GREETINGS, and welcome to the 16th Annual Undergraduate Research Conference at Boise State. The participation of presenters and audience are equally critical to the success of this event, so I wish to convey my thanks to all attendees for their contribution to the cause.

Research and creative activity are essential to Boise State’s identity as a university, particularly as we have grown into a Carnegie-classified High Research Activity institution. When most folks think of university-level research, they probably imagine faculty members donning white lab coats or being hunched over thick, dusty books. In reality, research takes a multitude of forms at Boise State and – here’s the truly important part – students, both graduate and undergraduate, are a major component of the institution’s research engine.

We know that undergraduates who participate in research projects are more likely to persist in their program of study, achieve higher grades, graduate at higher rates, and enjoy higher levels of satisfaction, both during and after their college experience.

Why is this so? There are multiple factors that contribute to these outcomes, but key among them are a sense of community and belonging, and a sense of purpose. When students engage intensively in a structured process of inquiry or creation, they are part of something that is larger than themselves. Faculty mentorship and peer support are powerful amplifiers for the passion and goal-orientedness that students develop in doing this work.

I want to extend my gratitude and admiration to all of the students presenting at this year’s conference. Their dedication and personal discipline are clearly on display here, and their intellectual and creative products improve our understanding of the world and ourselves.

I also want to acknowledge the support that that faculty mentors and staff have provided to conference participants. It truly takes a community to achieve our ambitious shared goals.

Thank you for your participation and support.

TONY ROARK
Interim Provost and Vice President for Academic Affairs
WELCOME to Boise State University’s 16th Annual Undergraduate Research Conference. Undergraduates have long had a significant impact and prominence in research at our university. We continue to encourage that role, not only to drive our research forward but also to provide an enriching educational experience. This conference is a premier event that provides not only a learning experience for our students but an opportunity to recognize their innovative work.

I congratulate everyone selected to present their work. Undergraduate research is an integral part of our university’s mission of building knowledge for the greater good. I also thank our outstanding faculty sponsors who support these students, and make their educational experience one that is based around creative activity and discovery.

We continue to be fortunate in attracting top students who have the drive to excel. Boise State recognizes the importance of this creative activity in making our university a true research university of distinction. Our ongoing commitment to this endeavor will continue to distinguish our university and help our graduates make a difference in our world. Thank you for your support of this outstanding conference.

Best Regards,

HAROLD BLACKMAN
Interim Vice President for Research and Economic Development
Emily Walton is a Boise State University alumna (BA English, Linguistics Emphasis 2012) currently serving as the Regional Director of State Affairs at Everytown for Gun Safety, where she directs legislative strategy in 12 western states.

An Idaho native, Emily has a strong background in electoral campaigns, issue advocacy and civic engagement. She got her start in politics as a student when she was elected as Secretary of External Communications of ASBSU to lobby on behalf of Boise State University students, advocating for equitable funding in higher education at the Idaho State legislature and State Board of Education. In 2014, she was elected to the Board of Trustees at the College of Western Idaho and just finished her four-year term in 2018.

During her time at Boise State University, Emily served as a research assistant in the Mary Ellen Ryder Linguistics Lab, and presented her research twice at the Undergraduate Research Conference. In addition to her involvement in research and in ASBSU, Emily was a founding officer for the Linguistic Society of Boise State, served as chair of the Boise State University Student Media Board, and was the student speaker in the winter 2012 commencement ceremony.

Her recent accomplishments include racking up legislative wins in states such as Utah where she passed a bill keeping guns out of the hands of domestic abusers, and also in Alaska, Wyoming and Montana where she worked to keep guns out of schools and off of campuses. Most recently she directed campaigns to pass background checks on all gun sales in Nevada and New Mexico. She has also been awarded the Young Professional of the Year award from Boise Young Professionals (2014), Women of the Year award from the Idaho Business Review (2013) and Accomplished Under 40 award from Idaho Business Review (2015).
SCHEDULE

STUDENT UNION BUILDING (SUB)

MONDAY APRIL 15

8:30 a.m. - 12:30 p.m.
REGISTRATION TABLE IS OPEN
JORDAN BALLROOM LOBBY

8:30 a.m - 9:45 a.m.
POSTER SET-UP
JORDAN BALLROOM

10:00 a.m.
SESSION A
Odd poster numbers present
JORDAN BALLROOM

First set of podium presenters
AH FONG, ALEXANDER, BOYINGTON, BRINK, HATCH B

11:00 a.m.
PLENARY PRESENTATION
Emily Walton
SIMPLOT BALLROOM
Refreshments

11:30 a.m.
SESSION B
Even poster numbers present
JORDAN BALLROOM

Second set of podium presenters
AH FONG, ALEXANDER, BOYINGTON, CATALDO, HATCH B

12:30 p.m.
PRIZE DRAWING
JORDAN BALLROOM
PODIUM Presentations

Ah Fong

Session A

10:00 a.m. Women and Poetry: American Realism
Chelsea Gerard
Faculty Sponsor: Dr. Tara Penry

10:10 a.m. The Symbolic Change in the Confederate Flag
Jacob Hatcher, Connor Jackson-Sevy
Faculty Sponsor: Dr. Tara Penry

10:20 a.m. City Mystery Novels and Urban Development in Nineteenth Century US and Europe
Spencer Lurcook
Faculty Sponsor: Dr. Tara Penry

10:30 a.m. Romantic Revivals in Realism
David Schwartz
Faculty Sponsor: Dr. Tara Penry

10:40 a.m. The Dark Dark Wood
Eric (Ariel) Amador (McNair Scholar)
Faculty Sponsors: Dr. Dora Ramírez, Mitch Wieland

10:50 a.m. “The Burden of Liveness”: DACA Recipients and the Rhetoric of Resistance
Mitzi Ceballos (McNair Scholar)
Faculty Sponsor: Dr. Dora Ramírez

Session B

11:30 a.m. Establishing the Power of Truth in Creative Nonfiction
Cade Yongue (Honors)
Faculty Sponsor: Carrie Seymour

11:40 a.m. “No Problemo”: Mock Spanish and Language Hierarchies in the United States
Ben Geffon (Honors)
Faculty Sponsor: Dr. Gail Shuck

11:50 a.m. Go Native or Go Home: A Linguistic Analysis of Beliefs About Accents
Jesús Rivera Orozco
Faculty Sponsor: Dr. Gail Shuck

12:00 p.m. A Perception Study of Rioplatense Spanish
Cecelia Staggs (McNair Scholar)
Faculty Sponsor: Dr. Michal Temkin Martínez

12:10 p.m. From Great Ideas to Classroom Implementation: A Case Study on Barriers World Language Teachers Encounter with OER (VIP Course*)
Abby Cain
Faculty Sponsor: Dr. Kelly Arispe

*VIP = Vertically Integrated Project (see boisestate.edu/vip for more information)
PODIUM Presentations

Alexander

Session A

10:00 a.m. “This IS What You Want! This IS What You Signed Up for!”: How Agencies Responsibilize Resettling Refugees
Kelsey Wilber (McNair Scholar)
Faculty Sponsor: Dr. Virginia Husting

10:10 a.m. Over-the-Counter Culture: Appropriating the Arts to Vocationalize Higher Education
Alejandro Andonaegui
Faculty Sponsor: Dr. Arthur Scarritt

10:20 a.m. Poverty Delivered: How Rent-to-Own Businesses Make the Poor Poorer
Jeff Cates (McNair Scholar)
Faculty Sponsor: Dr. Arthur Scarritt

10:30 a.m. Naturalizing Inequality: How Neoliberal Higher Education Engineers Elitism
Michelle Fretwell (McNair Scholar), Jeff Cates (McNair Scholar)
Faculty Sponsor: Dr. Arthur Scarritt

10:40 a.m. Punishment Beyond Bars: Pursuing Higher Education with the Degree of Incarceration
Michelle Fretwell (McNair Scholar)
Faculty Sponsor: Dr. Arthur Scarritt

10:50 a.m. “Just Get It Done”: How Online Classes Are Contributing to the Expectation of Low-Quality Education
Jessica Gaston
Faculty Sponsor: Dr. Arthur Scarritt

Session B

11:30 a.m. The Fetish for Corporatization: How Students Adopt Darwinian Neoliberalism
Yasmine Goodman
Faculty Sponsor: Dr. Arthur Scarritt

11:40 a.m. Neoliberal Higher Education and Diversity
Allyssa Hernandez
Faculty Sponsor: Dr. Arthur Scarritt

11:50 a.m. Neoliberal Feminism and the Racialization of Higher Education
Ramona Hinrichs
Faculty Sponsor: Dr. Arthur Scarritt

12:00 p.m. Neoliberal Martyrdom at Boise State
Aaron Jacob Lampe
Faculty Sponsor: Dr. Arthur Scarritt
PODIUM Presentations

Boyington

Session A

10:00 a.m. Biobanking and Human DNA Sequencing, Informed Consent in Research Participation
Nichole Jones
Faculty Sponsor: Dr. Greg Hampikian

10:10 a.m. A Role for Inflammatory Cytokines in the Ovarian Cancer Metastatic Process
Eli Bring Horvath (McNair Scholar), Catie Bautista (Honors)
Faculty Sponsor: Dr. Cheryl L. Jorcyk

10:20 a.m. Better Estimates of Creep Rate Along the Hayward Fault, CA Through High-Resolution DEM’s and Insar
Joel Johnson (Honors; McNair Scholar), Magali Barba (graduate student), Dr. Kristy Tiampo (CU Boulder)
Faculty Sponsor: Dr. Jen Pierce

10:30 a.m. Examining Standard Environmental DNA Sample Extraction and Archival Methods
Kelly A. Mazur (Honors), Matthew B. Laramie (U.S. Geological Society)
Faculty Sponsor: Dr. David S. Pilliod

10:40 a.m. Using Cubic Splines to Evaluate Shear Wave Velocities of the 1886 Charleston Earthquake Region
Nicole Clizzie
Faculty Sponsor: Dr. Jodi Mead

10:50 a.m. Edge Preservation in Parameter Estimation Using Total Variation Regularization
Jennifer Thibodeau
Faculty Sponsor: Dr. Jodi Mead

Session B

11:30 a.m. Development of the Campus and Career Resource Inventory
Cierra Abellera (Honors; McNair Scholar)
Faculty Sponsor: Dr. R. Eric Landrum

11:40 a.m. The Association Between Mental Health and Olfactory Function
Eva Kanneberger
Faculty Sponsor: Dr. April S. Masarik

11:50 a.m. Memory Malleability: Falsifying True Memories
Raeli Prescott
Faculty Sponsor: Dr. Brian W. Stone

12:00 p.m. Assessment Strategies and Pay for Performance: What Forms of Assessment Are Correlated With “Quality Teaching”?
Julianne Mori (Honors), Claire Oberg (Honors), Lane Pitts
Faculty Sponsor: Dr. A. J. Zenkert

12:10 p.m. Closing the Gap Between Modern Technology and the College Engineering Classroom
David Pinkerton
Faculty Sponsor: Dr. Krishna Pakala

12:20 p.m. Happy Hours Are a Godsend
Samantha Schauer (Honors)
Faculty Sponsor: Dr. Krishna Pakala
PODIUM Presentations

Brink
Session A

10:00 a.m. The Figure in Bronze
Madeline Fluharty
Faculty Sponsor: Lily Lee

10:10 a.m. Shell-Shock
Micah Andersen
Faculty Sponsor: Dr. Joanne Klein

10:20 a.m. Tension and Release: Tone Production on the Viola
Brooke Mickelson (Honors)
Faculty Sponsor: Dr. Linda Kline

10:30 a.m. Economic Dependence and Spousal Abuse in an Exit-Voice-Leave Framework
Haydn Bryan (Honors)
Faculty Sponsor: Dr. Kelly Chen

10:40 a.m. Environmental Quality & College Attainment: An Envirodevonomic Study
Kelsey Cooper
Faculty Sponsor: Dr. Kelly Chen

10:50 a.m. Crowdfunding Reimagined
Rohit Gangurde, Gitesh Musale (Honors)
Faculty Sponsor: Dr. Jared Egginton

Don’t forget to enter for the PRIZE DRAWING that will occur at 12:30 in the Jordan Ballroom.

