



2016 Annual Meeting

Montana Academy of Sciences

Student Union, Montana Tech, April 8& 9, 2016

Overview

Friday, April 8, 2016

- 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 9, 2016

- 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
12:00--1:00 Lunch (Dining Room)
1:00--2:00 Presentation Session III, Copper Lounge
2:00 Adjourn

Please Note: Abstracts of presentation can be found on the MAS web site at http://sciencemt.org/MAS/?page_id=322

The Board of Directors of the Montana Academy of Sciences would like to thank the sponsors of the 2016 Annual Meeting:

*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
Dr. Tim Laurent, VP for Academic Affairs, University of Great Falls
Department of Biological and Physical Sciences, Montana State University – Billings*

POSTER PRESENTATIONS

“The Effects of a Large River Impoundment on River Channel Complexity: Implications for Macroinvertebrate Community Structure”, Niall Clancy, Montana State University-Bozeman, 2015, MAS Grant Awardee

“Analysis of *tacA* Overexpression on Phenotypic Characteristics of *Sinorhizobium meliloti*”, Lauren Ozdowski, University of Great Falls

“Determining the Place of Aqp-3b in The Wnt/Ca²⁺ Noncanonical Pathway”, Oscar Machado, Montana State University - Bozeman

“Rescuing Convergent Extension after Inhibition of an Aquaporin”. Kaitlyn See, Montana State University – Bozeman, 2015, MAS Grant Awardee

“Using Nuclear Magnetic Resonance Spectroscopy to Develop Physiological Profiles for Bighorn Sheep (*Ovis Canadensis*)”, Jesse White, Montana State University - Bozeman

“Snorkel Research on Anadromous Fishes”, Conner Holbrook, Montana State University - Billings

“Follicular Development of Beef Heifers Exposed to Bulls During an Estrus Synchronization Protocol that Included a progesterone-containing CIDR, PGF₂alpha, and, Timed Artificial Insemination (AI) And GnRH”, Luis Ramos, Montana State University - Bozeman

“Characterization of the effects of small molecules on Mountain Pine Bark Beetle fungal symbionts”, Stephanie Maxwell, Montana State University - Billings

“The Intertwined Successional Development of Lamb Gut Microbiota and Immune System”, Medora Lachman, Montana State University - Bozeman

“Characterization of the effects of exogenous cAMP combined on *C. albicans* morphogenesis in strains lacking Nrg1p, Rfg1p, or Tup1p”, Brandon Van Tassel, Montana State University - Billings

“Screening Montana Native Grass Species for Resistance to Spotted Knapweed Exudate Catechin”, Christopher Prescott, Rocky Mountain College

“CRISPR/Cas9 Gene Editing to Study Mammalian Iron Transport and Iron Homeostasis”, Katy Martin, Montana State University - Bozeman

“Inquiry, Pedagogy, & Technology: Automated Textual Analysis of 30 Refereed Journal Articles”, David Thomas, University of Great Falls

“Relationship of Athletic Injuries to the Sport's Season”, Jessica Ream, University of Great Falls

ORAL PRESENTATIONS

Session I (Copper Lounge)

- 9:00 Junior Academy Talk: "Analysis of Mixed Populations of Bacterial Predators and Bacterial Prey: An Investigation of Resistance to Predatory Bacteria", Jeremy Heng, Hellgate High School, Missoula, MT
- 9:15 Junior Academy Talk: "Ozone and Methane Variation in the Atmosphere", Timothy Small, Simms High School, Simms, MT
- 9:30 "Touchless Thermal Respiratory Monitor", Robin (RJ) Hallett and Jonathan Schulz, Montana Tech
- 9:45 "Corrosion Inhibition: The Investigation of Lanolin on the Corrosion of 1018 Carbon Steel in Commercial Sea Water." Stephen Broddy, Montana Tech
- 10:00 "Piezoelectric Energy Harvesting System", Chau Ha, Montana Tech
- 10:15 "Properties of 3D Printed PLA with Additives", Lucas Reif, Montana Tech

10:30 Coffee Break, Lobby

- 10:45 "Stormwater in Silver Bow and Blacktail Creeks: Implications for the Microbial Community", Jordan Foster, Montana Tech
- 11:00 "Information Technology Use at Montana Tech", Lance Revenaugh, Gunnar Kayser, and Hunter Gappmayer, Montana Tech
- 11:15 "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
- 11:30 "Toxicity of Ammonia and Nitrite to Aquatic Macroinvertebrates", Tom Willingham, Montana State University – Bozeman
- 11:45 "18-beta-Glycyrrhetic Acid Results in Increased Pigment Production and Decreased Adherence in Methicillin Resistant *Staphylococcus aureus* Biofilms", Alan Weaver, Jr, Montana State University-Bozeman, 2015, MAS Grant Awardee

12:00 Lunch

- 1:00 "Indices of Body Composition and Repeatability of Residual Feed Intake in Growing Columbia Ewes Fed the Same Diet", Kate Perz, Montana State University-Bozeman
- 1:15 "Nuclear Magnetic Resonance Spectroscopy Metabolic Profiles to Distinguish Geographically Isolated Populations of Mountain Goats (*Oreamnos americanus*)", M. Rashelle Herrygers, Montana State University-Bozeman
- 1:30 The Effects of Climate-driven Phenological Shifts on Plant-pollinator Interactions and Plant and Pollinator Reproductive Success", Anthony Slominski, Montana State University-Bozeman, 2015, MAS Grant Awardee

1:45 Adjourn