



13th Front Range Applied Mathematics (FRAM) Student Conference

UNIVERSITY OF COLORADO - DENVER

SATURDAY, MARCH 4TH, 2017

SPONSORS: THE SIAM STUDENT CHAPTERS AT
University of Colorado: Boulder, Colorado Springs and Denver campuses
Colorado School of Mines, Colorado State University, Colorado College, Univ. Wyoming

The Front Range SIAM Student Chapters are sponsoring the 13th 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. Stephen Hartke, Faculty Advisor, (Stephen.Hartke@ucdenver.edu), or Michael Pilosov, President of the SIAM Student Chapter at CU Denver (Michael.Pilosov@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 24, 2017!

Plenary Speaker

Dr. Paul Constantine
Colorado School of Mines



Active Subspaces: Emerging Ideas for Dimension Reduction in Computational Science and Engineering Models

Scientists and engineers use computer simulations to study relationships between a physical model's input parameters and its output predictions. However, thorough parameter studies---e.g., constructing response surfaces, optimizing, or averaging---are challenging, if not impossible, when the simulation is expensive and the model has several inputs. To enable parameter studies in these cases, the engineer may attempt to reduce the dimension of the model's input parameter space. Active subspaces are part of an emerging set of subspace-based dimension reduction tools that identify important directions in the input parameter space. I will (i) describe computational methods for discovering a model's active subspaces, (ii) propose strategies for exploiting the reduced dimension to enable otherwise infeasible parameter studies, and (iii) review results from several science and engineering applications. For more information, visit <http://activesubspaces.org>

Contact Information

University of Colorado Boulder: Dr. Anne Dougherty, Anne.Dougherty@colorado.edu
Dr. Tom Manteuffel, tmanteuf@colorado.edu

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

University of Colorado Denver: Dr. Stephen Hartke, stephen.hartke@ucdenver.edu,

Colorado School of Mines: Dr. Aaron Porter, aporter@mines.edu

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

Colorado College: Dr. Rodney James, Rodney.James@coloradocollege.edu

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

Conference Website: <http://goo.gl/Tk2VXK>

