

MSCS Mess

Access the MSCS Mess online at http://www.stolaf.edu/depts/mscs/MSCS_Mess. E-mail the editor (jacobsoj@stolaf.edu) if you wish to receive a digital copy every Friday.

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

4 April 2014
Vol. 42, No. 15

This Week's Colloquium

Title:	Epidemiology: Can you have your cake and eat it too?
Speaker:	Lisa Langsetmo, Research Fellow at Canadian Multicentre Osteoporosis Study
Date:	Monday, April 7th
Time:	3:30 PM
Location:	RNS 410

About the talk: What is the perfect diet for health and healthy weight? The objective of this talk is to explain some of the science and mathematics that can be used to better answer the question. I will open the talk with a historical account of how smoking was first associated to increased risk of lung cancer. I will use the original source materials to explain the study methods and design. We will also see how much influence the smoking study had on public health. With that background in hand I will briefly introduce research on dietary patterns and health outcomes, including some of my own research.

About the speaker: Lisa graduated from a small liberal arts college in Northfield, MN (not St. Olaf), and earned her Ph.D. at Northwestern in Algebraic Topology, where she met Jill Dietz. She has taught at Wayne State, University of Minnesota, University of Ottawa and Johns Hopkins University. She is currently a research fellow at the Canadian Multicentre Osteoporosis Study.

Five things Lisa writes about herself:

- I can Uff-da like a good Viking girl, but hold the second serving of Lutefisk.
- Je parle Francais.
- I am missing the provincial election in Quebec to give this talk, but happily Quebec has early weekend voting.

- I play the cello, but cant sing worth a lick.
- My favorite area of mathematics is algebraic topology.

This Week's Seminar (Science Symposium)

There will not be an MSCS Seminar next week. You should check out the Science Symposium instead! From the website: This years symposium explores aspects of this information revolution in a panel discussion and plenary talks. We will discover how the practical challenges of computing power, data storage and access, data manipulation and quality control are combined with the novel intellectual approaches emerging from these new technologies, leading to unprecedented scientific insight. Stephanie Hampton will help us understand our planet from an ecosystem perspective and S. George Djorgovski will help us understand our universe. Both applications require new computing power hardware and software approaches, introduced to us by Katherine Yelick as well as new ways of approaching scientific questions. Earlier, Francis Harvey introduced us to the social implications and pitfalls of big data approaches using his applications of geographical data. Our goal is to begin to grasp the new paradigms for approaching science and the exciting technical and intellectual challenges ahead.

Mathematics Alumni Career Panel

On Sunday, April 13th, the Mathematics department is hosting an alumni career panel in RNS 356. Pizza will be served at 5:30 pm, and the panel will begin at 6:00 pm. Come hear from four St. Olaf grads about their life after St. Olaf!

Wanted: Talented MSCS Students

Do you sing, play an instrument, write poetry, juggle, dance, or have another talent? If so, perform at the nth annual MSCS recital to be held April 23, 2014 at 7:00 pm in Ytterboe Lounge. Contact Kay Smith at (smithk@stolaf.edu) to sign up.

Math 396: Directed Undergraduate Research (Prof. Dietz)

This course is dedicated to the joy and challenge of doing original mathematics research. Just imagine how proud you'll be when you prove your first theorem that no one else has proved before! It may sound daunting, but plenty of students just like you have done successful research projects in the past – trust me, I've worked with more than 90 students on these kinds of projects so I know what I'm doing.

This is a great course for students who will be getting jobs after graduation, going to graduate school, or going into teaching. You'll certainly learn mathematical content, but you'll also learn to take control over a significant project – from start to finish – in a unique setting.

My research area is in algebra, mostly group theory, so yours will be too, and Math 252 is a prerequisite for the course. I'm not yet sure what the exact topic will be, but have all summer to think about it.

I'm looking for three students to work together on a research project. We'll meet one day a week as a foursome and your group of three will meet at least one day a week on your own.

Email (dietz@stolaf.edu) if you're interested in the course since you'll need my permission to enroll.

CIR Speed Session

Come hear about 7 fabulous research projects being completed this year in the Center for Interdisciplinary Research in 1 exciting hour on Monday April 7 in RNS 210. Starting at 7:00 PM, each group will give a 4 minute (max!) oral presentation designed to pique your interest about how they are using statistics and applied mathematics to address real research questions across a range of disciplines. Then, starting at 7:30 PM, you will be able to visit the posters of projects you wish to learn more about. Snacks will be served! Here is a complete list of projects and CIR Fellows which will be featured:

Matthew Hultgren, Ryan Peterson, Andy Switzer: "Key Cost Associations with Private Non-Profit Liberal Arts Colleges"

Joey Dickens, Alex Everhart, Kendra Johnson-Tesch: "Patient movement and profitability effects in Californias healthcare market"

Josh Jacobson, Kiegan Rice, Thomas Scott: "An analysis of zebra mussel spread in the continental United States"

Nick Evens, Michael Ann Finnin, Yao Li: "Predicting College Enrollment Using Neural Networks"

Cianna Bedford, James Roach, Andrew Roy: "Human Scent Differentiation by Demographic Variables"

Nora Forbes, Kelsey Grinde, Nora Peterson: "Accounting for Variability in Paleocological Mixing Models"

Andrew Hirst, Steve Papciak, Sam Walczak: "Statistical Applications in Exercise Science"

Editor-in-Chief:	Josh Jacobson
Faculty:	Marju Purin
Mess Czar:	Patty Martinez

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