

Special Thanks & Appreciation

Chancellor Dr. Rolf Groseth

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UNDERGRADUATE RESEARCH AND CREATIVITY CONFERENCE
FRIDAY, APRIL 4TH, 2014



Nik Sinhold, Justin Kostelecky and Cameron McDonald

Presentation Title – Safety in Home Biodiesel Plants

Faculty Mentor – Andrew Sullivan

Major – Process Plant Technology

Project Narrative – This research improves the safety and environmental soundness of biodiesel production in small scale plants using easily installed improvements and procedure upgrades, including methanol recovery, using inert atmospheres to prevent explosive environments, and gas testing to very permissible exposure levels.

Zach Tallon and Tyler Mahlen

Presentation Title – High Yield Biodiesel from Algae

Faculty Mentor – Andrew Sullivan

Major – Process Plant Technology

Project Narrative – This project explores biodiesel production from algae on a small scale in an accelerated time frame. Algae can produce more oil than more commonly used corn or soy beans (when processed on a large scale production).

Tracy Thormahlen

Presentation Title – Retro Pie

Faculty Mentor – Bruce Brumley

Major – Computer Systems Technology

Project Narrative – This project configures a Raspberry Pi (a Linux-based minicomputer) as a classic video game server.

Sarah Witt

Presentation Title – Risk Factors that Predict Incidence of Drinking Alcohol during Gestation

Faculty Mentor – Kathe Gabel

Major – Health and Human Performance - Option Health Promotion

Project Narrative – This study was funded by Montana INBRE and RiverStone Health to identify risk factors that could be targeted in effective interventions for young women.

Scott Atkinson

Presentation Title – Raspberry Pi Wireless Access Point

Faculty Mentor – Bruce Brumley

Major – Computer Systems Technology

Project Narrative – Utilizing a miniature computer known as a Raspberry Pi, this project creates a wireless access point similar to a home router.

Colin Bradford

Presentation Title – The Killing Joke

Faculty Mentor – Tami Haaland

Major – English

Project Narrative – This presentation will be a Monologue from *The Killing Joke* comic.

Jeremy Brooks

Presentation Title – The Journey of a Life Time

Faculty Mentor – Melinda Tilton

Major – Wildlife Biology

Project Narrative – This creative writing piece depicts a perspective of life, growing up and the focus on parallels that exist between humans and nature.

Charity Dewing and Korilynn Kessler

Presentation Title – Guidelines to Creative Writing: Using an Interactive Blog in the classroom

Faculty Mentor – Dr. Bernie Quetchenbach

Major – English

Project Narrative – This presentation reports on the first experimental classroom interactive blog and the results.

Patricia Hampton

Presentation Title – Dance through Life: Follow Your Passion

Faculty Mentor – David Craig

Major – English Education

Project Narrative – This performance will begin with a brief oral presentation of the importance of following your passion to achieve goals, tied closely with the importance of the presenter’s passion for dance over the past four years.

Avery E. Hanson

Presentation Title – Translational Regulation by Codon Usage Bias in the Human Disease Familial Dysautonomia (FD)

Faculty Mentor – Dr. Lynn George

Major – Biology

Project Narrative – Familial Dysautonomia (FD) is a devastating human disease affecting the peripheral nervous system. The Molecular origin of FD is a mutation in the gene encoding the protein IKAP, a subunit of the “Elongator” complex that plays a pivotal role in tRNA modification and the translation of functionally related families of genes. Using a murine model for FD, the goal of this research is to demonstrate a role for IKAP in the translation of these same cell cycle progression genes in mammalian neurons and glia.

Jesse Jeane Harkness

Presentation Title – Confined and Saudade

Faculty Mentor – Shanna Fliegel and Jodi Lightner

Major – Art

Project Narrative – *Confined* is a ceramic sculpture discussing society’s confining impact. *Saudade* is a painting meant to evoke happiness and comfort to the viewer.

Brittany Hendrickson

Presentation Title –

Faculty Mentor – Tami Haaland

Major – English

Project Narrative – This presentation combines the presenter’s original art project, poetry reading and essay reading.

Sierra Ross, Carrie Jones, Kaitlyn Cardillo, Colin Bradford, Canon Parker and Brittany Hendrickson

Presentation Title – Poetry Reading

Faculty Mentor – Tami Haaland

Major – Various

Project Narrative – A group presentation of both original student work and published poets.

Amber Schneider

Presentation Title – Raspberry Pi Media Panel

Faculty Mentor – Bruce Brumley

Major – Computer Systems Technology

Project Narrative – This project displays home pictures, videos, stream music, YouTube and live TV on a manually built media panel.

Phillip Shelton

Presentation Title – WEB Server Raspberry Pi (Linux based mini-Computer)

Faculty Mentor – Bruce Brumley

Major – Computer Systems Technology

Project Narrative – This project configures a Raspberry Pi as a web server to allow a user to remotely access a digital movie collection.

