SIAM

FRAMSC

22nd FRONT RANGE Applied Mathematics
Student Conference

About

The Front Range SIAM Student Chapters are organizing the 22nd Annual Applied Mathematics Regional Student Conference. This event allows students from all universities along the Front Range to learn about new developments in Applied Mathematics and promotes interest in the field.

The conference is open to *both* undergraduate and graduate students.

Registration Info

This will be an in-person conference. All speakers and conference attendees are kindly asked to fill out, in advance, a short online registration form, to keep you updated with any announcements, changes. To defray the cost of refreshments (breakfast and lunch), a registration fee will be collected onsite the day of the conference, with those who register a week in advance receiving a reduced registration rate. For more info and to register, please visit the website: http://framsc.org or scan the QR code below.

UNIVERSITY OF COLORADO - DENVER
SATURDAY, MARCH 7TH, 2026

http://framsc.org

Call for Presentations

Students are encouraged to present their research to an audience consisting primarily of peer students. Presentations will be 20 min long. MCM/ICM teams are also invited to present. Please send abstracts in LaTeX (.tex) or plain text (.txt) format to FRAMSC.abstracts@gmail.com.

Abstract submission deadline is Friday, Feb 27 , 2026!

For more info, please check the conference website or contact the SIAM faculty advisors below:

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Keynote Speaker

Dr. Joshua French

University of Colorado Denver

Prefiltered Component-based Greedy (PreCoG) Scan Method

Abstract: The spatial distribution of disease cases can provide valuable insights into disease spread and risk factors. Identifying disease clusters correctly can lead to the discovery of new risk factors and inform interventions that can help control and prevent the spread of disease. In this regard, we propose a novel scan method, the Prefiltered Component-based Greedy (PreCoG) scan method, which efficiently and accurately detects irregularly-shaped clusters using a prefiltered component-based greedy search algorithm. The PreCoG scan method is computationally efficient, flexible in its ability to detect irregularly-shaped clusters, while still being powerful and having high levels of sensitivity and positive predictive value. To demonstrate its efficacy, we compare its performance to many other scan-based methods. Additionally, we have included this method in the smerc R package to make it easy to apply this method to new data sets. Our proposed PreCoG Scan Method offers a unique and innovative approach to cluster detection that can improve the efficiency and accuracy of disease surveillance systems.

Bio: Professor Joshua French is a statistician and data scientist. He is currently the Director of Data Science at the University of Colorado Denver and an Associate Professor in the Department of Mathematical and Statistical Sciences.

He is passionate about using statistics and data science to learn from data, developing software to help others learn from data, and training others to do data analysis. His research uses geographically-referenced data to draw conclusions about ecological anomalies, climate extremes, and disease outbreak.