

## Plenary Speaker

**Dr. Jan S. Hesthaven**

EPFL, Switzerland



## How to predict a Tsunami

**Abstract:** During the last decades, earthquake driven tsunamis have impacted the lives of millions and resulted in financial losses in the billions. Some of this devastation could be avoided if one could reliably predict the impact of tsunamis as an integral part of tsunami warning system, giving time to evacuate people and high value assets as needed. In this talk we discuss the models and computational elements of a simulation tool to enable the prediction of tsunami arrival time on a global scale. The flexibility of the formulation allows for the use of a fully non-conforming discretization, opening the path to efficient adaptive computations. We illustrate the properties of the scheme through a series of simple one-dimensional tests before validating the method for the simulation of large-scale tsunami events on the rotating sphere by performing numerical simulations of several historical large scale events and compare our results to real-world data. By considering both static and dynamic earthquake models, we demonstrate that the method is able to predict arrival times and wave amplitudes accurately, even over long distances.

## Call for Presentations

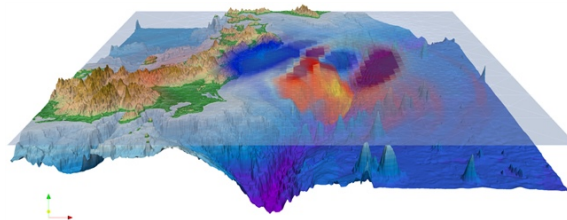
All students (both undergraduate and graduate) are invited to submit abstracts on any research topic in Applied Mathematics. Abstracts should include:

- Title of work to be presented,
- Author's name,
- The university the author is currently attending,
- Names of any advisors or other collaborators,
- An extended description of the research to be presented (of length no greater than 500 words).

**Talks:** All (except the plenary lecture) will be student presentation: 20-minute talks followed by 5 minutes for questions and set-up of the next speaker. A special MCM/ICM session will also be organized.

Please send abstracts in LaTeX or plain text to [FRAMSC.abstracts@gmail.com](mailto:FRAMSC.abstracts@gmail.com)

The abstract submission deadline is **Friday, February 22, 2019.**



## 15<sup>th</sup> Front Range Applied Mathematics (FRAM) Student Conference

**University of Colorado  
Denver**

**SATURDAY  
MARCH 2<sup>ND</sup>, 2019**

### SPONSORS:

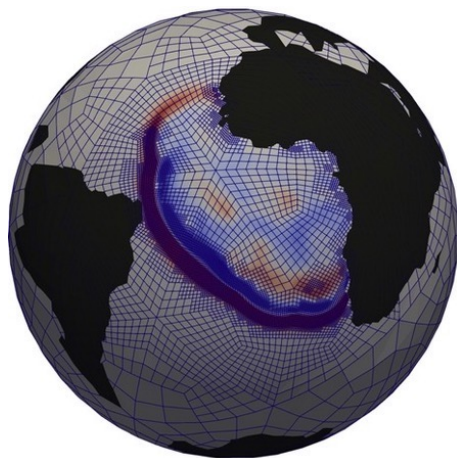
SIAM STUDENT CHAPTERS AT  
University of Colorado, Boulder  
University of Colorado, Colorado Springs  
University of Colorado, Denver  
Colorado State University  
Colorado School of Mines  
MSU Denver, Colorado College,  
University of Wyoming

<https://www.colorado.edu/amath/2019-siam-front-range-student-conference>



## About the conference

The Front Range SIAM Student Chapters are sponsoring the 15th Annual Applied Mathematics Regional Student (aka FRAM) 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. Additionally, this event is open to both undergraduate and graduate students.



## SIAM Student Chapters

Several universities in Colorado host active SIAM Student chapters, with the mission to promote applied mathematics and computational science and to encourage young mathematicians to pursue these fields. Student chapters provide opportunities to share ideas, learn about careers in applied and computational mathematics and develop networks with faculty and fellow students.

## Schedule of Events

The conference is scheduled for Saturday, March 2<sup>nd</sup>, 2019, between 8:30am and 4pm. Exact schedule will be posted on the conference website. Events will include a plenary address, and parallel sessions for student presentations. The conference will take place in the North Classroom building, on the Auraria Campus Downtown. For more details and directions, please visit the conference website

<https://www.colorado.edu/amath/2019-siam-front-range-student-conference>

## Contact Information

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## Registration Information

The registration fee is \$10 for students and \$20 for everyone else, to help defray the cost of the breakfast and lunch that will be provided at the conference. Cash or checks are welcomed. Checks should be written to "CU Denver SGA". Inquiries about registration should be directed to Dr. Varis Carey, Faculty Advisor ([variscarey@googlemail.com](mailto:variscarey@googlemail.com)), or Jordan Hall, President of the CU Denver SIAM Student Chapter ([Jordan.R.Hall@ucdenver.edu](mailto:Jordan.R.Hall@ucdenver.edu)).

Registration and Breakfast will open at 8:30am with talks beginning at 9am. The conference will take place on the 4th floor of the Student Commons Building (1201 Larimer Street) on the Auraria campus, in downtown Denver.

Early registration is encouraged: If your university has multiple attendees please feel free to submit one check with the registration along with a list of the attendees. Contact the organizers for more details.