Elizabeth A. T. Mullins

Presentation Title – Identification of potential targets of the Grr1p SCF ubiquitin ligase pathway in fungi

Faculty Mentor – Dr. David Butler

Major – Biology

Project Narrative – This research investigates pathogenic fungi with the aim of better understanding the regulatory pathways that could aid in the development of targeted broad-spectrum, anti-fungal therapies. The project uses *Saccharomyces cerevisiae* as a model system to elucidate potential Grr1p-SCF dependent protein targets.

Sara Ness

Presentation Title – Paige after Paige

Faculty Mentor – Jodi Lightener

Major – Special Education/Art Education

Project Narrative – The presenter’s work emphasizes visualizing and understanding of the body by capturing the movement of the body.

Blanca B. Perez

Presentation Title – Effects of Shear Stress on eNOS Expression and Dilation in Soles Feed Arteries

Faculty Mentor – Dr. David Butler

Major – Biology

Project Narrative – this project investigates blood flow control and distribution in microscopic of rat soleus muscle arteries.

Roxsand Reichert, Nick Morgan and Kolby Beadnell

Presentation Title – 2 Stage biodiesel production for improved efficiency

Faculty Mentor – Andrew Sullivan

Major – Process Plant Technology

Project Narrative – This research explores the pros and cons for single and two stage techniques using used cooking oil from MSUB campus.

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Aubree Honcoop

Presentation Title – Expression of Cys 1 with Cys G using *E.coli*

Faculty Mentor – Dr. Tom Lewis

Major – Biology/Chemistry

Project Narrative – This research uses an experimental approach to investigate protein of genes Cys 1 and Cys G together in *E. coli*.

Tracilyn Jarrett & Korilynn Kessler

Presentation Title – Shady Pines

Faculty Mentor – Dr. Bill Kamowski

Major – English

Project Narrative – This comedic skit is about two sisters reminiscing about youth.

Hannah R. Jacobsen

Presentation Title – Avarice

Faculty Mentor – Tami Haaland

Major – Sociology

Project Narrative – This short essay is about greed and its effects on one man who inherited a Fortune 500 company in Manhattan.

Laura Johnson

Presentation Title – Role of Conscientiousness and Academic Achievement in Life Satisfaction

Faculty Mentor – Dr. Doxey Hatch

Major – Psychology

Project Narrative – This study investigates the influence of academic achievement and the role of conscientiousness in predicting subjective well-being.

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Rochelle Johnson

Presentation Title – Two-Hybrid Analysis of GPM1 and TSA1

Faculty Mentor – Dr. Kurt Toenjes

Major – Biology

Project Narrative – This research investigates the regulatory pathways in the pathogenic fungi *Candida albicans*. The project tests the interaction of the GMP1 and TSA1 to the F-Box proteins CDC4 and GRR1 through a two-hybrid approach to better understand whether the latter are “bona fide” target proteins.

Korilynn Kessler

Presentation Title – Good Night, Nobody

Faculty Mentor – Dr. Bill Kamowski

Major – English

Project Narrative – This creative non-fiction reading is about acceptance and growth after a tragic experience.

Arthur Kestner and Nathan Mundahl

Presentation Title – Biodiesel Production from Start to Finish

Faculty Mentor – Andrew Sullivan

Major – Process Plant Technology

Project Narrative – This study shows how to create Biodiesel fuel from vegetable oil.

Tanner Klein, Gunnar Hansen and William Henrichs

Presentation Title – Dehydrating Alcohol

Faculty Mentor – Andrew Sullivan

Major – Process Plant Technology

Project Narrative – This study shows how creating a higher alcohol content can increase combustion rate.

Cory D. Lovec

Presentation Title – Studying Ozone Chemistry Utilizing Cavity Ringdown Spectroscopy

Faculty Mentor – Dr. Stuart Snyder

Major – Chemistry

Project Narrative – This study measures the concentration of trace gases in the environment using Cavity Ringdown Spectroscopy (CRDS).

Hanna R. Lewis

Presentation Title – Water Resources and Conditions of Stress

Faculty Mentor – Bruce Brumley

Major – Computer Systems Technology

Project Narrative – This project examines building local capacities with discourse cooling.

Richelle Marquess

Presentation Title – Effects of Forage Availability and Temperature on the Reproductive Trait of *Blaberus Antrops*

Faculty Mentor – Dr. James Barron

Major – Biology

Project Narrative – This investigation explores how reproductive investment theory applies to cockroaches.

Lee McCaffrey, Michael Feist and Seth Wiseman

Presentation Title – Methanol Recovery from Biodiesel Production for Improved Economics and Environmental Performance.

Faculty Mentor – Andrew Sullivan

Major – Process Plant Technology

Project Narrative – Reducing environmental and economic impact by incorporating facilities and procedures for methanol recovery.