Get your entry card at the registration table!
President’s Writing Awards

Cataldo
11:30 a.m. – 12:30 p.m.

President’s Writing Awards Committee:
Christi Nogle, Aidan Riordan-Buell, and David Scott

Co-Sponsors:
University Foundations, Department of English, and the Writing Center

Each reading will be approximately 7 minutes. Feel free to come and go within this session.

The 37th Annual President’s Writing Awards commenced with the purpose of recognizing and rewarding outstanding student writing. The contest has awarded prizes for a diverse selection of student essays in a number of different categories.

Largely funded by the President’s Office, and cosponsored by the English Department, Foundational Studies, and The Writing Center, the contest encourages involvement and submissions from departments across the curriculum. Categories are carefully chosen each year to include writings of various disciplines and genres.

Ultimately, the contest gives students a chance to highlight their hard work and talent, both in creative and research-based writing, demonstrated during their academic careers at Boise State University.

Korean Language Speech Contest

Hatch B
10:30 a.m. – 11:45 am.

Faculty Sponsor:
Yookyung Lee

KOREAN 102
ELEMENTARY KOREAN II

Danielle Ali (Honors)
Emily Baldwin (Honors)
Julianne Gee
Tailee Long
Eric Marquart
Ruth Mburu
Grace McGrorty (Honors)
Maryam Naser
Phuong Phan
Ashley Preston
Emily Sanchez
Sandra Siharath (Honors)

In the Korean Language Speech Contest, each participating student will compete their speech skillset with the assigned topic for two minutes. While speaking, students are not allowed to use any language other than Korean, and are highly encouraged to use the grammar patterns, expressions, and vocabulary learned in Korean 102. Students are evaluated on their pronunciation/fluency, vocabulary, grammars, creativity of contents, communicative strategies, and comprehension during the Q and A session.
1 Educational Barriers and Resources for University Refugee-Background Students
Cierra Abellera (Honors; McNair Scholar), Shukuru Kamulete
Faculty Sponsor: Dr. April S. Masarik

2 Proportional Ventilatory Support: A Comparison of Proportional Assist Ventilation, Proportional Pressure Support and Proportional Pressure Ventilation
Morgan McEwan, Alex Sanders
Faculty Sponsors: Lonny Ashworth, Camile Stover

3 Concussion Knowledge and Reporting
Adriana Amador
Faculty Sponsor: Dr. Eric Martin

4 Mechanisms of Toxin Tolerance by Wild Mammalian Herbivores
Jennifer Miles Rhoades (McNair Scholar), Debbie Conner, Janae Wilson
Faculty Sponsor: Dr. Jen Forbey, Dr. John Vucetich (Michigan Technical University)

5 Cooperative Manipulation of Polygonal Objects with Nonholonomic Wheeled Mobile Robots
Nardos Ayele Ashenafi
Faculty Sponsor: Dr. Aykut C. Satici

6 Role of Autophagy in Osteogenic Differentiation of Mesenchymal Stem Cells Under Simulated Microgravity
Omid Mohammad Mousa, Elena Paz Muñoz (Honors), Hunter Underwood, Dr. Julia Oxford (faculty), Dr. Brad Morrison (faculty)
Faculty Sponsor: Dr. Shin Pu

7 Can Media Depictions Change Attitudes Toward People Who Are Blind and Visually Impaired?
Akioni Babauta (Honors)
Faculty Sponsor: Dr. Brian W. Stone

8 Purification of Acyl ACP1 for Pseudomonas aeruginosa RHL1 Quorum Signal Synthase
Elizabeth Mosqueda (McNair Scholar), Ashley Poppe, Dr. Shibani Basu (faculty)
Faculty Sponsor: Dr. Rajesh Nagarajan

9 Math Vocabulary and Achievement
Steven Barcenes
Faculty Sponsor: Dr. Gena Nelson

10 Implications of Grazing Usage Over Time and Space in the Thunder Basin National Grassland
Jessica Mueller
Faculty Sponsor: Dr. Vicken Hillis

11 Characterization of the Optically-Gated Transistor in Response to Light Pulse Shape and Wavelength
Randall Bassine
Faculty Sponsor: Dr. Kristy A. Campbell

12 Ni-Mn-Ga Single Crystal Casting
Ali Mustafa, Brent Johnston, Andrew Armstrong (graduate student)
Faculty Sponsor: Dr. Peter Müllner

13 The Relationship Between Cultural Involvement and Education Performance for Native American Students
Tanyka Begaye (McNair Scholar)
Faculty Sponsor: Dr. Alicia Garza

14 Examining the Role of an Active-Site Methionine in NADPH Utilization
Maddi Nilson (Honors)
Faculty Sponsor: Dr. Henry A. Charlier

15 Volumetric Wear Analysis of Meniscus Degeneration
Kate Benfield, Katie Hollar (graduate student)
Faculty Sponsor: Dr. Trevor Lujan

16 Synthesis of Boron Carbide Reinforced Aluminum Alloys Through Mechanical Stir Casting
Kaelee Novich (Honors), Samuel Pedersen (graduate student)
Faculty Sponsor: Dr. Brian J. Jaques

17 Optimization of Alnico’s Processing Route to Enhance Magnetic Properties
Omar Betancourt (McNair Scholar)
Faculty Sponsor: Dr. Mahmood Mamivand
18 Established Presence in an Online Course Using Zoom Video Conferencing
Emily Oe (Honors), Dr. Ellen Schafer (faculty)
Faculty Sponsor: Andy Hyer

19 The Association Between Sex Ratio and Violence Against Women in New York State
Zoey Bevington
Faculty Sponsor: Dr. Kristin Snopkowski

20 The Interaction of Passion and Sport Type on Injury Among Collegiate Athletes
Allie Ostrander (Honors)
Faculty Sponsor: Dr. Eric Martin

21 E-Scooter Impact on Traffic Congestion
Peyton Blackwell, Kate Carter-Cram (Honors), Emily Pape (Honors)
Faculty Sponsor: Dr. Samia Islam

22 La Sagrada Familia, Barcelona, Spain
Mariah Owsley, Jenn McAtee, Christopher Goodale, Jack Bronken
Faculty Sponsor: Dr. Kirsten Davis

23 A Comprehensive Study of the X-Ray Pulsar Population in the Small Magellanic Cloud
Amanda Bohney
Faculty Sponsor: Dr. Daryl Macomb

24 Internet Attitudes and Behavior Survey
Chris Palasch
Faculty Sponsor: Dr. Brian W. Stone

25 The Impact of Job Insecurity on Psychological Distress
Holly Bossart
Faculty Sponsor: Dr. Kelly Chen

26 Stride Length but Not Body Borne Load Impacts Gait Stability
Luke Parker, Kayla Seymore
Faculty Sponsor: Dr. Tyler Brown

27 Ignoring the Dangers Behind the Wheel: Distracted Driving Among College-Aged Students
Charles Buffington (McNair Scholar)
Faculty Sponsor: Dr. Mary Pritchard

28 Sea-Floor Basalt Type Classification from Machine Learning
John Paustian, Emma McCully (graduate student), Dr. Dorsey Wanless (faculty)
Faculty Sponsor: Dr. Dylan Mikesell

29 Risk Premiums and Political Cycle Sentiment
Josiah Bynum
Faculty Sponsor: Dr. Kelly Chen

30 MTN Knockout Attenuates Vitamin Synthesis and Global Metabolism in E. coli O157:H7
Elena Paz Muñoz (Honors), Makenna Szolomayer, Meagan Boll, Dr. John Thurston (faculty)
Faculty Sponsor: Dr. Ken Cornell

31 Protocol-Adherence Behaviors of the American Kestrel Partnership’s Citizen Scientists Efforts (VIP course*)
Leticia Camacho, Leah Dunn (The Peregrine Fund)
Faculty Sponsors: Dr. Sarah Schulwitz, Dr. Christopher J.W. McClure (The Peregrine Fund)

32 An Analysis of Signal Stabilization Heat Treatments of High Temperature Irradiation Resistant Thermocouples
Beck Perrine, Scott Riley (graduate student), Dr. Richard Skifton (Idaho National Laboratory)
Faculty Sponsor: Dr. Brian J. Jaques

33 Investigating Child Abuse: Examining the Resources of Multidisciplinary Teams
Savannah Carter, Dr. Karen Godard (faculty)
Faculty Sponsor: Dr. Max Veltman

34 Assessment of Currently Available Suicide Screening Tools for Adolescents
Brynn Peters, Kelsey Morey, Jordan Purvis
Faculty Sponsor: Dr. Cara Gallegos

35 Cole-Lake Hazel Bridge Design
Kelli Chiles, Richie Chikonde, Brenda Barron, Kain Shaffer, Samantha Headley (Honors)
Faculty Sponsor: Dr. Mandar Khanal

36 LGBTQA+ Sex·U·Al Ha·Rass·Ment & Intercollegiate Speech & Debate Activities
Ron Price (Honors; McNair Scholar), Dr. Rulon Wood (faculty)
Faculty Sponsor: Dr. Christina L. Ivey
**Poster Presentations**

**Jordan Ballroom**

**37 Median Frequency Shift of EMG During Prolonged Load Carriage**
Fred Christensen, Micah Drew, Samantha D’az
Faculty Sponsor: Dr. Tyler Brown

**38 Estimating Anthropogenic Influences on Species Occupancy at La Selva Biological Station, Costa Rica**
Julie Ramirez, Dr. Amanda Wendt (Organization for Tropical Studies)
Faculty Sponsor: Dr. Neil Carter

**40 Polypropylene-Fiber-Reinforced Silica Fume Concrete**
Hailey Reynolds, Anish Pathak
Faculty Sponsor: Dr. Yang Lu

**41 Synthesis of Small Molecule Inhibitors for Metastatic Breast Cancer Pathways**
Thomas Conrad, Thaaer Muhammed, Joey Tuccinardi
Faculty Sponsor: Dr. Don L. Warner

**42 Lander Street Water Renewal Facility**
Brett Robbins, Steve Huber, Taylor Hedrick, Uzair Siddiqui, Titus Owen
Faculty Sponsor: Dr. Mandar Khanal

**43 Workout Wednesday**
Alexis Constantine
Faculty Sponsor: Dr. Kelly Rossetto

**44 Carbon Fiber and Steel Fiber Concrete with Internal Curing**
Joe Roletto, Karl Davies (graduate student)
Faculty Sponsor: Dr. Yang Lu

**45 Anadromous Fishing on the Snake River Plain as Seen Through the Archaeology of the Columbia Plateau**
Alberto Conti
Faculty Sponsor: Dr. Pei-Lin Yu

**46 Realist Art and Music**
Kylie Ruble, Katherine Bowers, Alfredo Ocaranza, Marissa Streeter
Faculty Sponsor: Dr. Tara Penry

**47 Printed Carbon Nanotube Sensors for Ammonia Gas Detection**
Jasmine Cox (McNair Scholar), Twinkle Pandhi (graduate student), Dr. David Estrada (faculty), Dr. Jessica Koehne (NASA)
Faculty Sponsor: Dr. Harish Subbaraman

**48 Source and Evolution of “Popping Rocks” Magmas at Mid-Atlantic Ridge Near 14°n**
Courtney Rundhaug, Darin Schwartz (graduate student)
Faculty Sponsor: Dr. Dorsey Wanless

