



2013 Annual Meeting

Montana Academy of Sciences

Montana Tech, April 12-13, 2013

Friday, April 12, 2013

- 4:00-5:30 Board of Directors Meeting, Tom and Mary Dyke Room (URC)
5:30-7:00 Registration and Hang Posters, Bob & Pauline Poore Room (URC)
6:00-7:00 Reception and Poster Session, Bob & Pauline Poore Room (URC)
7:00-8:00 *Buffet Dinner, Bob & Pauline Poore Room (URC)*
8:00 Awards Presentation, Bob & Pauline Poore Room (URC)
8:15-~9:30 Poster Session (Continued), Bob & Pauline Poore Room (URC)

Saturday, April 13, 2013

- 8:00-9:00 Breakfast, Student Union Building (SUB)
9:00-10:20 Presentation Session #1, Copper Lounge (SUB)
10:00-12:00 Junior Academy Breakout Sessions, Big Butte & Kelly Stewart Rooms (SUB)
10:30-10:45 *Coffee Break*
10:45-12:00 Presentation Session #2, Copper Lounge (SUB)
12:00-1:00 *Lunch, SUB*
1:00-2:00 Faculty Workshop: Engaging Undergraduate Researchers, Big Butte Room (SUB)
1:00-3:15 Presentation Sessions #3 and #4, Kelly Stewart Room and Copper Lounge (SUB)

Presenter Schedule, Session #1, Copper Lounge (SUB)

- 9:15 Rachel Dickson, Big Sky High School, "Polarization Lidar Measurements of *Apis mellifera* in Flight for Mapping Pollination Patterns"
- 9:30 Triston Isakson, Fairfield High School, "Cutthroat Trout Re-introduction Phase III Modeling"
- 9:45 Mary Ellenbecker, UM, "Identification and Characterization of Inhibitors of Rift Valley Fever Virus Nucleocapsid-RNA Interactions"
- 10:00 Jaclyn Rohrs, MSU, "Effects of Psyllium Supplementation in Grazing Horses on Glucose and Insulin Dynamics"
- 10:15 Jasmine Austin, MSU-B, "Effects of the Small Molecules BH3I-1 and HA14-1 on *Conidia* Germination and Morphogenesis in the Fungus *Aspergillus fumigatus*."

Presenter Schedule, Session #2, Copper Lounge (SUB)

- 10:45 Mattie Casey, Carroll College, "Microsatellite Analysis of Gene Flow between *Culex tarsalis* Populations Connected by Irrigation in Yellowstone County, Montana"
- 11:00 Britney Cheff, RMC, "A Novel Ligand-Receptor Interaction in the Activin Signaling Network in *Drosophila*"
- 11:15 David Kemp, UGF, "Estimating Population Density of the White-Tailed Jackrabbit *Lepus townsendii* in Select Central Montana Agricultural Fields"
- 11:30 Don Wilathgamuwa, UM, "Stochastic Functional Differential Equations Driven By Fractional Brownian Motion And Their Generalizations"

Presenter Schedule, Session #3, Kelly Stewart Room (SUB)

- 1:00 Jauna Anderson, Tech, "The Relationship between Music and Students' Cognitive Abilities"
- 1:15 Kira Buscaglia, Tech, "'Mommy, Are You Sad?': A Qualitative Analysis of How Mothers Manage Stress"
- 1:30 Robert Hark, Tech, "Grid Selection for Finite Difference Methods Applied to the Heat Equation"
- 1:45 Phil Keating, Tech, "Comparative Analysis of Justice/Corrections Project Mandates"
- 2:00 Break
- 2:15 Brian D. Knopp, Tech, "A Parallelized Genetic Encryption Algorithm for Encrypting Abstract Data"
- 2:30 Haythem Memmi, Tech, "Optimizing Touch Screen Interaction in Mobile Devices for Visually-Impaired Users"
- 2:45 Dennis J. Moritz, Tech, "An Exploration of the Cases and Difficulties of Fermat's Last Theorem"
- 3:00 Joseph Raymond, Tech, "A Detailed Analysis of Big Big Win Keno to Determine the Optimal Gameplay Strategy"

Presenter Schedule, Session #4, Copper Lounge (SUB)

- 1:00 Cole Berg and Mariah Sheble, Tech, "'Butte Water: Is it Safe?' A Video Documentary"
- 1:15 Chris Bulau, Tech, "The Effects of Handling on the Measured Crush Strength of Proppant"
- 1:30 Sarah Chappell, Tech, "Installation of Distributed Strain and Temperature (DST) Fiber Optic Cables to Measure Ground Deformation in an Open Pit Mine"
- 1:45 Casey McConnell, Tech, "The Infection of *Staphylococcus aureus* by JB Bacteriophage in the Presence of Iron-Doped Nanoparticles"
- 2:00 Break
- 2:15 Ryan Hensleigh, Tech, "Research and Analysis of the Mycobacteriophage 'Gigantor'"
- 2:30 Vincent Siragusa, Tech, "Natural Day Refuges of *Peromyscus maniculatus* in Montana"
- 2:45 Ian Underwood, Tech, "An Analysis of Variances in Eggshell Thickness of Fossilized *Spheroolithidae* Specimens"