(920) 336-6600
Exel Inn	2870 Ramada Way, Green Bay	(920) 499-3599
Fairfield Inn	2850 S. Oneida St., Green Bay	(920) 497-1010
James Street Inn	201 James St., De Pere	(920) 337-0111

St. Norbert College has received a $2,500 grant from the MAA and the NSF for the purpose of enhancing our undergraduate research conference in mathematics. Student attendees (through their faculty sponsors) will receive 37 cents per mile for the round-trip travel to SNC (up to a total of 800 miles per school). There is typically a limit of one mileage grant per school.   If there is money left at the application deadline (October 28) the unallocated money will be be used to increase the mileage amount

All travel money will be set aside in the order in which student speakers pre-register.
All travel support will be paid (through the MAA) after the conference. Please save relevant receipts!

In order to apply for travel support, please sign the form near the bottom of the next page or submit the form via e-mail.

Please encourage your students to speak. The more student speakers we have this year, the more likely we are to receive funding again next year.

PRE-REGISTRATION FORM

School Affiliation _____   Contact Person _____

Address _____   Phone Number _____

_____   E-Mail _____

Attending:

Name	Housing?*	Gender	Fri/Sat/Both	Pizza?	Speaking?
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
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_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

*A limited number of students from schools will be able to stay overnight in an SNC dorm. Please bring sleeping bags and pillows – you might be sleeping on the floor!

We welcome student presentations on any topic and any undergraduate mathematics level. Sources could include: class projects, interesting solutions to problems, REU results, senior projects, or anything else that might appeal to undergraduate math students.

Name of Speaker: _____

Title of Talk: _____

Length of Talk (check one): __ 15 minutes (preferred)   __ 30 minutes   (if necessary)

Time Preference (check one): __ Friday night ;   __ Saturday morning ;   __ No preference

Brief Abstract:

Our institution is applying for **travel support**: _____   (Signature of Faculty Sponsor)

(See previous page for more information.)

Duplicate this form as necessary and mail to: John Frohliger

(or, preferably, respond by e-mail)   St. Norbert College

100 Grant Street

De Pere, WI 54115

DEADLINE: October 28, 2012, at 3:00 De Pere time (Central time)!

Any questions? Contact: John Frohliger (920) 403-1339; FAX: (920) 403-4098; e-mail: john.frohliger@snc.edu