**49 Jump Regression Analysis in R**
Ryan Cox
Faculty Sponsor: Dr. Partha Sarathi Mukherjee

**50 Secondary Eclipse Variability of Kepler-76 B**
Wesley Sandidge (McNair Scholar), Steven Kreyche, Jennifer Briggs
Faculty Sponsor: Dr. Brian Jackson

**51 The Effects of Load Frequency on the Tensile Fatigue Behaviour of Meniscus**
Katelyn Cudworth (Honors)
Faculty Sponsor: Dr. Trevor Lujan

**52 Muir, Pinchot, and American Conservation**
Benjamin Sargis
Faculty Sponsor: Dr. Tara Penry

**53 To Switch or Not to Switch: Does Code-Switching Reveal a Speaker’s Stance in Relation to Others?**
Anh Dang
Faculty Sponsor: Dr. Gail Shuck

**54 Impact of Scooters on Related Public Transit Alternatives**
Christina Schaeffer, Austyn Hazen, Deborah Tuttle
Faculty Sponsor: Dr. Samia Islam

**55 Determining the Efficacy of Small Molecule Inhibitors to Prevent a Signaling Cascade Involved in Cancer Cell Metastasis**
Christopher Dayton, Cody L. Wolf (graduate student)
Faculty Sponsor: Dr. Cheryl L. Jorcyk

*Withdrawn*
POSTER Presentations

56 Nanoindentation and Nanomechanics
Jesse Schimpf (Honors), Josh Newberg (graduate student), Dr. Gunes Uzer (faculty)
Faculty Sponsor: Dr. Paul H. Davis

57 Feasibility Study of a High-Resolution Simulation of the Circulation Under a Floating Antarctic Ice-Shelf Using NUMO Ocean Model
Chithkala Dhulipati (Honors)
Faculty Sponsor: Dr. Michal A. Kopera

58 Leveraging Social Entrepreneurship to Save the Great Barrier Reef
Amy Schneider, Gissell Palacios, Karina Carretero, Tristan Clark, Jared Brodd (Honors), Lucas Jarrett, Domenic Winfrey, Paola Gutierrez Guzman
Faculty Sponsor: Dr. Jennifer Thomsen

59 Staphylococcus aureus Isdc and Esxa Chimeric Vaccines to Prevent Bovine Mastitis
Kim Dueno
Faculty Sponsor: Dr. Juliette Tinker

60 Formation of Lava Samples Collected by Three Alvin Submersible Dives at 14°N on the Mid-Atlantic Ridge
Alex Schweitzer
Faculty Sponsor: Dr. Dorsey Wanless

61 Trace Analysis of Wine from 6000 BC
Kim Farrar
Faculty Sponsor: Dr. Michael P. Callahan

62 Adaptlidartools: Full Waveform Lidar Data Analysis Tools
Ravi Shankar, Aaron Orenstein, Floriana Ciaglia (Honors)
Faculty Sponsor: Dr. Catherine Olschanowsky

63 Examination of Enzyme Product Inhibition in MTA Nucleosidases
Kyle Fisch (Honors), James Kershner
Faculty Sponsor: Dr. Ken Cornell

64 Synchronization of Stress-Strain Data for Analyzation of 3D Cellular Constructs Using a Biaxial Bioreactor
Danielle Siegel
Faculty Sponsor: Dr. Trevor Lujan

65 From Atoms to Nanomaterials: Controlling Atomic Behavior to Create Useful Nanostructures
Trent Garrett (McNair Scholar), Christopher Schuck, Kathryn E. Sautter, Kevin Vallejo, Arial Weltner
Faculty Sponsor: Dr. Paul J. Simmonds

66 Who Is That Author: Edith Wharton or Henry James?
Katie Skinner
Faculty Sponsor: Dr. Tara Penry

67 The Effect of Bubble Bottle Humidifiers on Absolute Humidity When Using Low Flowrates in Neonates in Critical Care Settings: A Bench Study
Jeremy Gibbs, Lexi Stolz, Marselle Mitchell
Faculty Sponsor: Ryan Forbush

68 Acrylamide Detection in Food Using Near Infrared Spectroscopy
Mark Skinner, Maranda Cantrell, Megan Nelson
Faculty Sponsor: Dr. Owen McDougal

69 A Cold Atmospheric Plasma Device to Treat Wound Models (VIP Course*)
Spencer Goering, Brett Nelson (Honors), Dalton Miller (Honors), Jasper Theel (Honors)
Faculty Sponsor: Dr. Ken Cornell

70 St. Louis Arch
Jacob Smith, Jaden Green, Gage Murray, Nathan Squires
Faculty Sponsor: Dr. Kirsten Davis

71 Measuring mRNA Expression of LARP6 and Collagens
Rafael Gomez, J.T. Titmus (Treasure Valley Math and Science Center), Matt Turner (graduate student)
Faculty Sponsor: Dr. Lisa Warner

72 Emic and Etic Perspectives on Missing and Murdered Indigenous Women: Analysis of Media Coverage
Sonja Smith
Faculty Sponsor: Dr. Pei-Lin Yu
POSTER Presentations

73 Child Fatality Review Boards: Increasing Collaboration in Rural America
Rebecca Gomez
Faculty Sponsor: Dr. Max Veltman

74 Making College a Place for Me
Madeline Squires
Faculty Sponsor: Dr. Kendall House

75 1-D NMR Spectroscopy of C-13 Labeled Metabolites
Bri Grantham
Faculty Sponsor: Dr. Lisa Warner

76 Idaho Alzheimer’s Disease and Related Dementias 2019 Needs Assessment
Megan Stanley, Pamela Craig, Jessie Dexter, Christi King
Faculty Sponsors: Dr. Sarah E. Toevs, Lynn Fyanes

77 Early-Triassic Nevadan Ammonite Assemblages: Key Indicators of Marine Biotic Recovery After the End Permian Mass Extinction
Kate Grosswiler
Faculty Sponsor: Dr. Mark Schmitz

78 Exploring the Potential of Benzothiophene Sulfone-2-Methanol as an Inhibitor of Human Carbonyl Reductase
Diana Stepanova
Faculty Sponsor: Dr. Henry A. Charlier

79 Model Validation for Molecular Interactions of PDMS and Ni-Mn-Ga
Jaime Guevara, Dr. Matthew L. Jones (faculty), Dr. Eric Jankowski (faculty)
Faculty Sponsor: Dr. Peter Müllner

80 Investigation of Allosteric Inhibitors of Parasite MTA Nucleosidase to Combat Giardia intestinalis
Kendall Swainston, Nathan Harrison (Honors), Tyler Smith, L.J. McKenzie
Faculty Sponsor: Dr. Ken Cornell

81 A Game-Theoretic Decision Model Based on the Privacy Threat Accuracy
Nealon Hager, Rezvan Joshaghani
Faculty Sponsor: Dr. Hoda Mehrpouryan

82 School and Work Stress: Finding the Balance
Taylor Swetavage
Faculty Sponsor: Dr. Karen R. Breitkreuz

83 Deer Flat and Linder Road: Intersection Redesign
Justin Hammond, Abdulatif Aldihani, Ali Buhamad, Chris Sigrist, Joseph Roletto
Faculty Sponsor: Dr. Mandar Khanal

84 I-86 / Pocatello Avenue Intersection Redesign
Aubrey Thomas, Nicholas Greene, Hailey Reynolds, Melanie Villanueva, Morgan Sandberg
Faculty Sponsor: Dr. Mandar Khanal

85 Thermal Denaturation of Whey Proteins Characterized by Circular Dichroism
Tyson Hardy
Faculty Sponsor: Dr. Owen McDonough

86 Cloning and Purification of the A Subunit of a Novel Enterotoxin in Salmonella enterica Typhimurium
Elizabeth Heller
Faculty Sponsor: Dr. Juliette Tinker

87 A Study of Transcriptional Activation by the Transcription Factor Gal4 in Saccharomyces cerevisiae by 3D Orbital Tracking and in Vivo RNA Labelling
Iris Torres, Michael Pool (graduate student), Julianna Goelzer (graduate student), Anh Huynh (graduate student), Micah Buckmiller, Dr. Daniel R. Larson (National Cancer Institute), Dr. Tineke Lenstra (Netherlands Cancer Institute)
Faculty Sponsor: Dr. Matthew Ferguson

88 Developed Western Democracies and Their Fall to Totalitarianism
Robert Herold
Faculty Sponsor: Robert Harbaugh

89 Optimizing an Extraction Method of Organosulfides in Onion Oil
Rebecca Torres, Maranda Cantrell
Faculty Sponsor: Dr. Owen McDonough
**POSTER Presentations**

91 **Affects of BSU on Housing Availability and Affordability**
Michaela Hill (Honors), Alyssa Mehan, Adrienne Weatherly, Nick Kostovny
Faculty Sponsor: Dr. Samia Islam

92 **Resident and Community Assistants’ Interpersonal Relationships**
Codi Townsend
Faculty Sponsor: Dr. Kathy Rose

93 **Physical (Elastic) vs. Chemical (Thermodynamic) Disparities in Reconstructing Pressure Temperature Paths for Alpine Metamorphic Rocks**
Allie Howell
Faculty Sponsor: Dr. Matthew J. Kohn

94 **Development of a Cold Atmospheric Plasma Array (VIP Course*)**
Steven Tran (Honors), Megan Sheets, Zach Simmons
Faculty Sponsor: Dr. Jim Browning

95 **Assessing the Impact of Potential Road Closures on 8th Street in Downtown Boise**
Ryan Hurlburt, Hailey Neff, Sophie Croome (Honors), Aaron Thomas
Faculty Sponsor: Dr. Samia Islam

96 **Synthesis of Substituted Heterocycles to Inhibit a Pro-Metastatic Cytokine**
Joey Tuccinardi, Carsten Ashton, Thaaer Muhammed (graduate student), Kelsey Skluzacek (graduate student), Cody L. Wolf (graduate student), Dr. Matthew D. King (faculty), Dr. Cheryl L. Jorcyk (faculty)
Faculty Sponsor: Dr. Don L. Warner

97 **A Potential Role for Methionine-234 in Human Carbonyl Reductase Coenzyme Binding**
Nathan Imonigie
Faculty Sponsor: Dr. Henry A. Charlier

98 **Sex Ratio Correlates with Both Male and Female Suicide Rates Across US Counties**
Hallie Turner
Faculty Sponsor: Dr. Kristin Snopkowski

99 **The Chunnel**
Hanna Irving, Austin Berry, Jacob Wolcik
Faculty Sponsor: Dr. Kirsten Davis

101 **Evaluation of Two Expression Vectors for Cholera Toxin CTA2/B Chimera Expression**
Christian Johnson
Faculty Sponsor: Dr. Juliette Tinker

102 **Influence of Cholesterol on the Transport Properties of Bilayer Lipid Membranes**
Ana Velasquez (Honors), Daniel Prather (Honors), Camille Bryner, Jeffrey Henry, Gigi Finn, Zoe Hutchinson
Faculty Sponsor: Dr. Daniel Fologea

103 **Discovering Ultra-Short-Period K2 Exoplanets**
Samantha Johnson (Honors), Dr. Elisabeth Adams (Planetary Science Institute), Dr. Michael Endl (McDonald Observatory)
Faculty Sponsor: Dr. Brian Jackson

104 **Defining Resilience Across Disciplines and Programs**
Delaney Vesciano, Dr. Eric Martin (faculty)
Faculty Sponsor: Dr. Kelly Rossetto

