



Wyoming INBRE Research Network Retreat
Friday, November 7 Presentation Schedule

3:45-5:30pm	Community College Students Research Presentations (UW Conference Center, Salons C/D)
3:45-4:00pm	Study of Microbial Growth within a Hydroponic System. Penelope Charles, and Quinn Harman (Sheridan College)
4:00-4:15pm	Decoding Polar Organization: Identifying Amino Acid Determinants of the Polar Organizing Protein (PopZ) and its Partners. Breelynn Semon, Jazmin Jamali, and Seanna Latimer (Western Wyoming Community College)
4:15-4:30pm	The Hidden Threat: A Meta Analysis of Microplastics. Fatima Perin (University of Wyoming at Casper)
4:30-4:45pm	Break
4:45-5:00pm	Microbes Predominate in Cool, Moist Conditions Under Varying Light Intensities. Dillon Simpson, Teanna Jolovich, and Joshua Lane (Eastern Wyoming College)
5:00-5:15pm	Aromatic Shrubs, Crystals of Haemoglobin, Fungal Plastic Associates, Spicy Glycopholipids, and Zones of Inhibitions: An Alphabet of Research Opportunities at Northwest College. Kayla Horsen, Katelyn Dandridge, Roger DesRosier, and Harrison Compton (Northwest College)
5:15-5:30pm	Break
5:30-6:30 pm	Reception (appetizers; UW Conference Center, Salons C/D)
6:30-8:00 pm	Dinner with keynote presentation: Fighting the Clock by Dr. William “Trey” Todd (Department of Zoology and Physiology, University of Wyoming; UW Conference Center, Salons C/D)

KEYNOTE PRESENTATION

Friday November 7th, 2025; 7-8pm (UW Conference Center **Salon C/D**)

Fighting the Clock.

William “Trey” Todd, Ph. D.

Associate Professor, University of Wyoming, Department of Zoology and Physiology
Program in Neuroscience
Wyoming Sensory Biology Center

ABSTRACT:

Circadian rhythms are internally driven patterns in behavior and physiology that are aligned to the light-dark cycle that results from Earth’s rotation. Nearly all living organisms exhibit circadian “clocks”, which play a vital role in maintaining health and daily functioning. Dr. William “Trey” Todd, an Associate Professor in Zoology & Physiology at the University of Wyoming, studies how the mammalian brain regulates these biological rhythms. For almost twenty years, his research has focused on how the central circadian “clock” in the hypothalamus coordinates the body’s systems to perform behaviors and other processes to occur during specific times of the day. A major focus of the Todd lab is exploring how the protein hallmarks of Alzheimer’s disease affect the circadian system in mice, and how these disruptions may relate to “sundowning syndrome” — a condition in which Alzheimer’s patients become agitated or aggressive in the late afternoon and evening. The Todd lab is also examining the neural pathways underlying pain-induced circadian disruption, and interactions between the olfactory and circadian systems. Dr. Todd’s past work revealed a brain circuit for the circadian control of aggression, as well as developmental circuit differences between diurnal (day-active) and nocturnal (night-active) rodents. As a life-long “night owl,” Dr. Todd is passionate about understanding how disturbances to circadian rhythms contribute to various health challenges, including those faced by shift workers who represent a vital part of Wyoming’s workforce.