

# MSCS



# Mess

Department of Mathematics, Statistics and Computer Science  
St. Olaf College  
Northfield, MN 55057

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## This Week's Colloquium

Title: Wooden Block Puzzles  
Speaker: Loren Larson  
Time: 1:30 pm Tuesday,  
September 18th  
(Treats at 1:15)  
Place: SC 182

**Abstract:** At its best, mathematics for me has been synonymous with play. I'll like to illustrate this by showing you some of the wooden blocks I've been playing since my retirement. Along the way you'll get a sampling of problems that can be enjoyed by anyone between the ages of 2 and 102. I especially want to highlight some amazing results that mathematicians have discovered. There are no prerequisites but you'll find connections with geometry, algebra, number theory, graph theory, combinatorics, analysis, computer science, and more.

In addition, I'll show you a new set of blocks created for this occasion, and solicit your help in finding some original constructions with these blocks.



## Meet Our New Professors

This week and next week we will be introducing our newest faculty members. This week we have Mike Weimerskirch and Eric Ufferman in Mathematics and next week: Jim Scott in Statistics.

### MIKE WEIMERSKIRCH

Mike is a native of Minnetonka, and earned a B.A. in Mathematics from Northwestern University (Evanston IL) in 1985. From 1986-1995, Mike taught at Simley H.S., and later taught at Park Center H.S. and Brooklyn Center H.S. He returned to the University of Minnesota in 2000, and recently earned his PhD for his research in Combinatorial Game Theory. Mike's mathematical interests include combinatorics, probability, statistics and K-12 mathematics education.

Mike served as the Director of the United States Croquet Association from 1995-1998, and is still a competitive player, ranked in the top 50 in the U.S. He also has been a Nordic Skiing coach for 19 years, most recently at Minneapolis South H.S.

**ERIC UFFERMAN**

Eric received his B.S. in Mathematics from the University of Illinois in 2000, and his PhD at The George Washington University in Washington, DC in 2006. His dissertation, competed under the supervision of Dr. Valentina Harizanov, was titled "Structures and Partial Computable Automorphisms." Since completing his PhD, he has been Visiting Assistant Professor of Mathematics at GWU. When not doing mathematics he enjoys reading, traveling, and playing Scrabble.

**Mathematics and War**

This semester St. Olaf will be sponsoring activities and events to investigate the theme "Liberal Arts in Times of War." This is the first of a series of occasional columns in the Mess that will explore connections between mathematics and war. If you would like to write a column or have an idea for a column, please contact Kay Smith ([smithk@stolaf.edu](mailto:smithk@stolaf.edu)).

In the early 1940's G. H. Hardy, an eminent British number theorist, wrote an article for *Eureka*, the journal of the Cambridge University Mathematics Society entitled "Mathematics in Wartime." After describing ballistics, aerodynamics, and other mathematics that has been devised for war as "repulsively ugly," "intolerably dull," and "sinister" by-products of mathematics, Hardy considers "whether real mathematics serves any purposes of importance in war, and whether any purposes which it serves are good or bad." He asserts that: "It is plain...that the real mathematics...has no direct utility in war. No one has yet found any war-like purpose to be served by the theory of numbers..., and it seems very unlikely that anybody will do so for many years. And of that I am glad."

Hardy's prediction that number theory would not find application to warfare proved wrong. Testifying before a Congressional subcommittee in 2003, David Eisenbud, then president of the American Mathematical Society, stated: "for a military commander to have secure communications in the field depends on fundamental advances in number theory that just a few years ago were touted as the sort of pure science that would never be applied."

For Eisenbud's testimony, see <http://www.ams.org/notices/200306/inside.pdf>.

For the complete text of Hardy's article see <http://www.archim.org.uk/eureka/27/wartime.html>.

-Kay Smith

**Problem of the Week (POW)**

What is the minimum value for  $n$ , such that points  $P_1, P_2, \dots, P_n$  can be placed on a circle of circumference  $2l$ , so that for each positive interger  $k$ ,  $1 \leq k \leq 30$ , there is an arc  $P_i P_j$  of length  $k$ ?

*If you would like to submit an article or math event to be published in the Math Mess, e-mail [tummers@stolaf.edu](mailto:tummers@stolaf.edu).*

Editor-in-Chief:	Kate Tummers
Faculty Advisor:	Katie Ziegler-Graham
MM Czar:	Donna Brakke
Problems Editor:	Mike Weimerskirch