

MSCS



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Department of Mathematics, Statistics, and Computer Science
St. Olaf College, Northfield, MN 55057
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Friday's Colloquium

Title: **Gerrymandering and the Attainment of Impossible Electoral Results**

Speaker: Prof. Steve McKelvey

Date: 10/21/22, 3:30pm

Place: RNS 310

Part 1: A discussion of the mathematics and effectiveness of gerrymandering, the process of using creatively drawn political maps to dilute the electoral power of unfavorable populations.

Part 2: Concerns the occasional claims that in four states (Georgia, Michigan, Pennsylvania and Wisconsin) the results of a Biden win in 2020 were statistically impossible. The analysis he will show is based on the analysis appearing in a US Supreme Court filing by Texas seeking to overturn the results in those states.



Friday's Colloquium

Title: **Painful Regressions: Probability and Statistics in Clinical Medicine and Pain Management**

Speaker: Dr. Kashar Rambachan '12

Date: 10/24/22, 3:30pm

Place: RNS 310

Abstract: Probability and statistics underlie every aspect of a physician's care of a patient from triage in the Emergency Room to daily tests and treatments to the decision of when to discharge a patient. In the first part of this presentation, we will discuss how Bayesian probability is essential to medical decision making using real life hospital encounters. In the second part, we will discuss statistical approaches to exploring disparities in inpatient pain management.

About the speaker: Dr. Akshar Rambachan MD, MPH is a physician-investigator and assistant professor of medicine at the University of California, San Francisco (UCSF). He works clinically as an adult hospitalist with a research focus in racial, ethnic, and language based disparities in pain assessment and management. He graduated from St. Olaf College in 2012 (Chemistry, Political Science, SDS) and obtained his MD/MPH from the Northwestern

University Feinberg School of Medicine. He completed his residency in Internal Medicine at Massachusetts General Hospital/ Harvard Medical School and a Hospital Medicine Fellowship at UCSF.

Computer Science Tenure Track Candidates - Research Seminars

In the next few weeks the MSCS department will be hosting CS Tenure Track Candidates. All talks will begin at 3:30 pm and are all in RNS 310. Below are the Research Seminars! **Student attendance is most welcome!**

- Colloquium - Wed. Oct. 26
Research Seminar - Thur. Oct. 27
- Colloquium - Mon. Oct. 31
Research Seminar - Tues. Nov. 1
- Colloquium - Wed. Nov. 2
Research Seminar - Thur. Nov. 3

MSCS Students - Wall of Fame!

It's not too late! You can still get your photo added to the MSCS Majors and Concentrators photo wall. If you'd like to have your image on the wall please send Ellen Haberoth (habero1@stolaf.edu) your picture in either jpg, tiff, or gif format. The ideal date for submission is October 31st.

CS Undergraduate Research

St. Olaf CS invites applicants for undergraduate research student work during Fall '22 and possibly Spring '23, for work on projects involving cloud computing or Raspberry Pi units, as part of the CSinParallel research group. Specifically, the work relates to (1) "Runestone Backend", an automated containerized parallel/cluster computations on Google Cloud using Kubernetes, and (2) the Self-Organizing Cluster system for the Raspberry Pi, including system image development. Qualifications depend on the particular project, as described in the application details. Both are ongoing projects with flexible expectations for hours per

week, and strong applicants who may have partial qualifications are encouraged to apply for one or both projects.

Please apply [here](#), applications will be accepted and considered until further notice.

MSCS Students - Summer in Budapest!

Come spend a summer in Budapest to explore the [Hungarian mathematics pedagogy](#), which emphasizes problem solving, mathematical creativity, and communication. [Summer@BSME](#) is a six-week study abroad program designed for undergraduates, recent graduates, and in-service teachers interested in the learning and teaching of secondary mathematics. Participants take mathematics education courses to learn about the Hungarian pedagogy. They also engage in a week-long field experience at a math camp, where they obtain first-hand experience on how the methods learned in the courses are put into practice. **To learn more about this exciting summer opportunity, visit bsmeducation.com. To learn more generally about studying abroad, check your emails for the Smith Center for Global Engagement, that offers more information about programs and funding.**

Attention Freshmen and Sophomores! Math/Education Double Major!

We are doing another segment on the double major of Math and Education. The demand for Math Teachers is always high, and so over the next few issues I'll be releasing information about the Education and Math double major. If you know you are interested in knowing more, contact [Prof. Ryota Matsuura](#)! He'll have all you need to know.

In order to be in the teaching license program, you have to apply while you take Education 295 'Foundations of Education.' This course is typically taken during the sophomore year, although it is possible to take it in the fall

of your junior year as well. For first-year students interested in education, you might consider taking Education 170 ‘Urban Schools and Communities’ during the Interim. Although

this course isn’t required for the Education major, it’ll allow you to dip your toes into an Education Department course.

To submit an article, event, or anything else for publication in the Mess, email hilst1@stolaf.edu; to receive the Mess digitally each Friday, email habero1@stolaf.edu; visit <http://wp.stolaf.edu/mcs/mcs-mess/> for a digital archive of previous MSCS Mess issues.

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