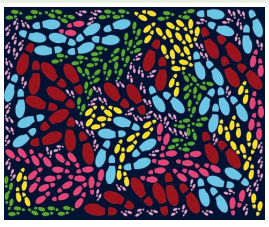

SIAM
Society for Industrial and Applied Mathematics

14th Front Range Applied Mathematics (FRAM) Student Conference

University of Colorado - Denver

Saturday, March 3rd, 2018

Sponsors: The SIAM Student Chapters at
University of Colorado: Boulder, Colorado Springs and Denver campuses
Colorado School of Mines, Colorado State University, Colorado College, Metro State, U. Wyoming

The Front Range SIAM Student Chapters are sponsoring the 14th 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 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), or Michael Phillips, President of the SIAM Student Chapter at CU Denver (Michael.2.Phillips@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.

Call for Presentations

There will be 20-minute student presentations. A special MCM/ICM session will also be organized. Please send abstracts in LaTeX (.tex) or plain text (.txt) format to FRAMSC.abstracts@gmail.com. For more info, please check the conference website or contact the organizers.

Abstract submission deadline is Friday, Feb 23, 2018!

Contact Information

University of Colorado Boulder:
Dr. Anne Dougherty, anne.dougherty@colorado.edu
Dr. Stephen Becker, stephen.becker@colorado.edu

University of Colorado Colorado Springs:
Dr. Radu Cascaval, radu@uccs.edu

University of Colorado Denver:
Dr. Varis Carey, variscarey@googlemail.com,

Colorado School of Mines:
Dr. Mike Nicholas, nicholas@mines.edu

Colorado State University:
Dr. James Liu, liu@math.colostate.edu

Colorado College:
Dr. Stefan Erickson, serickson@coloradocollege.edu

University of Wyoming:
Dr. Lynne K. Ipina, ipina@uwyo.edu

Metro State University:
Dr. Henc Bouwmeester, hbouwmee@msudenver.edu
Dr. Brendan Fry, bfry2@msudenver.edu

Plenary Speaker

Dr. Benedetto Piccoli

Rutgers University - Camden

Modeling of Crowd Dynamics

During the holiday shopping season, malls seem to be as crowded as busy city streets. It's a pedestrian traffic jam from store to store as people try to navigate the pathways that will lead them to the perfect holiday gift, and maybe even a bargain. Trying to get around or through droves of people isn't just a science perfected by savvy shoppers. The modeling of such phenomena need to take into account various aspects, for instance psychology, which studies the cognitive processes behind the action of walking; and mathematics, which attempts to quantify the laws that govern the way crowds of people move or interact.
Topics will include:

1. **The phenomenology of crowd dynamics: self-organization, patterns and cognitive processes.**
2. **Experiments with crowds: what to measure, how to measure, experimental settings.**
3. **Modeling crowd dynamics: choice of the scale, ODE and PDE models, new measure theory approach.**
4. **Measure-theory multi-scale models: math behind, properties of the model, numerics and simulations.**

Dr. Benedetto Piccoli is the Joseph and Loretta Lopez Chair of Mathematics at Rutgers University - Camden. Dr. Piccoli is the author of several books and scholarly articles on crowd dynamics and traffic flow. Piccoli's recent book, Multiscale Modeling of Pedestrian Dynamics (Springer, 2014), brings together two disciplines when analyzing crowd dynamics: psychology, which studies the cognitive processes behind the action of walking; and mathematics, which attempts to quantify the laws that govern the way crowds of people move or interact.
For more information, visit http://piccoli.camden.rutgers.edu/

Conference Website: http://goo.gl/w1Uj8J