

Wyoming INBRE Annual Research Network Retreat



September 15-17, 2016

University of Wyoming/National Park Service Research Station

Grand Teton National Park, Wyoming



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Thursday September 15, 2016

7:00pm Welcome reception (Berol Lodge, UW/NPS Research Station)

Friday September 16, 2016

Please note that **all meals are provided for all meeting attendees at the conference site (**Berol Lodge**). To find the Berol Lodge follow the road from the Research Station parking lot heading roughly north to the top of the hill. Please park your vehicle in the parking area as you enter the station.*

- 7:00-8:50am **Breakfast***
All early morning (9-10:30am) speakers should load their PowerPoint presentations on the main computer in the Berol conference room before 8:50am.
- 9:00-9:10am **Welcome/ Introductions:** R. Scott Seville, Wyoming INBRE Program Director and PI, *University of Wyoming/ University of Wyoming at Casper*)
- 9:10-9:40am **Wyoming INBRE Bioinformatics Core, University of Wyoming.** How can INBRE bioinformatics core best serve Wyoming institutions. *Vikram Chhatre, Nicolas Blouin, and Naomi Ward*
- 9:40-10:00am **Wyoming Geographic Information Science Center (WyGISC), University of Wyoming.** Examples and Options: Using Scripting Languages to Facilitate Research and Learning (and Employment?). *Shannon Albeke*
- 10:00-10:10am **OP1** (*University of Wyoming at Casper*) INBRE supported research at Casper College and the University of Wyoming at Casper. *Dagmara Motriuk-Smith*
- 10:10-10:20am **OP2.** (*University of Wyoming at Casper*) Eimeria in Mediterranean geckos and ornate box turtles. *Kristine Carmen, Catherine Kerr, Dagmara Motriuk-Smith, Chris T. McAllister, R. Scott Seville*
- 10:20-10:30am **OP3** (*University of Wyoming at Casper*) Recombinant Spider Silk-Like Protein Production for Biomaterial Generation. *Tianna M. Aikey, Hunter McCurdy, Patrick Johnson and Florence Teulé-Finley*
- 10:30-11:00am **Break***
All late morning (11am-12pm) speakers should load their PowerPoint presentations on the main computer in the Berol conference room before 10:50am.
- 11:00-11:10am **OP4** (*University of Wyoming at Casper*) Long-term fire succession as a framework for training undergraduate students in research. *Hayley C. Lanier, Zachary P. Roehrs, Meredith A. Roehrs, and R. Scott Seville*
- 11:10-11:20am **OP5** (*University of Wyoming at Casper*) Mapping the dynamic ecology of ants (Formicidae) in post-burn Yellowstone. *Isaac T. Andersson and Hayley C. Lanier*
- 11:20-11:30am **OP6** (*University of Wyoming at Casper*) Can sleepy bats think? *Lewis Hein and Hayley C. Lanier*
- 11:30-11:40am **OP7** (*University of Wyoming at Casper*) Does Raptor Distribution Differ Between Urban and Rural Habitats of Wyoming? *Haley Tolbert and Hayley C. Lanier*

- 11:40-11:50am **OP8** (*Laramie County Community College*) Occupancy Modeling to Examine Meso-Mammal Diversity and Abundance at an Urban-Rural Interface of Cheyenne, Wyoming. *Devyan J. Paiz, Francis G. Schaffer, Ami L. Wangeline, Hayley C. Lanier, Zachary P. Roehrs*
- 11:50-12:00pm **OP9.** (*Laramie County Community College*) Ear and PIT tag loss rates in small mammals from the Greater Yellowstone Ecosystem. *Molly E. Loetscher, Zachary P. Roehrs, Meredith A. Roehrs, Hayley C. Lanier, and R. Scott Seville*
- 12:00-1:20pm **Lunch***
All early afternoon (1:20-3:30pm) speakers should load their PowerPoint presentations on the main computer in the Berol conference room before 1:15pm.
- 1:20-1:30pm **OP10** (*Laramie County Community College*) Small mammal survey of the Cheyenne Business Park Natural Area, Cheyenne, Wyoming. *Jessica M. Williams, Molly E. Loetscher, Meredith A. Roehrs, and Zachary P. Roehrs*
- 1:30-1:40pm **OP11** (*Laramie County Community College*) Bioinformatics Education with Coursera: Is it worth it? *Suki Smaglik*
- 1:40-1:50pm **OP12** (*Northwest College*) From Antibiotics nouveau to Zonotrichia -INBRE Research at Northwest College. *Eric C. Atkinson, Allan Childs, Elise Kimble, and Uko Udodong*
- 1:50-2:00pm **OP13** (*Northwest College*) Lichen the Odds: Search for Novel Antibiotics in Wyoming Lichen. *Scott Chanthongthip, Elise Kimble, Michael Cuddy.*
- 2:00-2:10pm **OP14** (*Northwest College*) Environmental sources of novel antibiotic-producing bacteria. *Joel Hunt, Ryan Winchell, Elise Kimble, and Uko Udodong*
- 2:20-2:30pm **OP15** (*Central Wyoming College/ University of Wyoming*) Analysis of Effect of TRPV1 Activation on Triglyceride, Free Fatty Acid, and Cholesterol Levels in an Obese Mouse Model. *Kaylan Schilling, Joy Watkins, Jana Favela, Asia Williams, Rachel Tighe, Rachel Graham, Anna Hepp, Padmamalini Baskaran, Steven McAllister, and Baskaran Thyagarajan*
- 2:30-2:40pm **OP16** (*Central Wyoming College/ University of Wyoming*) Microplastic Pollution in the Snake River: A snapshot. *Ellen Yeatman and Kirsten Kapp*
- 2:40-2:50pm **OP17** (*Western Wyoming Community College/ University of Wyoming*) INBRE Research at Western WY Community College Provides Student Opportunities. *Bud Chew*
- 2:50-3:00pm **OP18** (*Western Wyoming Community College/ University of Wyoming*) A comparison of fire and pine beetle (*Dendroctonus ponderosae*) disturbances on seed banks in a forest ecosystem. *Katheryn Thomas, Will Clark, and Megan Lahti*
- 3:00-3:30pm **Break***
All late afternoon (after 3:30pm) speakers should load their PowerPoint presentations on the main computer in the Berol conference room before 3:25pm.