105 **Structure of the Ebembe Language**
Emma Jones, Cecelia Staggs (McNair Scholar), Caitlyn Moyle, Kierra Hansen, Alexis Araiza, Paige Ashmead, Haley Byers, Anh Dang, Karly Davis, Justan Gochanour, Austin Robishaw, Matt Johnson, Galvin Olsen-Smith
Faculty Sponsor: Dr. Michal Temkin Martinez

106 **Vertical Ground Reaction Force Data May Provide Reliable Method for Detecting Neuromuscular Fatigue**
Elijah Walker (Honors), Jeff Wilkins (graduate student)
Faculty Sponsor: Dr. Tyler Brown

107 **Evaluation of Featureless Strategies for Relative Simplicity Prediction**
Devan Karsann
Faculty Sponsor: Dr. Sole Pera

108 **Influence of Voltage Rate on the Diffusion of Organic Ions Through Bilayer Lipid Membranes**
Malyk Walker, Daniel Prather (Honors), Michelle Nuttal, Catherine Alex (Honors), Adam Pettyjohn, David Shin
Faculty Sponsor: Dr. Daniel Fologea
POSTER Presentations

109 Discrimination, Mental Health, and Coping Among Mexican-American Adults: Exploring Gender Differences
Archie Keeton III
Faculty Sponsor: Dr. April S. Masarik

110 Fortilin - An Evaluation of Affinity Tag Viability for the Use in Mass Production of Recombinant Protein
Jackson Wall, Maranda Cantrell
Faculty Sponsor: Dr. Lisa Warner

111 Developing Nucleus Specific Finite Element Models Using Confocal Microscopy Scans
Zeke Kennedy, Josh Newberg (graduate student), Jesse Schimpf (Honors), Dr. Paul H. Davis (faculty), Dr. Clare Fitzpatrick (faculty)
Faculty Sponsor: Dr. Gunes Uzer

112 How Does the Privatization of Higher Education Affect the Incorporation of Refugees
Patrick Wangoi
Faculty Sponsor: Dr. Arthur Scarritt

113 Eagle Sewer District Wastewater Treatment System
Sarah Knue (Honors), Michael Allison, Grant Argain, Robison Martin, Mariah Owsley, Dr. Sondra Miller (faculty)
Faculty Sponsor: Dr. Mandar Khanal

114 Performance and Scalability of the NUMO Project
Alec Ward
Faculty Sponsor: Dr. Michal A. Kopera

115 The Power of Standard Oil
Krista Kofoed
Faculty Sponsor: Dr. Tara Penry

116 Droplet Bilayers as a Novel Means of Adjustable Stable Synthetic Membrane Formation
Jason Ward (Honors; McNair Scholar), Aaron Smith, Dr. Peter Müllner (faculty)
Faculty Sponsor: Dr. Daniel Fologea

117 Does Grit Predict Perfectionism in Division I Student-Athletes
Erica Korbel (Honors)
Faculty Sponsor: Dr. Eric Martin

118 Bioactivity and Spectroscopic Characterization of a Novel Cyclopamine Isomer Isolated From V. californicum
Jeffrey Watkins, Matt Turner
Faculty Sponsor: Dr. Owen McDougal

119 Understanding the Effects of Plasma Parameters on Plasma-Jet Printed Material Films
Kyle Kramer (Honors), Jessica Carlson (Honors), Joe McCarver, Cory Ravenscroft, Adam Croteau, Amanda White, Zeke Kennedy, Dr. Virmala Kandadai (faculty), Dr. David Estrada (faculty), Dr. Don Plumlee (faculty), Dr. Jim Browning (faculty)
Faculty Sponsor: Dr. Harish Subbaraman

120 Analyzing the Effects of Gold Reflective Coatings on GaAs Quantum Dot Photoluminescence
Ariel Weltner, Christopher Schuck, Kevin Vallejo, Kathryn E. Sautter
Faculty Sponsor: Dr. Paul J. Simmonds

121 Women Writers of The Atlantic Monthly: 1865-1900
Sydney Kuisti, Karah Frazier-Harrold
Faculty Sponsor: Dr. Tara Penry

122 Racial and Gendered Education in the United States (1860-1910)
Jodie Wheaton (Honors), Caitlin Recla
Faculty Sponsor: Dr. Tara Penry

123 S. Cole - Victory Intersection
Cory Leenders, Trent Essex, Michael Klug, Sam Oberting, Thomas Jenkins
Faculty Sponsor: Dr. Mandar Khanal

124 Fabrication of LTCC Devices for Biofilm Removal
Amanda White, Zeke Kennedy, Adam Croteau, Dr. Don Plumlee (faculty), Dr. Ken Cornell (faculty)
Faculty Sponsor: Dr. Jim Browning

125 Economic Evaluation of Health and Wealth
Jesse Leija
Faculty Sponsor: Dr. Kelly Chen

WITHDRAWN
126 A Test Suite to Support the Optimization of Scientific Applications
Jordan Ballroom
Jared White (Honors), Tobi Popoola
Faculty Sponsor: Dr. Catherine Olschanowsky

127 Addressing Food Insecurity in Higher Education: Strategies to Support Students
Megan Lomas, Ofelia Herrera-Sullivan
Faculty Sponsor: Dr. Caile E. Spear

128 Examining How Proinflammatory Cytokines Effect Chemokine Expression in Prostate Cancer
Cassie Wigfall (McNair Scholar), Cody L. Wolf (graduate student)
Faculty Sponsor: Dr. Cheryl L. Jorcyk

129 Comparison Study of Atom-Centered and Plane-Wave Basis Sets in Solid-State DFT Calculations of Structure and Dynamics of Molecular Crystals
Bradley Lopes
Faculty Sponsor: Dr. Matthew D. King

130 Deep Creek Bridge
Cait Williams (Honors), Austin Berry, Luke Spath, Hanna Irving
Faculty Sponsor: Dr. Mandar Khanal

131 Investigation of the Conduction Mechanisms in the Ag- and Cu-Based Self-Directed Channel (SDC) Memristor
Tonglin Lu (McNair Scholar)
Faculty Sponsor: Dr. Kristy A. Campbell

132 The Burj Khalifa
Savannah Wilson, Thomas Jenkins, Kamal Boksmati
Faculty Sponsor: Dr. Kirsten Davis

133 Mapping the Mid-Atlantic Ridge at 14°N: Analysis of Small-Scale Tectonism Across Regions of Varying Magma Supply
Genesee Lucia, Dr. S. Adam Soule (Woods Hole Oceanographic Institution), Dr. Dylan Mikesell (faculty), Dr. Mark D. Kurz (Woods Hole Oceanographic Institution)
Faculty Sponsor: Dr. Dorsey Wanless

134 Using a Convolutional Neural Network to Segment the Knee
Donovan Wright, Oliver Alvarez (graduate student)
Faculty Sponsor: Dr. Clare Fitzpatrick

135 Racial Complexity in Postbellum Literature
Jamie Maas, Kacy Frickle, Kiah Lowe, Audrey Hatfield
Faculty Sponsor: Dr. Tara Penry

136 Impact of Social Media on Mental Health
Debbie Thompson, Greta Hedrick, Mari Medellin
Faculty Sponsor: Dr. Cara Gallegos

137 AFM, KPFM, & MFM
Olivia Maryon, Kari Higginbotham, Medha Veligatla (graduate student), Armen Kvryan (graduate student), Dr. Peter Müllner (faculty), Dr. Mike Hurley (faculty)
Faculty Sponsor: Dr. Paul H. Davis

138 Barriers to Workplace Violence Prevention Programs
Nate Stanger, Jill Henggeler (Honors)
Faculty Sponsor: Dr. Cara Gallegos

139 Eating Disorder Recovery Outcomes in Correlation with Interpersonal Skills Levels and Perceived Quality of Life
Laura Matthiesen, Patricia Ellis
Faculty Sponsor: Dr. Mary Pritchard

140 The Practical Effects Renaissance
Leland Stewart
Faculty Sponsor: Lily Lee

141 12th Street Bridge Replacement
Dillan Mattison, Aisha Alawadhi, Sarah Galo (Honors), Jenn McAtee, Chris Peña
Faculty Sponsor: Dr. Mandar Khanal

143 Reduction and Analysis of Pavement Profiler Data to Quantify the Bump at the End of the Bridge
Jenn McAtee
Faculty Sponsor: Dr. Deb Mishra
**POSTER Presentations**

**144 Plasma Inactivation of Biofilms in Pig Ear Chronic Wound Model (VIP Course*)**
Mariah Provost, Rachael Neckels, Olivia Williams, Dr. Jim Browning (faculty)
Faculty Sponsor: Dr. Ken Cornell

**145 Development of Antiparasitic Drugs That Synergize the Activity of Metronidazole in Treating Giardiasis**
Ryland McDermott (Honors), Tyler Smith, L.J. McKenzie
Faculty Sponsor: Dr. Ken Cornell

**146 Plasma Inactivation of Biofilms on Food Preparation Surfaces (VIP Course*)**
Mariah Provost, Madison Sullivan, Zach Simmons, Dr. Jim Browning (faculty)
Faculty Sponsor: Dr. Ken Cornell

**147 Load and Sex Impact Active Lower Limb Muscle Volume During Running**
Jeremy Roberts, Kayla Seymore
Faculty Sponsor: Dr. Tyler Brown

**148, 150 Inductive Social Science Research as a Necessary Element of Data Science: Theory, Methods, and Scientific Convergence**
Katherine Kappelman, Bryant Hay
Faculty Sponsor: Dr. Don Winiecki

**149 Living Learning Communities and Their Impact on First Year Engineering College Students**
Samantha Schauer (Honors)
Faculty Sponsor: Dr. Krishna Pakala

**151 Actuating MSM Alloy With Motionless Drive**
Jiheon Kwon, Andrew Armstrong (graduate student), Dr. Paul Lindquist
Faculty Sponsor: Dr. Peter Müllner

**153 Augmented Reality Space Informatics System 2.0**
Brenna Leonard, Olivia Thomas (Honors), Liz Altmiller, A.J. Tranham, Daniel Lambert, Dean Cohen, Graham Hill, John Garrison, Katelyn Schuettk, Marie Shirley, Olivia Maryon, Taylor Campbell, Tyler Chapman, Kepa Totorica
Faculty Sponsor: Karen Doty

**155 VAR (Virtual and Augmented Reality) Scent (VIP Course*)**
Lionel Lopez, Andrew Armstrong (graduate student), Casey Kawamura, Jon Kido, Dakota Kimberly, Brennon Leman, Keegan Provo, Sierra Sandison, Dr. John Bieter (faculty)
Faculty Sponsor: Dr. Peter Müllner

**157 Triboelectrification of Polymers**
Tragon McFall, Trevor Robertson, Ryan Caldwell (Honors)
Faculty Sponsor: Dr. Byung Kim

**159 Teaching an Autonomous Vehicle to Detect and Report Defects on Road Surface**
Maruf Ahmed (Honors)
Faculty Sponsor: Dr. Yang Lu

**160 Commercial Robotic Arm for Eating Assistance**
Carlee Miller, Brayan Vazquez, Anjelica Lee, Jacob Garofolo, Max Wojcik, Dr. Noah Salzman (faculty), Dr. Vicki Stieha (faculty)
Faculty Sponsor: Dr. Amy Moll

**161 Free Silver: A Divisive Proposition**
Cade Yates
Faculty Sponsor: Dr. Tara Penry

**162 Statue of Liberty**
Brooke Ross, Phillip Roemer, Brittany Bishop, Hope Stauffer
Faculty Sponsor: Dr. Kirsten Davis

**163 Flexible Piezoelectric Force Sensor Monitoring Pianist Performance**
Linda Choi (Honors)
Faculty Sponsor: Dr. Zhangxian Deng

