

MSCS



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St. Olaf College, Northfield, MN 55057

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This Week's Colloquia

Title: **Euler in Two Acts**
Presenter: William Dunham,
Muhlenberg College
Date: Friday, Sept 25th
Time: 3:15 pm
Location: RNS 210

About the talk: Leonhard Euler (1707 – 1783) is one of the towering figures from the history of mathematics. We shall look at two results that show how he acquired such a reputation.

In the first, Euler considers the infinite series $1/2 + 1/3 + 1/5 + 1/7 + 1/11 + \dots$ – i.e., the sum of reciprocals of the primes – and establishes that the sum “is infinite.” This proof from 1737 rests upon his famous “product-sum formula” and requires a host of analytic manipulations so typical of Euler’s work. The other result involves summing the infinite series $1 + 1/4 + 1/9 + 1/16 + \dots$. Euler had first evaluated this in 1735, but we will examine his 1755 argument that employed a deft application of l’Hospital’s rule.

His analytic gyrations strike some mathematicians as zesty and others as zany, but the outcome is pure gold. Euler has been described as “analysis incarnate.” These two theorems, it is hoped, will leave no doubt that such a characterization is apt.

NOTE: This talk should be accessible to anyone who has completed the calculus sequence.

Homecoming Event

Title: **Newton and Leibniz:
Mathematicians at War**
Presenter: William Dunham,
Muhlenberg College
Date: Friday, Sept 25th
Time: 7:00 pm
Location: RNS 150

About the speaker: William Dunham is both the Truman Koehler Professor of Mathematics at Muhlenberg College and one of America's best known and most popular expositors of mathematics.

Over the past two decades he has written four books and edited one, all on the history of mathematics. The first two, *Journey Through Genius: The Great Theorems of Mathematics* and *The Mathematical Universe*, were alternate selections for Book-of-the-Month Club, and one or both have been translated into Spanish, German, Italian, Polish, Japanese, Korean, and Chinese. *The Mathematical Universe* won the Association of American Publishers Award as the Best Mathematics Book of 1994.

His third book, *Euler: The Master of Us All*, received the MAA's Beckenbach Prize in 2008. It was followed by *The Calculus Gallery: Masterpieces from Newton to Lebesgue*, which surveys the calculus from the late 17th century to the dawn of the 20th.

His edited volume, *The Genius of Euler: Selections from His Life and Work*, was published as part of Euler's 300th birthday celebration, in 2007.

Professor Dunham's teaching at Muhlenberg includes mathematics courses at all levels; his favorites, as might be guessed, involve the history of mathematics.

Art Exhibit

From September 18 until October 8, Flaten Art Museum (in the Dittman Center) is hosting the exhibit **Art from Math, Math as Art**.

About the exhibit: Artists have been drawn to mathematical concepts such as order, fractals, chaos, and patterns for centuries. In the early fifteenth century, architect, engineer, and sculptor Brunelleschi (Filippo Di Ser Brunellesco) devised formulas for linear perspective. In this exhibit, seven artists explore math concepts and phenomena through art.

Exhibition events:

Event:	Opening Party
Date:	Friday, Sept 18' 6:30 pm – 8:30pm
Location:	Flaten Art Museum, Dittman Center
Music:	Sean Wesche '02
Event:	Illustrated Talk
Title:	“Tiled Works Based on the Goldbach Conjecture”
Presenter:	Sharol Nau
Date:	Thursday, Oct 8 th
Time:	7:00 pm
Location:	Dittman 305

Problem Solving is Back!

The Math Problem Solving Group meets weekly to work on a variety of problems, often with a central theme, and to discuss problem-

solving strategies. Additionally, students can use the meetings to prepare for the MAA North Central Section Team Contest, the Putnam Exam, the Konhauser Problemfest, and other math competitions.

This is an excellent opportunity for students pursuing careers in math education, students contemplating graduate mathematical study, or even those who just want to have some fun solving interesting problems!

Interested students should contact Prof. Berliner (berliner@stolaf.edu) by Wednesday, September 23. Please indicate which night(s) of the week are best for you and any nights that absolutely do not work for you. Please try to be as flexible as possible with scheduling.

IMA Public Lectures

Aimed at a broad audience, the IMA (Institute for Mathematics and Its Applications) Public

Title:	Chaotic elections: why don't we elect who voters really want?
Presenter:	Donald G. Saari University of California, Irvine
Date:	Tuesday, Sept 22 nd
Refreshments:	6:30 pm
Lecture:	7:00pm
Location:	125 Wiley Hall, 225 19 th Avenue South West Bank, University of Minnesota, Minneapolis

Lectures feature distinguished mathematicians and scientists who are also superb expositors able to illuminate the role mathematics is playing in understanding our world and shaping our lives. For more information: <http://www.ima.umn.edu/public-lecture/>

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If you would like to submit an article or math event to be published in the Math Mess, e-mail sotirov@stolaf.edu.