



CSMGRADS

Graduate Research And Discovery Symposium @ MINES
Connecting students to ideas

2017 GSG Graduate Research And Discovery Symposium (GRADS)

Over 150 posters and oral presentations were judged by outstanding faculty, staff, and alumni of the Colorado School of Mines and were evaluated on three bases: scientific content (originality, objectives, relevance, methods, supported conclusions and directions for the future); appearance (logical organization, effective layout and legibility); and presentation ability (clear, concise and effective handling of questions). The GSG congratulates the winners of GRADS 2017:

Poster Sessions

- CECS I | 1st Place – **Nicholas Danes**: “Toward a Mathematical Model of Hemostasis”
- CECS I | 2nd Place – **Jennifer Ryan**: “Development and performance assessment of a Software-defined network simulator”
- CECS II | 1st Place – **Nick Kincaid**: “A Green Roof Heat and Mass Transfer Model Using a Finite Difference Method for Building Energy Simulations”
- CECS II | 2nd Place – **Nohemi Almaraz**: “Occurrence of Halogenated Disinfection Byproducts in Treated Oil and Gas (O&G) Wastewater”
- CASE | 1st Place – **Abhijit Kale**: “Study of Nickel Silicide as a Copper Diffusion Barrier in Monocrystalline Silicon Solar Cells”
- CASE | 2nd Place – **Tracy H. Schloemer**: “A Route to Low-Cost Flexible Solar Cells: Rational Design of the Organic Charge Transport Layer”
- CERSE | 1st Place – **Jake Utley**: “Time-Lapse Seismic Inversion to Observe Stimulation and Production Effects”
- CERSE | 2nd Place – **Erin Bessette-Kirton**: “Landslide Structures and Dynamics Derived from Satellite Imagery of the 2016 Lamplugh Glacier Rock Avalanche, Glacier Bay National Park, Alaska”

Oral Sessions

- Civil: Seismic Energy I | 1st Place – **Alena Grechishnikova**: “Integration of New Technologies for Fracture Models. An Unconventional Niobrara Outcrop Case Study”
- Civil: Seismic Energy II | 1st Place – **Mallory McAdams**: “Dynamic Small Strain Behavior of Microbially Induced Calcium Carbonate Precipitation”
- Civil: Water Treatment I | 1st Place – **Stephanie Riley**: “Evaluation of a Hybrid Membrane Biosystem for Sustainable Desalination of O&G Produced Water”

- Civil: Water Treatment II | 1st Place – **Daniel Van Hoomissen**: “Computational Investigation of 1,2-F atom Rearrangements in Perfluorinated Compounds: Insight into PFAA Quantification and Degradation”
- Biological Engineering | 1st Place – **Timothy C. Schutt**: “A PEGylated Ionic Liquid for Enhanced Processing of Lignocellulosic Materials”
- Computation | 1st Place – **Qiuwei Li**: “Overcomplete Tensor Decomposition via Convex Optimization”
- Applied Computation | 1st Place – **Zhijian Liu**: “Modelling Sloughing of Gas Hydrate Deposits in Subsea Pipelines Using a Finite Element Numerical Approach”
- Materials and Metallurgy I | 1st Place – **John Mangum**: “Correlative Raman Spectroscopy and Focused Ion Beam for Targeted Microstructural Analysis of Titania Polymorphs”
- Materials and Metallurgy II | 1st Place – **Ting Wu**: “Zeolitic Imidazolate Framework-8 (ZIF-8) Membranes for Kr/Xe Separation”
- Catalysts and Fuel Cells | 1st Place – **William Smith**: “Separation of Metal Hybrid Nanoparticles by Composition using Thermal Field Flow Fractionation”
- Renewable Energy | 1st Place – **Celeste L. Melamed**: “Single Crystalline Substrates for III-V Growth via Exfoliation of Bulk Single Crystals”