**164 Design Evolution in the Manufacturing of MSM Micropumps**
Sierra Sandison, Andrew Armstrong (graduate student), Dr. Paul Lindquist (faculty)
Faculty Sponsor: Dr. Peter Müllner
<table>
<thead>
<tr>
<th>Presentation Title</th>
<th>Authors</th>
<th>Faculty Sponsor(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>165 Bunny Bot v3: A Robotic Easter Bunny that Gathers Easter Eggs for Handicapped Children on the BSU Turf During its Annual Easter Egg Hunt</strong></td>
<td>Lynaya Herberholz, Josh Marino, Jay Mouli</td>
<td>Dr. Elisa H. Barney Smith</td>
</tr>
<tr>
<td><strong>166 Pizza Box Game Board</strong></td>
<td>Erin Sorensen, Brian Browning, Gianna Stelluto, Trevor Klabo, Halle Robertson</td>
<td>Dr. Amy Moll</td>
</tr>
<tr>
<td><strong>167 Designing Something That Won’t Last</strong></td>
<td>Erin Hurley, Chelsi Haskin, Edward Bowers, Emily Kuehl, Roy Olvera</td>
<td>Dr. Amy Moll</td>
</tr>
<tr>
<td><strong>168 Assistive Robotic Arm</strong></td>
<td>Jacob Stutzman, Jeremy DeLisle, Ryan Miltenberger, Atticus Rosenkoetter, Joey Rodoni</td>
<td>Dr. Noah Salzman</td>
</tr>
<tr>
<td><strong>169 Constructing the Guggenheim Museum</strong></td>
<td>Emily Kuehl, Erin Hurley, Jack Burton</td>
<td>Dr. Kirsten Davis</td>
</tr>
<tr>
<td><strong>170 Snake River Watershed</strong></td>
<td>Jeonghyun Chae, John Felin, Kelvin Cobbley, Sungbin Lim</td>
<td>Erin Stutzman (Timberline High School), Dr. Don L. Warner</td>
</tr>
<tr>
<td><strong>171 Water Quality of Schools in Idaho and Oregon</strong></td>
<td>Noah Gluck, Nicholas James</td>
<td>Erin Stutzman (Timberline High School), Dr. Don L. Warner</td>
</tr>
<tr>
<td><strong>172 Impact of the 2009 Station Fire on Trace Elements and Aquatic Life</strong></td>
<td>Conrad Lin</td>
<td>Erin Stutzman (Timberline High School), Dr. Don L. Warner</td>
</tr>
<tr>
<td><strong>173 Observational Changes in the Boise River</strong></td>
<td>Alexis Manthie</td>
<td>Erin Stutzman (Timberline High School), Dr. Don L. Warner</td>
</tr>
<tr>
<td><em><em>174 Nest Box Characteristics for &gt;3000 American Kestrel (Falco Sparverius) Artificial Nest Sites Registered With the American Kestrel Partnership (VIP Course</em>)</em>*</td>
<td>Jeremiah Sullivan, Leah Dunn (The Peregrine Fund)</td>
<td>Dr. Sarah Schulwitz, Dr. Christopher J.W. McClure (The Peregrine Fund)</td>
</tr>
<tr>
<td><strong>175 Ppcps: An Unregulated Threat to the Environment</strong></td>
<td>Sage Warner, Brady Hansen</td>
<td>Erin Stutzman, (Timberline High School), Dr. Don L. Warner</td>
</tr>
<tr>
<td><strong>176 Relation Between Soil Samples and Ph in the Water</strong></td>
<td>McKenna Wegner, Ilah Hickman, Bennett Kalpakjian</td>
<td>Erin Stutzman, (Timberline High School), Dr. Don L. Warner</td>
</tr>
</tbody>
</table>
COLLEGE, SCHOOL, and DEPARTMENT Index

Submitting student authors are listed under the Colleges and Departments of their project’s faculty sponsor, who is indicated in parentheses. Faculty sponsors are followed by the room of the podium presentation and/or the poster number.

COLLEGE OF ARTS and SCIENCES

Department of Anthropology
Zoey Bevington (Dr. Kristin Snopkowski): 19
Alberto Conti (Dr. Pei-Lin Yu): 45
Sonja Smith (Dr. Pei-Lin Yu): 72
Madeline Squires (Dr. Kendall House): 74
Hallie Turner (Dr. Kristin Snopkowski): 98

Department of Art, Design, & Visual Studies
Madeline Fluharty (Lily Lee): Brink
Leland Stewart (Lily Lee): 140

Department of Biological Sciences
Eli Bring Horvath (Dr. Cheryl L. Jorcyk): Boyington
Christopher Dayton (Dr. Cheryl L. Jorcyk): 55
Kim Dueo (Dr. Juliette Tinker): 59
Elizabeth Heller (Dr. Juliette Tinker): 87
Christian Johnson (Dr. Juliette Tinker): 101
Nichole Jones (Dr. Greg Hampikian): Boyington
Jennifer Miles Rhoades (Dr. Jen Forbey): 4
Omid Mohammad Mousa (Dr. Shin Pu): 6
Cassie Wigfall (Dr. Cheryl L. Jorcyk): 128

Department of Chemistry & Biochemistry
Thomas Conrad (Dr. Don L. Warner): 41
Kim Farrar (Dr. Michael P. Callahan): 61
Kyle Fisch (Dr. Ken Cornell): 63
Spencer Goering (Dr. Ken Cornell): 69
Rafael Gomez (Dr. Lisa Warner): 71
Bri Grantham (Dr. Lisa Warner): 75
Tyson Hardy (Dr. Owen McDougal): 85
Nathan Imonie (Dr. Henry A. Charlier): 97
Bradley Lopes (Dr. Matthew D. King): 129
Ryland McDermott (Dr. Ken Cornell): 145
Elizabeth Mosqueda (Dr. Rajesh Nagarajan): 8
Maddi Nilson (Dr. Henry A. Charlier): 14
Elena Paz (Dr. Ken Cornell): 30
Mariah Provost (Dr. Ken Cornell): 144, 146
Mark Skinner (Dr. Owen McDougal): 68
Diana Stepanova (Dr. Henry A. Charlier): 78
Kendall Swainston (Dr. Ken Cornell): 80
Rebecca Torres (Dr. Owen McDougal): 90
Joey Tuccinardi (Dr. Don L. Warner): 96
Jackson Wall (Dr. Lisa Warner): 110
Jeffrey Watkins (Dr. Owen McDougal): 118

Department of Communication
Alexis Constantine (Dr. Kelly Rossetto): 43
Ron Price (Dr. Christina L. Ivey): 36

Department of English
Eric (Ariel) Amador (Dr. Dora Ramirez): Ah Fong
Mitzi Ceballos (Dr. Dora Ramirez): Ah Fong
Anh Dang (Dr. Gail Shuck): 53
Ben Geffon (Dr. Gail Shuck): Ah Fong
Chelsea Gerard (Dr. Tara Penny): Ah Fong
Jacob Hatcher (Dr. Tara Penny): Ah Fong
Emma Jones (Dr. Michal Temkin Martinez): 105
Krista Kofoed (Dr. Tara Penry): 115
Sydney Kuisti (Dr. Tara Penry): 121
Spencer Lurcock (Dr. Tara Penry): Ah Fong
Jamie Maas (Dr. Tara Penry): 135
Jesus Rivera Orozco (Dr. Gail Shuck): Ah Fong
Kylie Ruble (Dr. Tara Penry): 46
Benjamin Sargis (Dr. Tara Penry): 52
David Schwartz (Dr. Tara Penry): Ah Fong
Katie Skinner (Dr. Tara Penry): 66
Cecelia Staggs (Dr. Michal Temkin Martinez): Ah Fong
Codi Townsend (Dr. Kathy Rose): 92
Jodie Wheaton (Dr. Tara Penry): 122
Cade Yates (Dr. Tara Penry): 161
Cade Yongue (Carrie Seymour): Ah Fong

Department of Geosciences
Kate Grossewiler (Dr. Mark Schmitz): 77
Allie Howell (Dr. Matthew J. Kohn): 93
Joel Johnson (Dr. Jen Pierce): Boyington
Genesee Lucia (Dr. Dorsey Wanless): 133
John Paustian (Dr. Dylan Mikesell): 28
Courtney Rundhaug (Dr. Dorsey Wanless): 48
Alex Schweitzer (Dr. Dorsey Wanless): 60

Department of History
Micah Andersen (Dr. Joanne Klein): Brink

Department of Mathematics
Nicole Clizzie (Dr. Jodi Mead): Boyington
Ryan Cox (Dr. Partha Sarathi Mukherjee): 49
Chithkala Dhulipati (Dr. Michal A. Kopera): 57
Jennifer Thibodeau (Dr. Jodi Mead): Boyington
Alec Ward (Dr. Michal A. Kopera): 114

Department of Music
Brooke Mickelson (Dr. Linda Kline): Brink

Department of Physics
Amanda Bohny (Dr. Daryl Macomb): 23
Trent Garrett (Dr. Paul J. Simmonds): 65
Samantha Johnson (Dr. Brian Jackson): 103
Tragon McFall (Dr. Byung Kim): 157
Wesley Sandidge (Dr. Brian Jackson): 50
Iris Torres (Dr. Matthew Ferguson): 88
Ana Velasquez (Dr. Daniel Fologea): 102
Malyk Walker (Dr. Daniel Fologea): 108
Jason Ward (Dr. Daniel Fologea): 116
Ariel Weltner (Dr. Paul J. Simmonds): 120

Department of Psychological Science
Cierra Abellera (Dr. R. Eric Landrum): Boyington
Cierra Abellera (Dr. April S. Masarik): 1
Akioni Babauta (Dr. Brian W. Stone): 7
Charles Buffington (Dr. Mary Pritchard): 27
Eva Kanneberger (Dr. April S. Masarik): Boyington
Archie Keeton III (Dr. April S. Masarik): 109
Laura Matthiesen (Dr. Mary Pritchard): 139
Chris Palasch (Dr. Brian W. Stone): 24
Raeli Prescott (Dr. Brian W. Stone): Boyington
Department of Sociology
Alejandro Andonaegui (Dr. Arthur Scarritt): Alexander
Jeff Cates (Dr. Arthur Scarritt): Alexander
Michelle Fretwell (Dr. Arthur Scarritt): Alexander
Jessica Gaston (Dr. Arthur Scarritt): Alexander
Yasmine Goodman (Dr. Arthur Scarritt): Alexander
Allyssa Hernandez (Dr. Arthur Scarritt): Alexander
Ramona Hinrichs (Dr. Arthur Scarritt): Alexander
Aaron Jacob Lampe (Dr. Arthur Scarritt): Alexander
Patrick Wangoi (Dr. Arthur Scarritt): 112
Kelsey Wilber (Dr. Virginia Husting): Alexander

Department of World Languages
Danielle Ali (Yookyung Lee): Hatch B
Emily Baldwin (Yookyung Lee): Hatch B
Tanyka Begaye (Dr. Alicia Garza): 13
Abby Cain (Dr. Kelly Arispe): Ah Fong
Julianne Gee (Yookyung Lee): Hatch B
Tailee Long (Yookyung Lee): Hatch B
Eric Marcquart (Yookyung Lee): Hatch B
Ruth Mburu (Yookyung Lee): Hatch B
Grace McGrory (Yookyung Lee): Hatch B
Maryam Naser (Yookyung Lee): Hatch B
Phuong Phan (Yookyung Lee): Hatch B
Ashley Preston (Yookyung Lee): Hatch B
Emily Sanchez (Yookyung Lee): Hatch B
Sandra Sharath (Yookyung Lee): Hatch B

