

Program for the Front Range Applied Mathematics Student Conference

8:30 – 9:30am: Breakfast and Registration

Morning Session

9:30 – 11:00am

9:30 – 9:55	Shane Kirkbride <i>University of Colorado, Colorado Springs</i>	Riemann's Hypothesis, Quantum Chaos, and the Universe in General
10:00 – 10:25	Dan Cooley <i>University of Colorado, Boulder</i>	Precipitation Return Levels for Colorado's Front Range
10:30 – 10:42	Zhongben Wang <i>Colorado School of Mines</i>	Optimal Superconvergent Alternating Direction Implicit Nodal Cubic Spline Collocation Methods for Helmholtz Problems
10:45 – 10:57	Travis King <i>Colorado State University</i>	Detecting and Countering Instabilities Arising from Operator Splitting in Reaction-Diffusion Equations

MCM/ICM Session

9:30 – 10:45am

9:30 – 9:55	Matthew J. Kaspari, Jeremy J. Noe, and Barry J. O'Reilly <i>University of Colorado, Denver</i>	Relieving Toll Booth Congestion
10:00 – 10:25	Kurt Cordle and Jon Stranske <i>University of Colorado, Denver</i>	Modeling Toll Plazas: Traffic Flow and Optimum Configurations
10:30 - 10:42	Sanghui Lee <i>University of Colorado, Colorado Springs</i>	ICM: Non-renewable Resources

Break: 11:00 – 11:15

Plenary Address, Stan Osher: 11:15 – 12:15

Lunch and Poster Session: 12:15 – 1:15

Alberto Villarreal <i>Colorado School of Mines</i>	Accurate Computation of Optical Flow
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Afternoon Session I

1:15 – 3:30pm

1:15 – 1:40	Sean Eastman <i>Colorado State University</i>	Linearization Error for Computational Error Estimates, and the Perturbed Power Method
1:45 – 1:57	Josh Nolting <i>University of Colorado, Boulder</i>	Parallel FOSPACK
2:00 – 2:12	Christopher Harder <i>University of Colorado, Denver</i>	Iterative Methods for Solving Non-Symmetric Systems
2:15 – 2:40	Eunjung Lee <i>University of Colorado, Boulder</i>	<i>FOSLL*</i> Method for Eddy Current Problem with 3D Edge Singularities
2:45 – 2:57	Brad Klingenberg <i>University of Colorado, Boulder</i>	A Common Framework and Initialization Strategy for Non-negative Matrix Factorization
3:00 – 3:25	Que Nguyen <i>Colorado School of Mines</i>	Matrix Decomposition Algorithms for Modified Quadratic Spline Collocation for Helmholtz Problems

Afternoon Session II

1:15 – 3:30pm

1:15 – 1:40	Xilin Shen <i>University of Colorado, Boulder</i>	Analysis of Event-Related fMRI Data using Diffusion Maps
1:45 – 1:57	Jutta Bikowski <i>Colorado State University</i>	Electrical Impedance Tomography
2:00 – 2:12	Adam Ringler <i>Colorado School of Mines</i>	The Total Homotopy Operator on the Jet Space: A Theoretical Approach Made Concrete
2:15 – 2:40	Steve Ogden <i>University of Colorado, Denver</i>	Automating Escher Tiling and Coloring
2:45 – 2:57	Tessa Weinstein <i>University of Colorado, Denver</i>	Upscaling Via the Hybrid Mixture Theoretic Approach: Governing Equations for a Swelling Porous Medium
3:00 – 3:12	Pascal Getreuer <i>University of Colorado, Boulder</i>	Nonlinear Interpolation
3:15 – 3:27	Sada Narayanappa <i>Denver University</i>	An Improved Approximation Factor for Disk Covering Problem