- 3:30-3:40pm **OP19** (UW-Sheridan Research and Extension Center/ NWCCD–Sheridan College)- **Abstract coming by MONDAY.** Ami Erickson
- 3:40-3:50pm **OP20** (University of Wyoming) How do intrinsically disordered hub proteins achieve broad binding specificity? Grant Bowman
- 3:50-4:00pm **OP21** (University of Wyoming) Inhibition of UGCG Expression Via MicroRNA and SiRNA. Jesse Hinshaw and Anya Lyuksyutova
- 4:00-4:10pm **OP22** (University of Wyoming) A regulatory genetic network in *C. elegans* contributes to epidermal structural integrity during development. Sarina Bernazzani, Melissa Kelley, and David S. Fay
- 4:10-4:20pm **OP23** (University of Wyoming) Genetic Analysis in NimA-Related Kinase Pathways in *C. elegans*. Joseph Braveen, Vladimir Lažetic and David S. Fay
- 4:20-4:30pm **OP24** (University of Wyoming) CARD9 Knockout Rescues Heart Function by Reducing Fibrosis and Hypertrophy in a Pressure-overload Model of Murine Heart Failure. Matthew Peterson, Samantha Haller, Kayla Wilson, Thomas D. Paul, and Guanglong He
- 4:30-5:30pm **Break***- Poster session preparation- **if we need to insert 2 program talks we can take time from this break**
- 5:30-7:30pm **Poster reception** (Berol lodge: Conference Room/CR) **and BBQ dinner**
- P1** Native bee diversity in burned and non-burned areas of the Rocky Mountain Forest System and the importance post-fire succession in conservation. Kendra David and Hayley C. Lanier (University of Wyoming at Casper)
- P2** Genetic analyses to determine road-barrier effects on small mammal populations. Laura M. Diesburg and Hayley C. Lanier (University of Wyoming at Casper)
- P3** Caulobacter PopZ forms an intrinsically disordered hub in organizing bacterial cell poles. Josh Holmes and Grant Bowman (University of Wyoming)
- 7:30pm-8:30pm **Keynote presentation- The Repairable Brain, Really?** *Dr. John Sladek, Professor Emeritus* Department of Neurology, Pediatrics & Neuroscience, University of Colorado School of Medicine and Chair of the Wyoming INBRE External Advisory Committee

Saturday September 12, 2015

- 7:30am-8:50am **Breakfast***
All morning speakers should load their PowerPoint presentations on the main computer in the Berol conference room before 8:50am.
- 9-9:10am **Wyoming INBRE Developmental Research Project Program, University of Wyoming.** Update from the Director of the Developmental Research Project Program (DRPP). David S. Fay

- 9:10-9:45am **OP25** An overview of the biomedical startup model; How venture capital and the digital age are impacting healthcare innovation. Greg Fluet
- 9:45-9:55am **OP26** (*University of Wyoming*) MetabocinTM : A novel agent to ameliorate metabolic syndrome. Markert Laurel, *Padmamalini Baskaran, and Baskaran Thyagarajan*
- 9:55-10:05pm **OP27** (*University of Wyoming*) Sirtuin-1 and Regucalcin Emerge as a Potential Target to Defy Redox Stress–Induced Accelerated Aging. Kara Nazminia, *Justine Frantz, Padmamalini Baskaran, and Baskaran Thyagarajan*
- 10:05-10:30am **Break***
- 10:30-12:00pm INBRE Principal Investigators' session
- 12:30pm- **Lunch***
- 2pm- INBRE group activity (outdoors)
- 6-7:30pm **Dinner*** (Make your own pizza contest; by school)

2016 Keynote Presentation

The Repairable Brain, Really?

Dr. John Sladek, Professor Emeritus Department of Neurology, Pediatrics & Neuroscience, University of Colorado School of Medicine and Chair of the Wyoming INBRE External Advisory Committee

Abstract: The human brain contains about a trillion neurons that are organized into specific and well defined neural circuits that control everything we do from walking to waking to creating music and being innovative. For over a century there was a consensus among scientists that the brain was incapable of making new nerve cells and regenerating new connections. We now know that neurogenesis occurs in the adult brain and that severed axons can grow, albeit not necessarily to restore proper function. Neurodegenerative disorders such as Parkinson's disease, ALS, Alzheimer's disease and many others including stroke might be stopped or even reversed if new neurons could take the place of those lost during these progressive neurological disorders or after trauma such as spinal cord injury. Implantation of replacement cells of fetal or stem cell origin has been attempted clinically with some success and holds considerable promise for restoration of function. Another intriguing possibility is the stimulation of cell division in the adult, a conserved evolutionary mechanism for cell renewal that is common in some vertebrates. Professor Sladek will discuss these possibilities in the context of his pioneering research in a non-human primate model of Parkinson's disease.

Acknowledgements

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Special thanks to the administration and staff of the University of Wyoming/ National Park Service Research Station for their assistance in organizing and running the conference.

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