COLLEGE OF BUSINESS and ECONOMICS
Department of Economics
Peyton Blackwell (Dr. Samia Islam): 21
Holly Bossart (Dr. Kelly Chen): 25
Haydn Bryan (Dr. Kelly Chen): Brink
Josiah Bynum (Dr. Kelly Chen): 29
Kelsey Cooper (Dr. Kelly Chen): Brink
Michaela Hill (Dr. Samia Islam): 91
Ryan Hurlburt (Dr. Samia Islam): 95
Jesse Leija (Dr. Kelly Chen): 125
Christina Schaeffer (Dr. Samia Islam): 54

Department of Finance
Rohit Gangurde (Dr. Jared Egginton): Brink

Department of Management
Amy Schneider (Dr. Jennifer Thomsen): 58

COLLEGE OF EDUCATION
Department of Curriculum, Instruction and Foundational Studies
Julianne Mori (Dr. A. J. Zenkert): Boyington

Department of Early and Special Education
Steven Barcenes (Dr. Gena Nelson): 9

COLLEGE OF ENGINEERING
Department of Civil Engineering
Kelli Chiles (Dr. Mandar Khanal): 35
Justin Hammond (Dr. Mandar Khanal): 83
Sarah Knue (Dr. Mandar Khanal): 113
Cory Leenders (Dr. Mandar Khanal): 123
Dillan Mattison (Dr. Mandar Khanal): 141
Jenn McAtee (Dr. Deb Mishra): 143
Brett Robbins (Dr. Mandar Khanal): 42
Aubrey Thomas (Dr. Mandar Khanal): 84
Cait Williams (Dr. Mandar Khanal): 130

Department of Computer Science
Nealon Hager (Dr. Hoda Mehrpouyan): 81
Devan Karsann (Dr. Sole Pera): 107
Ravi Shankar (Dr. Catherine Olschanowsky): 62
Jared White (Dr. Catherine Olschanowsky): 126

Department of Construction Management
Hanna Irving (Dr. Kirsten Davis): 99
Emily Kuehl (Dr. Kirsten Davis): 169
Mariah Owsley (Dr. Kirsten Davis): 22
Brooke Ross (Dr. Kirsten Davis): 162
Jacob Smith (Dr. Kirsten Davis): 70
Savannah Wilson (Dr. Kirsten Davis): 132

Department of Electrical & Computer Engineering
Randall Bassine (Dr. Kristy A. Campbell): 11
Jasmine Cox (Dr. Harish Subbaraman): 47
Lynaya Herberholz (Dr. Elisa H. Barney Smith): 165
Kyle Kramer (Dr. Harish Subbaraman): 119
Tonglin Lu (Dr. Kristy A. Campbell): 131
Jacob Stutzman (Dr. Noah Salzman): 168
Steven Tran (Dr. Jim Browning): 94
Amanda White (Dr. Jim Browning): 124

Department of Mechanical & Biomedical Engineering
Nardos Ayele Ashenafi (Dr. Aykut C. Satici): 5
Kate Benfield (Dr. Trevor Lujan): 15
Omar Betancourt (Dr. Mahmood Mamivand): 17
Linda Choi (Dr. Zhangxian Deng): 163
Katelyn Cudworth (Dr. Trevor Lujan): 51
Zeke Kennedy (Dr. Gunes Uzer): 111
David Pinkerton (Dr. Krishna Pakala): Boyington
Samantha Schauer (Dr. Krishna Pakala): Boyington; 149
Danielle Siegel (Dr. Trevor Lujan): 64

Department of Organizational Performance and Workplace Learning
Katherine Kappelman (Dr. Don Winiecki): 148, 150

Micron School of Materials Science & Engineering
Maruf Ahmed (Dr. Yang Lu): 159
Jaime Guevara (Dr. Peter Müllner): 79
Erin Hurley (Dr. Amy Moll): 167
Jiheon Kwon (Dr. Peter Müllner): 151
Lionel Lopez (Dr. Peter Müllner): 155
Olivia Maryon (Dr. Paul H. Davis): 137
Carlee Miller (Dr. Amy Moll): 160
Ali Mustafa (Dr. Peter Müllner): 12
Kaelee Novich (Dr. Brian J. Jaques): 16
Beck Perrine (Dr. Brian J. Jaques): 32
Hailey Reynolds (Dr. Yang Lu): 40
Joe Roletto (Dr. Yang Lu): 44
Sierra Sandison (Dr. Peter Müllner): 164
Jesse Schimpf (Dr. Paul H. Davis): 56
Erin Sorensen (Dr. Amy Moll): 166
Donovan Wright (Dr. Clare Fitzpatrick): 134

COLLEGE OF HEALTH SCIENCES
Department of Community & Environmental Health
Megan Lomas (Dr. Caile E. Spear): 127
Emily Oe (Andy Hyer): 18
Megan Stanley (Dr. Sarah E. Toevs, Lynn Fyanes): 76
**Department of Kinesiology**  
Adriana Amador (Dr. Eric Martin): 3  
Fred Christensen (Dr. Tyler Brown): 37  
Erica Korbel (Dr. Eric Martin): 117  
Allie Ostrander (Dr. Eric Martin): 20  
Luke Parker (Dr. Tyler Brown): 26  
Jeremy Roberts (Dr. Tyler Brown): 147  
Elijah Walker (Dr. Tyler Brown): 106

**Department of Respiratory Care**  
Jeremy Gibbs (Ryan Forbush): 67  
Morgan McEwan (Lonny Ashworth): 2

**School of Nursing**  
Savannah Carter (Dr. Max Veltman): 33  
Rebecca Gomez (Dr. Max Veltman): 73  
Brynn Peters (Dr. Cara Gallegos): 34  
Nate Stanger (Dr. Cara Gallegos): 138  
Taylor Swetavage (Dr. Karen R. Breitkreuz): 82  
Debbie Thompson (Dr. Cara Gallegos): 136

**COLLEGE OF INNOVATION + DESIGN**  
Gaming, Interactive and Mobile Media  
Brenna Leonard (Karen Doty): 153

**Human-Environment Systems**  
Jessica Mueller (Dr. Vicken Hillis): 10  
Julie Ramirez (Dr. Neil Carter): 38

---

**SCHOOL OF PUBLIC SERVICE**  
Department of Political Science  
Robert Herold (Robert Harbaugh): 89

**The Peregrine Fund**  
Leticia Camacho (Dr. Sarah Schulwitz): 31  
Anton Pugel (Dr. Sarah Schulwitz): 186  
Jeremiah Sullivan (Dr. Sarah Schulwitz): 188

**Timberline High School**  
Jeonghyun Chae (Erin Stutzman): 172  
Noah Gluck (Erin Stutzman): 174  
Conrad Lin (Erin Stutzman): 176  
Alexis Manthe (Erin Stutzman): 178  
Neva McFarland (Erin Stutzman): 180  
Chloe Millington (Erin Stutzman): 182  
Keaton Poe (Erin Stutzman): 184  
Sage Warner (Erin Stutzman): 190  
McKenna Wegner (Erin Stutzman): 192

**U.S. Geological Survey**  
Kelly A. Mazur (Dr. David S. Pilliod): Boyington

---

**PODIUM Presentation Index**  
All contributing authors and faculty sponsors are listed followed by the room in which their project(s) will be presented.

