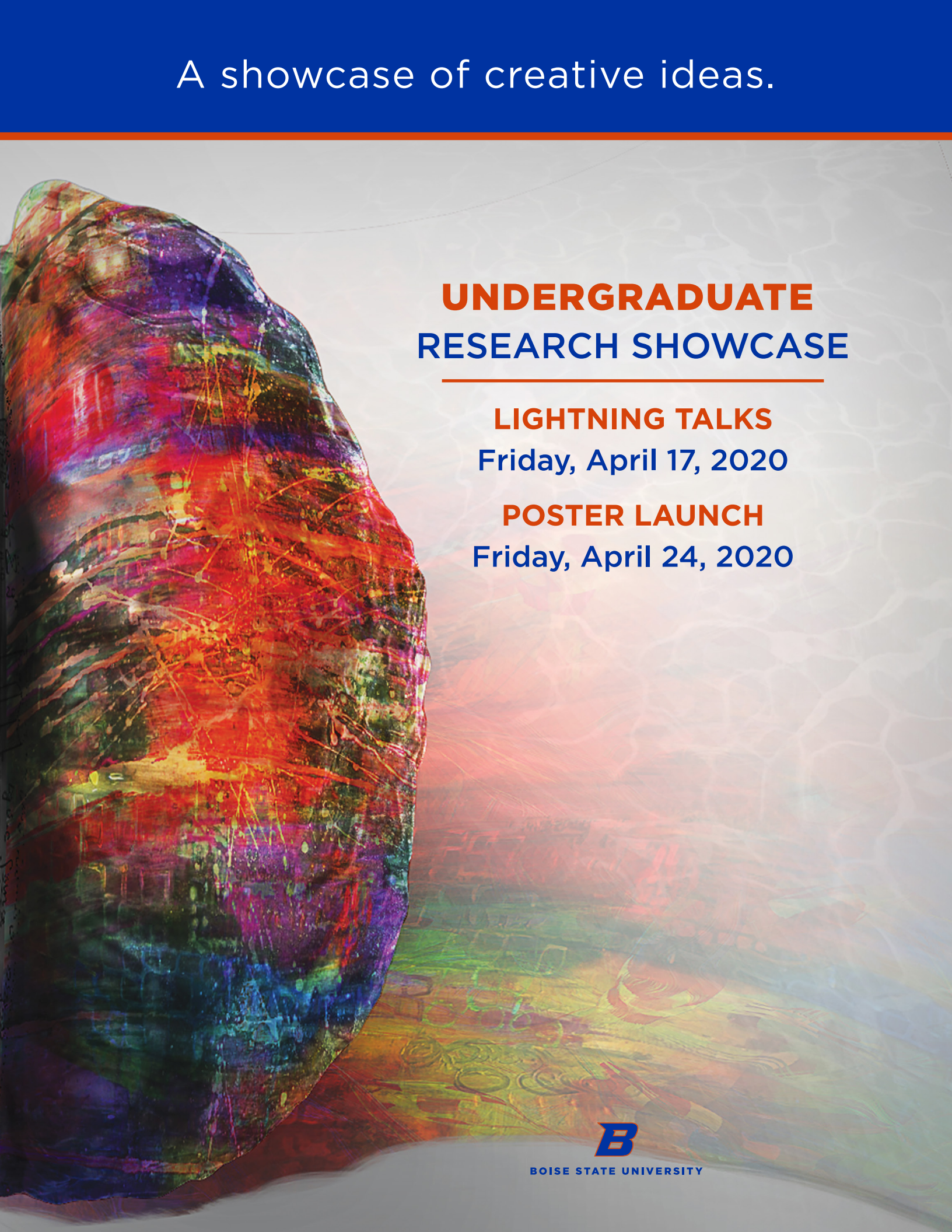


A showcase of creative ideas.



UNDERGRADUATE **RESEARCH SHOWCASE**

LIGHTNING TALKS

Friday, April 17, 2020

POSTER LAUNCH

Friday, April 24, 2020



BOISE STATE UNIVERSITY

GREETINGS

WELCOME to Boise State University's 17th Annual Undergraduate Research Showcase! This is an exciting time to be an undergraduate student at Boise State, and we are glad to be able to share our students' work with you. Over the past few years, we have made significant changes to our program and experienced tremendous growth in student interest, and this year we decided to feature a brand new plenary session spotlighting students from across the university in a round of 3-minute lightning talks.

