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** .
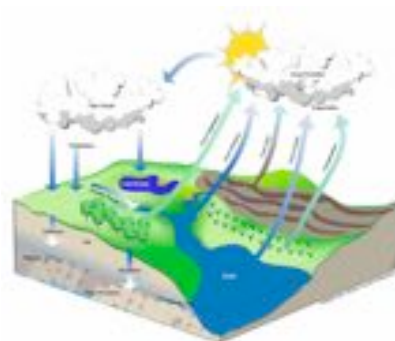
Call for Presentations

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*

The abstract submission deadline is Friday, February 24, 2017.

13th Front Range Applied Mathematics (FRAM) Student Conference
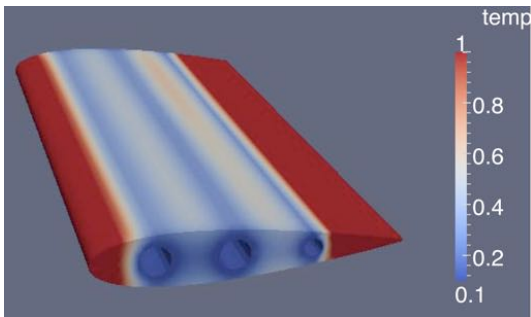
University of Colorado Denver

Saturday March 4th, 2017

http://goo.gl/Tk2VXK

About the conference

The Front Range SIAM Student Chapters are sponsoring the 13th 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 4th, 2017, between 8:30am and 4pm. Exact schedule will be posted on the conference website. Events will include a plenary address, parallel sessions for student presentations (including a special MCM/ICM session) and a poster session.

Location: 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 http://goo.gl/Tk2VXK

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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. 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.

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.