Abellera, Cierra: Boyington  
Ali, Danielle: Hatch B  
Amador, Eric (Ariel): Ah Fong  
Andersen, Micah: Brink  
Andonaegui, Alejandro: Alexander  
Arispe, Dr. Kelly: Ah Fong  
Baldwin, Emily: Hatch B  
Barba, Magali: Boyington  
Bautista, Catie: Boyington  
Bring Horvath, Eli: Boyington  
Bryan, Haydn: Brink  
Cain, Abby: Ah Fong  
Cates, Jeff: Alexander  
Ceballos, Mitzi: Ah Fong  
Chen, Dr. Kelly: Brink  
Clizzie, Nicole: Boyington  
Cooper, Kelsey: Brink  
Eggington, Dr. Jared: Brink  
Fluharty, Madeline: Brink  
Fretwell, Michelle: Alexander  
Gangurde, Rohit: Brink  
Gaston, Jessica: Alexander  
Gee, Julianne: Hatch B  
Geoff, Ben: Ah Fong  
Gerard, Chelsea: Ah Fong  
Goodman, Yasmine: Alexander  
Hampikian, Dr. Greg: Boyington  
Hatcher, Jacob: Ah Fong  
Hernandez, Allyssa: Alexander  
Hinrichs, Ramona: Alexander  
Husting, Dr. Virginia: Alexander  
Jackson-Sevy, Connor: Ah Fong  
Johnson, Joel: Boyington  
Jones, Nichole: Boyington  
Jorczyk, Dr. Cheryl L.: Boyington  
Kanneberger, Eva: Boyington  
Klein, Dr. Joanne: Brink  
Kline, Dr. Linda: Brink  
Lampe, Aaron Jacob: Alexander  
Landrum, Dr. R. Eric: Boyington  
Laramie, Matthew B.: Boyington  
Lee, Lily: Brink  
Lee, Yookyung: Hatch B  
Long, Tailee: Hatch B  
Lurcock, Spencer: Ah Fong  
Marquart, Eric: Hatch B  
Masarik, Dr. April S.: Boyington  
Mazur, Kelly A.: Boyington  
Mburu, Ruth: Hatch B  
McGrorty, Grace: Hatch B  
Mead, Dr. Jodi: Boyington  
Mickelson, Brooke: Brink  
Mori, Janine: Boyington  
Musale, Gitesh: Brink  
Naser, Maryam: Hatch B  
Oberg, Claire: Boyington  
Pakala, Dr. Krishna: Boyington  
Penry, Dr. Tara: Ah Fong  
Phan, Phuong: Hatch B  
Pierce, Dr. Jen: Boyington  
Pilliod, Dr. David S.: Boyington  
Pinkerton, David: Boyington  
Pitts, Lane: Boyington  
Prescott, Raeli: Boyington  
Preston, Ashley: Hatch B  
Ramirez, Dr. Dora: Ah Fong  
Rivera Orozco, Jesus: Ah Fong  
Sanchez, Emily: Hatch B  
Scarritt, Dr. Arthur: Alexander  
Schauer, Samantha: Boyington  
Schwartz, David: Ah Fong  
Seymour, Carrie: Ah Fong  
Shuck, Dr. Gail: Ah Fong  
Siharah, Sandra: Hatch B  
Stagg, Cecelia: Ah Fong  
Stone, Dr. Brian W.: Boyington  
Temkin Martinez, Dr. Michal: Ah Fong  
Thibodeau, Jennifer: Boyington  
Tiamo, Dr. Kristy: Boyington  
Wieland, Mitch: Boyington  
Wilber, Kelsey: Alexander  
Yongue, Cade: Ah Fong  
Zenkert, Dr. A. J.: Boyington
Abellera, Cierra: 1
Adams, Dr. Elisabeth: 103
Ahmed, Maruf: 159
Alawadhi, Aisha: 141
Alidhani, Abdulatif: 83
Alex, Catherine: 108
Allison, Michael: 113
Altmiller, Liz: 153
Alvarez, Oliver: 134
Amador, Adriana: 3
Araiza, Alexis: 105
Argain, Grant: 113
Armstrong, Andrew: 12, 151, 155, 164
Ashenafi, Nardos Ayele: 5
Ashmead, Paige: 105
Ashton, Carsten: 96
Ashworth, Lonny: 2
Babauta, Akioni: 7
Barcenes, Steven: 9
Barney Smith, Dr. Elisa H.: 165
Barron, Brenda: 35
Bassine, Randall: 11
Basu, Dr. Shibani: 8
Begaye, Tanyka: 13
Benfield, Kate: 15
Berry, Austin: 99, 130
Betancourt, Omar: 17
Bevington, Zoey: 19
Bieter, Dr. John: 155
Bishop, Brittany: 162
Blackwell, Peyton: 21
Boksmati, Kamal: 132
Boll, Meagan: 30
Bossart, Holly: 25
Bowers, Edward: 167
Bowers, Katherine: 46
Briggs, Jennifer: 50
Brodd, Jared: 58
Bronken, Jack: 22
Brown, Dr. Tyler: 26, 37, 106, 147
Browning, Brian: 166
Browning, Dr. Jim: 94, 119, 124, 144, 146
Bryner, Camille: 102
Buckmiller, Micah: 88
Baffington, Charles: 27
Buhamad, Ali: 83
Burkett, Doug: 186
Burton, Jack: 169
Byers, Haley: 105
Bynum, Josiah: 29
Caldwell, Ryan: 157
Callahan, Dr. Michael P.: 61
Camacho, Leticia: 31
Campbell, Dr. Kristy A.: 11, 131
Campbell, Taylor: 153
Cantrell, Maranda: 68, 90, 110
Carlson, Jessica: 119
Carretero, Karina: 58
Carter, Dr. Neil: 38
Carter, Savannah: 33
Cater-Cram, Kate: 21
Chae, Jeonghyun: 172
Chapman, Tyler: 153
Charlier, Dr. Henry A.: 14, 78, 97
Chen, Dr. Kelly: 25, 29, 125
Chikonde, Richie: 35
Chiles, Kelli: 35
Choi, Linda: 163
Christensen, Fred: 37
Ciaglia, Floriana: 62
Clark, Ryan: 49
Craig, Pamela: 76
Croome, Sophie: 95
Croteau, Adam: 119, 124
Cutler, Trish: 186
Dang, Anh: 53, 105
Davies, Karl: 44
Davis, Dr. Kirsten: 22, 70, 99, 132, 162, 169
Davis, Dr. Paul H.: 56, 111, 137
Davis, Karly: 105
Dayton, Christopher: 55
DeLisle, Jeremy: 168
Deng, Dr. Zhangxian: 163
Dexter, Jessie: 76
Dhilli, Chithhakara: 57
Doty, Karen: 153
Drew, Micah: 37
Dueo, Kim: 59
Dunn, Leah: 31, 186, 188
Ellis, Patricia: 139
Endl, Dr. Michael: 103
Essex, Trent: 123
Estrada, Dr. David: 47, 119
Farrar, Kim: 61
Felik, John: 172
Ferguson, Dr. Matthew: 88
Finn, Gigi: 102
Fisch, Kyle: 63
Fitzpatrick, Dr. Clare: 111, 134
Fologea, Dr. Daniel: 102, 108, 116
Fordy, Dr. Jen: 4
Forbus, Ryan: 67
Frazier-Hallard, Karah: 121
Frickle, Kacy: 135
Fyanes, Lynn: 76
Galgos, Dr. Cara: 34, 136, 138
Galo, Sarah: 141
Garofolo, Jacob: 160
Garrett, Trent: 65
Garrison, John: 153
Garza, Dr. Alicia: 13
Gibbs, Jeremy: 67
Gluck, Noah: 174
Gochanour, Justan: 105
Godard, Dr. Karen: 33
Goeler, Julianna: 88
Goering, Spencer: 69
Gonzalez, Rafael: 71
Gonzalez, Rebecca: 73
Goodale, Christopher: 22
Granath, Bri: 75
Green, Jaden: 70
Greene, Nicholas: 84
Grosswiler, Kate: 77
Guevara, Jaime: 79
Gutierrez Guzman, Paola: 58
Hager, Nealon: 81
Hammond, Justin: 83
Hansen, Brady: 190
Hansen, Kierra: 105
Harbaugh, Robert: 89
Hardy, Tyson: 85
Harrison, Nathan: 80
Haskin, Chelsi: 167
Hatfield, Audrey: 135
Hay, Bryant: 148, 150
Hazen, Austyn: 54
Headley, Samantha: 35
Hedrick, Greta: 136
Hedrick, Taylor: 42
Heller, Elizabeth: 87
Henggeler, Jill: 138
Henry, Jeffrey: 102
Herberholz, Lymaya: 165
Herdal, Robert: 89
Herra-Sullivan, Ofelia: 127
Hickman, Ilah: 192
Higginbotham, Kari: 137
Hill, Graham: 153
Hill, Michaela: 91
Hillis, Dr. Vicken: 10
Hollar, Katie: 15
House, Dr. Kendall: 74
Howell, Allie: 93
Huber, Steve: 42
Hurlburt, Ryan: 95
Hurley, Dr. Mike: 137
Hurley, Erin: 167, 169
Hutchinson, Zoe: 102
Huynh, Anh: 88
Hyer, Andy: 18
Imonigie, Nathan: 97
Irvine, Hanna: 99, 130
Islam, Dr. Samia: 21, 54, 91, 95
Ivey, Dr. Christina L.: 36
Jackson, Dr. Brian: 50, 103
POSTER Presentation Index

All contributing authors and faculty sponsors are listed followed by their poster number(s).
Odd numbered posters will be presented from 10:00 – 11:00; Even numbered posters will be presented from 11:30 – 12:30.

James, Nicholas: 174
Jankowski, Dr. Eric: 79
Jaques, Dr. Brian J.: 16, 32
Jarrett, Lucas: 58
Jenkins, Thomas: 123, 132
Johnson, Christian: 101
Johnson, Matt: 105
Johnson, Samantha: 103
Johnston, Brent: 12
Jones, Dr. Matthew L.: 79
Jorcyk, Dr. Cheryl L.: 55, 96, 128
Juergens, Paul: 186
Kalpakjian, Bennett: 192
Kamulete, Shukuru: 1
Kappelman, Katherine: 148, 150
Karsann, Devan: 107
Kawamura, Casey: 155
Keeton III, Archie: 109
Kennedy, Zeke: 111, 119, 124
Kershner, James: 63
Khanal, Dr. Mandar: 35, 42, 83, 84, 113, 123, 130, 141
Kidoo, Jon: 155
Kim, Dr. Byung: 157
Kimble, Dakota: 155
King, Christi: 76
King, Dr. Matthew D.: 96, 129
Klabo, Trevor: 166
Klu, Michael: 123
Knue, Sarah: 113
Koehne, Dr. Jessica: 47
Kofoed, Krista: 115
Kohn, Dr. Matthew J.: 93
Kopera, Dr. Michal A.: 57, 114
Korbel, Erica: 117
Kostovny, Nick: 91
Kramer, Kyle: 119
Kreyche, Steven: 50
Kuehl, Emily: 167, 169
Kuisti, Sydney: 121
Kurz, Dr. Mark D.: 133
Kvyran, Armen: 137
Kwon, Jiheon: 151
Lambert, Daniel: 153
Larson, Dr. Daniel R.: 88
Lee, Anjelica: 160
Lee, Lily: 140
Leenders, Cory: 123
Leija, Jesse: 125
Leman, Brennon: 155
Lenstra, Dr. Tineke: 88
Leonard, Brenna: 153
Lim, Sungbin: 172
Lin, Conrad: 176
Lindquist, Dr. Paul: 151, 164
Lomas, Megan: 127
Lopes, Bradley: 129
Lopez, Lionel: 155
Lowe, Kiah: 135
Lu, Dr. Yang: 40, 44, 159
Lu, Tonglin: 131
Lucia, Genese: 133
Lujan, Dr. Trevor: 15, 51, 64
Maas, Jamie: 135
Macomb, Dr. Daryl: 23
Maminvand, Dr. Mahmood: 17
Manthey, Alexis: 178
Marino, Josh: 165
Martin, Dr. Eric: 3, 20, 104, 117
Martin, Robison: 113
Maryon, Olivia: 137, 153
Matarik, Dr. April S.: 1, 109
Matthiesen, Laura: 139
Mattison, Dillan: 141
McAtee, Jenn: 22, 141, 143
McCarver, Joe: 119
McDermott, Ryland: 145
McDougal, Dr. Owen: 68, 85, 90, 118
McEwan, Morgan: 2
McFall, Tragon: 157
McFarland, Neva: 180
McKenzie, L.J.: 80, 145
Medellin, Mari: 136
Mehan, Alyssa: 91
Mehrpooyou, Dr. Hoda: 81
Mikesell, Dr. Dylan: 28, 133
Miles Roadies, Jennifer: 4
Miller, Carlee: 160
Miller, Dalton: 69
Miller, Dr. Sondra: 113
Millington, Chloe: 182
Milenberger, Ryan: 168
Mishra, Dr. Deb: 143
Mitchell, Marselle: 67
Mohammad Mousa, Omid: 6
Moll, Dr. Amy: 160, 166, 167
Morey, Kelsey: 34
Morrisson, Dr. Brad: 6
Mosqueda, Elizabeth: 8
Mouli, Jay: 165
Moyle, Caitlyn: 105
Mueller, Jessica: 10
Muhammed, Thaer: 41, 96
Mukherjee, Dr. Partha Sarathi: 49
Müllner, Dr. Peter: 12, 79, 116, 137, 151, 155, 164
Murray, Gage: 70
Mustafa, Ali: 12
Nagarajan, Dr. Rajesh: 8
Neckels, Rachael: 144
Neff, Hailey: 95
Nelson, Brett: 69
Nelson, Dr. Gena: 9
Nelson, Megan: 68
Newberg, Josh: 56, 111
Nilson, Maddi: 14
Novich, Kaellee: 16
Nutall, Michelle: 108
Oberting, Sam: 123
Ocarenza, Alfredo: 46
Oe, Emily: 18
Olschanowsky, Dr. Catherine: 62, 126
Olsen-Smith, Galvin: 105
Olvera, Roy: 167
Orenstein, Aaron: 62
Ostrander, Allie: 20
Owen, Titus: 42
Owsley, Mariah: 22, 113
Oxford, Dr. Julia: 6
Pakala, Dr. Krishna: 149
Palacios, Gissel: 58
Palasch, Chris: 24
Panahi, Twinkle: 47
Papen, Emily: 21
Parish, Chris: 186
Parker, Luke: 26
Paschke, Claire: 182
Pathak, Anish: 40
Paustian, John: 28
Paz Muñoz, Elena: 6, 30
Pedersen, Samuel: 16
Peña, Chris: 141
Penry, Dr. Tara: 46, 52, 66, 115, 121, 122, 135, 161
Peria, Dr. Sole: 107
Perrine, Beck: 32
Peters, Brynn: 34
Pettyjohn, Adam: 108
Plumlee, Dr. Don: 119, 124
Poe, Keaton: 184
Pool, Michael: 88
Popoola, Tobi: 126
Poppe, Ashley: 8
Prather, Daniel: 102, 108
Price, Ron: 36
Pritchard, Dr. Mary: 27, 139
Protzman, Conner: 180
Provo, Keegan: 155
Provoest, Mariam: 144, 146
Pu, Dr. Shin: 6
Pugel, Anton: 186
Purvis, Jordan: 34
Ramirez, Jamie: 147
Recla, Caitlin: 122
Reynolds, Hailey: 40, 84
Riley, Scott: 32
Robbins, Brett: 42
Roberts, Jeremy: 147
Robertson, Halle: 166
Robertson, Trevor: 157
Robishaw, Austin: 105
Rodoni, Joey: 168
Roemer, Phillip: 162
Roletto, Joe: 44, 83
# POSTER Presentation Index

All contributing authors and faculty sponsors are listed followed by their poster number(s).

Odd numbered posters will be presented from 10:00 – 11:00; Even numbered posters will be presented from 11:30 – 12:30.

