



# 2015 Annual Meeting

## Montana Academy of Sciences

### Student Union, Montana Tech, April 10-11, 2015

#### Friday, April 10, 2015

- 5:30-7:00 Registration and Poster Preparation, Lobby and Big Butte Room  
6:00-7:00 Reception and Poster Session, Big Butte Room  
7:00-8:00 *MAS Annual Banquet, Copper Lounge*  
8:15-~9:30 Poster Session (Continued), Big Butte Room

#### Saturday, April 11, 2015

- 7:30-9:00 Board of Directors Meeting, Pintler Room  
8:00-8:50 *Breakfast (Dining Room)*  
9:00-10:30 Presentation Session I, Copper Lounge  
9:30- Junior Academy Breakout Session, Kelley/Steward Room  
10:30-10:45 *Coffee Break, Lobby*  
10:45-12:00 Presentation Session II, Copper Lounge  
10:45-12:00 Presentation Session III, Big Butte Room  
12:00-1:00 *Lunch (Dining Room)*  
1:00-2:45 Presentation Session IV, Copper Lounge  
1:00-3:00 Presentation Session V, Big Butte Room

*The Board of Directors of the Montana Academy of Sciences would like to thank the sponsors of the 2015 Annual Meeting:*

*Dr. Bob Wilmouth, President, Rocky Mountain College*  
*Dr. Doug Coe, Dean, College of Letters, Sciences and Professional Studies, Montana Tech*  
*Dr. Beverly Hartline, Vice Chancellor for Research, Montana Tech*  
*Dr. Renee Reijo Pera, VP for Research, Montana State University*  
*Dr. Beth Weatherby, Chancellor, University of Montana – Western*  
*Department of Biological and Physical Sciences, Montana State University – Billings*

### Presentation Session I (Copper Lounge)

- 9:00 Junior Academy Talk
- 9:15 Junior Academy Talk
- 9:30 "Life history traits of solitary bees as mediators of responses to climate-warming: phenological shifts, body size, and life span." Anthony Slominski, MSU
- 9:45 "Metabolites, Metabolic Hormones, and Hematological Profiles in Mountain Goats (*Oreamnos americanus*) before the Breeding Season and during the First Trimester of Pregnancy." Melissa Herrygers, MSU
- 10:00 "BH3I-1 derivatives inhibit the filamentous growth of the CEA10 strain of *Aspergillus fumigatus*." Rochelle Johnson, MSU-B
- 10:15 "Indigenous community impacts of large corporations in Arctic communities: specific focus on social justice and sustainability for the Swedish Sami." Jon-Eric Krans, UGF

### Presentation Session II (Copper Lounge)

- 10:45 "Identification of heavy metal hyper-accumulating fauna in the Butte Montana region through the use of ICP analysis." Olivia Coguill, Montana Tech
- 11:00 "Examining Antibody to Sin Nombre Virus in Rodents Associated with Peridomestic Habitats in North East Montana." Paul Engstrom, Montana Tech
- 11:15 "Seasonal Differences in hantavirus prevalence in deer mice captured in ranch buildings in southwestern Montana." Richard McEwen, Montana Tech
- 11:30 "An Investigation of the Common Loon, (*Gavia immer*), on Spencer Lake and Blanchard Lake, Montana: Identifying Populations of Banded and Non-Banded Birds of the Common Loon." Spencer Hale, Montana Tech
- 11:45 "Macroinvertebrate Community Assemblage from Canyon Ferry to Great Falls Along the Missouri River." Marilyn E. Wright, UGF

### Presentation Session III (Big Butte Room)

- 10:45 "Developing Reproducible Antibacterial Surfaces Using Thermal Imprint Technology." Emily Kooistra-Manning, Montana Tech
- 11:00 "Utilization of Electrospinning Technique to Decorate Nanofibers for Biomedical Applications." Heidi Reid, Montana Tech
- 11:15 "Touchless Thermal Respiratory Monitor." Jonathan Schulz, Robin Hallett; Montana Tech
- 11:30 "Knee Joint Prosthesis: Mechanical Properties Evaluation of a Titanium Based Biomedical Alloy." Luke Suttley, Montana Tech
- 11:45 "Isolation of essential oils from Indigenous Montana flora and their antimicrobial effectiveness as a non-toxic sterilizing reagent against bacteria that cause food borne illness." Samantha Miner, Montana Tech

### Presentation Session IV (Copper Lounge)

- 1:00 "Determining Nitrate and Phosphate Levels in Blacktail Creek." Garrett Craig, Montana Tech
- 1:15 "Evaluation of Differences in Body Composition and Carcass Characteristics in Lambs Divergent in Residual Feed Intake." Katharine Perz, MSU
- 1:30 "Analysis of craniofacial skeletal and soft tissue anatomy of the eye in relation to reduced visual acuity in humans." Sarah Queer, Montana Tech
- 1:45 "Using Click Chemistry to Modulate the Aggregation of the Parkinson's Disease Protein." Tyann Kuehn, Montana Tech
- 2:00 *Break*
- 2:15 "Analysis of Urban Humans and their Spatial Allowance for Predators." Theodore Darnell, Montana Tech
- 2:30 "Blogging and Tweeting About Teaching: Teachers' Perceptions of Informal Online Professional Networks." H. Smith Risser, Montana Tech

### Presentation Session V (Big Butte Room)

- 1:00 "Preparation for Using Fiber Optic Cables to Monitor Distributed Strain and Temperature Profiles in an Underground Mine Setting." Hannah Kuchinsky, Montana Tech
- 1:15 "Use of Fiber Optic Cables to Monitor Strain and Temperature in a Borehole, and Temperature Profile in a Flooded Shaft." Kaitlyn O'Connell, Montana Tech
- 1:30 "The Fantastic and The Modern Experience." Quincy Riordan, Montana Tech
- 1:45 "Chronic Fatigue Syndrome: A study of Southwestern Montana Health Care Providers Diagnosis Criteria and the Treatment Plan." Reece Gendreau, Montana Tech
- 2:00 *Break*
- 2:15 "Concurrency in a Real-Time Multi-User Simulation." Steve Wilson, Montana Tech
- 2:30 "Composition Operators on Weighted Bergman and  $S^p$  Spaces." Waleed Al-Rawashdeh, Montana Tech
- 2:45 "Design and Development of Large Scale Data Collection for Eyes Free Text Entry." Vernon Foley, Montana Tech