

MSCS Mess

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

1 November 2013
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This Week's Colloquium

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| Title: | Statistical Methods for Untangling the Mysteries of Gene Expression |
| Speaker: | Alyssa Frazee '10 |
| Date: | Monday, November 4th |
| Time: | 3:30 PM Snacks at 3:15 |
| Location: | RNS 410 |

About the talk: Understanding gene expression patterns is a key issue in several important fields of research, including cell differentiation, organism development, and cancer. However, gene expression datasets are often gigantic and are amazingly difficult to analyze. So naturally, the problem-solving types - statisticians, biologists, computer scientists, etc. - have enthusiastically tackled this issue and developed tools and methods to analyze gene expression data. This colloquium will include a general introduction to the gene expression problem and some of the current solutions, and it will give a "first look" at some brand new statistical research in the area.

This Week's Seminar

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| Title: | Positive Semidefinite Migration |
| Speaker: | Nathan Warnberg |
| Date: | Friday, November 8th |
| Time: | 3:35 PM |
| Location: | RNS 204 |

About the Seminar:

Imagine that you would like to start a rumor so that eventually everyone in your school is aware of the rumor. To accomplish this you need to come up with a model for the relationships that exist in the population and how the rumor is spread from person to person. Let G be a graph whose vertices are people and whose edges represent a "friendship." Represent

the people that know the rumor by coloring their corresponding vertex blue and represent the people that don't know the rumor by leaving their vertex white. There are several rules for how the rumor can be transmitted and we will discuss one such rule, namely the positive semidefinite color change rule. This will allow us to determine the fewest number of people we need to tell the rumor to initially and how fast the rumor will spread.

Volunteering at the Northfield High School

Pi Mu Epsilon and Northfield High School are working together to place volunteers within their math department. There will be opportunities to work with students in classrooms with too many students, study hall help, and more! If you would like to volunteer, please contact Josh Jacobson (jacobsoj@stolaf.edu). Scheduling and ride sharing will be determined at a later date.

Have you participated in a Math REU or Internship?

Pi Mu Epsilon (the Math Honor Society) is hosting a Math REU/Internship night later in November. We are looking for a few students who have participated in an REU or internship who would like to speak about their experiences. If you would like to speak about your experience, please e-mail Taisa Kushner (kushner@stolaf.edu) as soon as possible.

Stats Grad School Panel

On Monday, November 4th, the MSCS department will be hosting a stats grad school panel in RNS 207(CIR Room). Dinner will be served at 6:00 pm, and there will be a panel discussion from 6:15 - 7:15

pm. Three Ole alum who are currently/recently in graduate programs in statistics or biostatistics will participate in a panel discussion. They will provide insights and answer questions such as: what is graduate school like? how does one choose a program? how does St. Olaf prepare you? what can one do with an advanced stats degree? and, is it true they really pay you to go to grad school?

Panelists:

- Laura Boehm Vock '08 (NC State stats)
- Alyssa Frazee '10 (Johns Hopkins biostats)
- Aaron Molstad '12 (Minnesota stats)

Masters of Science in Finance at Pacific Lutheran University

Are you unsure what you can do with your math major after graduation? Then consider applying to Pacific Lutheran University for their Masters of Science in Finance program. This program is 10 months in length, and covers business, finance, economics, and more! If you would like more information, please visit their website www.plu.edu/msf/math/

MSCS Jokes

Math:

$$\left(\lim_{x \rightarrow 8^+} \frac{1}{x-8} = \infty \right) \Rightarrow \left(\lim_{x \rightarrow 3^+} \frac{1}{x-3} = \omega \right)$$

Stats:

Why are open source statistical programming languages the best? Because they R.

Computer Science:

The two hardest problems in computer science are cache invalidation, naming things and off by one errors.

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| 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