<table>
<thead>
<tr>
<th>Name</th>
<th>Poster Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rose, Dr. Kathy</td>
<td>92</td>
</tr>
<tr>
<td>Roslenkoetter, Atticus</td>
<td>168</td>
</tr>
<tr>
<td>Ross, Brooke</td>
<td>162</td>
</tr>
<tr>
<td>Rossetto, Dr. Kelly</td>
<td>43, 104</td>
</tr>
<tr>
<td>Ruble, Kylie</td>
<td>46</td>
</tr>
<tr>
<td>Rundhaug, Courtney</td>
<td>48</td>
</tr>
<tr>
<td>Salzman, Dr. Noah</td>
<td>160, 168</td>
</tr>
<tr>
<td>Sandberg, Morgan</td>
<td>84</td>
</tr>
<tr>
<td>Sanders, Alex</td>
<td>2</td>
</tr>
<tr>
<td>Sandidge, Wesley</td>
<td>50</td>
</tr>
<tr>
<td>Sandison, Sierra</td>
<td>155, 164</td>
</tr>
<tr>
<td>Sargis, Benjamin</td>
<td>52</td>
</tr>
<tr>
<td>Satci, Dr. Aykut C.</td>
<td>5</td>
</tr>
<tr>
<td>Sautter, Kathryn E.</td>
<td>65, 120</td>
</tr>
<tr>
<td>Scarritt, Dr. Arthur</td>
<td>113</td>
</tr>
<tr>
<td>Schaeffer, Christina</td>
<td>54</td>
</tr>
<tr>
<td>Schafer, Dr. Ellen</td>
<td>18</td>
</tr>
<tr>
<td>Schauer, Samantha</td>
<td>149</td>
</tr>
<tr>
<td>Schimpf, Jesse</td>
<td>56, 111</td>
</tr>
<tr>
<td>Schmitz, Dr. Mark</td>
<td>77</td>
</tr>
<tr>
<td>Schneider, Amy</td>
<td>58</td>
</tr>
<tr>
<td>Schuck, Christopher</td>
<td>65, 120</td>
</tr>
<tr>
<td>Schuettke, Katelyn</td>
<td>153</td>
</tr>
<tr>
<td>Schulwitz, Dr. Sarah</td>
<td>31, 186, 188</td>
</tr>
<tr>
<td>Schwartz, Darin</td>
<td>48</td>
</tr>
<tr>
<td>Schweitzer, Alex</td>
<td>60</td>
</tr>
<tr>
<td>Seymore, Kayla</td>
<td>26, 147</td>
</tr>
<tr>
<td>Shaffer, Kain</td>
<td>35</td>
</tr>
<tr>
<td>Shankar, Ravi</td>
<td>62</td>
</tr>
<tr>
<td>Sheets, Megan</td>
<td>94</td>
</tr>
<tr>
<td>Shin, David</td>
<td>108</td>
</tr>
<tr>
<td>Shirley, Marie</td>
<td>153</td>
</tr>
<tr>
<td>Shuck, Dr. Gail</td>
<td>53</td>
</tr>
<tr>
<td>Siddiqui, Uzair</td>
<td>42</td>
</tr>
<tr>
<td>Siegel, Danielle</td>
<td>64</td>
</tr>
<tr>
<td>Sigrist, Chris</td>
<td>83</td>
</tr>
<tr>
<td>Simmonds, Dr. Paul J.</td>
<td>65, 120</td>
</tr>
<tr>
<td>Simmons, Zach</td>
<td>94, 146</td>
</tr>
<tr>
<td>Skifton, Dr. Richard</td>
<td>32</td>
</tr>
<tr>
<td>Skinner, Katie</td>
<td>66</td>
</tr>
<tr>
<td>Skinner, Mark</td>
<td>68</td>
</tr>
<tr>
<td>Skluzechek, Kelsey</td>
<td>96</td>
</tr>
<tr>
<td>Smith, Aaron</td>
<td>116</td>
</tr>
<tr>
<td>Smith, Jacob</td>
<td>70</td>
</tr>
<tr>
<td>Smith, Paul</td>
<td>184</td>
</tr>
<tr>
<td>Smith, Sonja</td>
<td>72</td>
</tr>
<tr>
<td>Smith, Tyler</td>
<td>80, 145</td>
</tr>
<tr>
<td>Snopkowski, Dr. Kristin</td>
<td>19, 98</td>
</tr>
<tr>
<td>Sorensen, Erin</td>
<td>166</td>
</tr>
<tr>
<td>Soule, Dr. S. Adam</td>
<td>133</td>
</tr>
<tr>
<td>Spath, Luke</td>
<td>130</td>
</tr>
<tr>
<td>Spear, Dr. Calie E.</td>
<td>127</td>
</tr>
<tr>
<td>Squires, Madeline</td>
<td>74</td>
</tr>
<tr>
<td>Squires, Nathan</td>
<td>70</td>
</tr>
<tr>
<td>Staggs, Cecelia</td>
<td>105</td>
</tr>
<tr>
<td>Stanger, Nate</td>
<td>138</td>
</tr>
<tr>
<td>Stanley, Megan</td>
<td>76</td>
</tr>
<tr>
<td>Stauffer, Hope</td>
<td>162</td>
</tr>
<tr>
<td>Stelluto, Gianna</td>
<td>166</td>
</tr>
<tr>
<td>Stepanova, Diana</td>
<td>78</td>
</tr>
<tr>
<td>Stewart, Leland</td>
<td>140</td>
</tr>
<tr>
<td>Stieha, Dr. Vicki</td>
<td>160</td>
</tr>
<tr>
<td>Stolz, Lexi</td>
<td>67</td>
</tr>
<tr>
<td>Stone, Dr. Brian W.</td>
<td>7, 24</td>
</tr>
<tr>
<td>Stover, Camille</td>
<td>2</td>
</tr>
<tr>
<td>Streeter, Marissa</td>
<td>46</td>
</tr>
<tr>
<td>Stutzman, Erin</td>
<td>172, 174, 176, 178, 180, 182, 184, 190, 192</td>
</tr>
<tr>
<td>Stutzman, Jacob</td>
<td>168</td>
</tr>
<tr>
<td>Subbaraman, Dr. Harish</td>
<td>47, 119</td>
</tr>
<tr>
<td>Sullivan, Jeremiah</td>
<td>188</td>
</tr>
<tr>
<td>Sullivan, Madison</td>
<td>146</td>
</tr>
<tr>
<td>Swainston, Kendall</td>
<td>80</td>
</tr>
<tr>
<td>Swetavage, Taylor</td>
<td>82</td>
</tr>
<tr>
<td>Szolomayer, Makenna</td>
<td>30</td>
</tr>
<tr>
<td>Szymczycha, Zack</td>
<td>186</td>
</tr>
<tr>
<td>Temkin Martinez, Dr.</td>
<td>105</td>
</tr>
<tr>
<td>Theel, Jasper</td>
<td>69</td>
</tr>
<tr>
<td>Thomas, Aaron</td>
<td>95</td>
</tr>
<tr>
<td>Thomas, Aubrey</td>
<td>84</td>
</tr>
<tr>
<td>Thomas, Olivia</td>
<td>153</td>
</tr>
<tr>
<td>Thompson, Debbie</td>
<td>136</td>
</tr>
<tr>
<td>Thompson, Hope</td>
<td>182</td>
</tr>
<tr>
<td>Thomsen, Dr. Jennifer</td>
<td>58</td>
</tr>
<tr>
<td>Thurston, Dr. John</td>
<td>30</td>
</tr>
<tr>
<td>Tinker, Dr. Juliette</td>
<td>59, 87, 101</td>
</tr>
<tr>
<td>Titmus, J.T.</td>
<td>71</td>
</tr>
<tr>
<td>Toevs, Dr. Sarah E.</td>
<td>76</td>
</tr>
<tr>
<td>Torres, Iris</td>
<td>88</td>
</tr>
<tr>
<td>Torres, Rebecca</td>
<td>90</td>
</tr>
<tr>
<td>Totorica, Kepa</td>
<td>153</td>
</tr>
<tr>
<td>Townsend, Codie</td>
<td>92</td>
</tr>
<tr>
<td>Tran, Steven</td>
<td>94</td>
</tr>
<tr>
<td>Trantham, A.J.</td>
<td>153</td>
</tr>
<tr>
<td>Tuccinardi, Joey</td>
<td>41, 96</td>
</tr>
<tr>
<td>Turner, Hallie</td>
<td>98</td>
</tr>
<tr>
<td>Turner, Matt</td>
<td>71, 118</td>
</tr>
<tr>
<td>Tuttle, Deborah</td>
<td>54</td>
</tr>
<tr>
<td>Underwood, Hunter</td>
<td>6</td>
</tr>
<tr>
<td>Uzer, Dr. Gunes</td>
<td>56, 111</td>
</tr>
<tr>
<td>Vallejo, Kevin</td>
<td>65, 120</td>
</tr>
<tr>
<td>Vazquez, Brayan</td>
<td>160</td>
</tr>
<tr>
<td>Velasquez, Ana</td>
<td>102</td>
</tr>
<tr>
<td>Veligatia, Medha</td>
<td>137</td>
</tr>
<tr>
<td>Veltman, Dr. Max</td>
<td>33, 73</td>
</tr>
<tr>
<td>Vesciano, Delaney</td>
<td>104</td>
</tr>
<tr>
<td>Villanueva, Melanie</td>
<td>84</td>
</tr>
<tr>
<td>Vucetich, Dr. John</td>
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</tr>
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<td>Walker, Elijah</td>
<td>106</td>
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<td>Walker, Malyk</td>
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<tr>
<td>Wangoi, Patrick</td>
<td>112</td>
</tr>
<tr>
<td>Wanless, Dr. Dorsey</td>
<td>28, 48, 60, 133</td>
</tr>
<tr>
<td>Ward, Alec</td>
<td>114</td>
</tr>
<tr>
<td>Ward, Jason</td>
<td>116</td>
</tr>
<tr>
<td>Warner, Dr. Don L.</td>
<td>41, 96, 172, 174, 176, 178, 180, 182, 184, 190, 192</td>
</tr>
<tr>
<td>Warner, Dr. Lisa</td>
<td>71, 75, 110</td>
</tr>
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<td>190</td>
</tr>
<tr>
<td>Watkins, Jeffrey</td>
<td>118</td>
</tr>
<tr>
<td>Weatherly, Adrienne</td>
<td>91</td>
</tr>
<tr>
<td>Wegner, McKenna</td>
<td>192</td>
</tr>
<tr>
<td>Weltner, Ariel</td>
<td>65, 120</td>
</tr>
<tr>
<td>Wendt, Dr. Amanda</td>
<td>38</td>
</tr>
<tr>
<td>Wheaton, Jodie</td>
<td>122</td>
</tr>
<tr>
<td>White, Amanda</td>
<td>119, 124</td>
</tr>
<tr>
<td>White, Jared</td>
<td>126</td>
</tr>
<tr>
<td>Wigfall, Cassie</td>
<td>128</td>
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<td>Wilkins, Jeff</td>
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<td>Wilson, Savannah</td>
<td>132</td>
</tr>
<tr>
<td>Winfrey, Domenic</td>
<td>58</td>
</tr>
<tr>
<td>Wniecki, Dr. Don</td>
<td>148, 150</td>
</tr>
<tr>
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<td>160</td>
</tr>
<tr>
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<td>99</td>
</tr>
<tr>
<td>Wolf, Cody L.</td>
<td>55, 96, 128</td>
</tr>
<tr>
<td>Wood, Dr. Rulon</td>
<td>36</td>
</tr>
<tr>
<td>Wright, Donovan</td>
<td>134</td>
</tr>
<tr>
<td>Yates, Cade</td>
<td>161</td>
</tr>
<tr>
<td>Yu, Dr. Pei-Lin</td>
<td>45, 72</td>
</tr>
</tbody>
</table>
A showcase of logical ideas.