Because of COVID-19, our program is a bit different than we had originally envisioned it. However, we were determined to not allow the immense interruption that this pandemic has caused to get in the way of celebrating the amazing work done by our students. We are extremely proud of these student researchers – for their creativity, their perseverance, and their willingness to continue to work on their research projects in these incredibly difficult times. We are also grateful for our students' determination and hard work in preparing their posters and lightning talks for the virtual event.

A record 261 poster abstracts were submitted for presentation at this year's event prior to the shift to remote learning. We are grateful to many of our students who, despite having to make tremendous adjustments to their new learning environments and being adversely affected by stay-at-home orders and new home dynamics, have risen to these challenges and worked hard to not only ensure that their work is represented at this year's event, but that it is also accessible to all audience members in the virtual space.

Similarly, our faculty mentors and research supervisors have also shown immense support and commitment to our students, leaning in even as they themselves were adjusting to their own obligations as a result of this situation. Our students have no doubt benefited from our faculty, graduate students, and staff support in ways that we can not easily measure, but which are extremely appreciated.

The heart of a research university is the interaction of research faculty and graduate students mentoring and engaging with undergraduate students in the messy work of authentic scholarship. This showcase is the embodiment of that heart.

On behalf of the planning committee, we thank you for coming to our students' showcase, and we hope that you enjoy listening to our students, reading and studying their posters, and we encourage you to follow up with them to learn more about their work.

Take care, and go Broncos!

DONNA LLEWELLYN and MICHAL TEMKIN MARTINEZ

#URS2020 Co-Chairs

2020 UNDERGRADUATE RESEARCH SHOWCASE

CONTENTS

- 1** WELCOME
- 2** PLANNING COMMITTEE
- 3** ACKNOWLEDGEMENTS
- 4** LIGHTNING TALK PRESENTERS
- 5-20** POSTER PRESENTATIONS
- 21-30** STUDENT COLLABORATORS' MAJORS
- 31-34** FACULTY AND STAFF COLLABORATORS
- 35-39** POSTER PRESENTATION INDEX

Follow event at #URS2020



THE POSTER ABSTRACTS ARE AVAILABLE AT:
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under_showcase_2020](https://scholarworks.boisestate.edu/under_showcase_2020)**



BOISE STATE UNIVERSITY

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College of Health Sciences

KATHERINE WRIGHT,
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College of Education



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Kevin Ausman, Lightning Talk Coach

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LIGHTNING TALK Presenters

HOLLY BOSSART, Applied Mathematics, Statistics Emphasis; Economics, Quantitative Emphasis; and Computer Science Minor

Regional Analysis of Mental Disorder Prevalence in Ukraine

Faculty Nominator: Chris Loucks

Department: Economics

SARAH E. COOSE, Biological Sciences

Recreation & Wildlife Activity in the Wood River Valley

Faculty Nominator: Kelly Hopping

Department: Human-Environment Systems

MAGGIE DILLON, Special Education and Elementary Education

3D Printing Assistive Technology to Support Students with Disabilities: Students Teach Undergrads the Importance of Community and Research in Education

Faculty Nominator: Lisa Beymer

Department: Early and Special Education

SHELBY A. MCNEILLY, Mechanical Engineering and Applied Mathematics Minor

Revolutionizing Mechanical Engineering Undergraduate Curriculum

Faculty Nominator: Donald Plumlee

Department: Mechanical and Biomedical Engineering

DANIELE MORO, Computer Science and Applied Mathematics Minor

How Robots Express Emotion: Grounding Descriptions of Robot Behaviors into Dynamic Internal States and Representations of Affect and Emotion

Faculty Nominator: Casey Kennington

Department: Computer Science

ALI W. MUSTAFA, Material Science and Engineering

Single Crystal Casting

Faculty Nominator: Peter Mullner

Department: Material Science and Engineering

SUGOPI R. PALAKALA, History

Inculturation & Dissemination: The Symbiotic Relationship between Religion & Society

Faculty Nominator: Lisa McClain

Department: History

EMILY PAPE, Global Studies with Economics Emphasis; Economics and Spanish Minors

Why Countries Transition to Clean Energy (& Why They Don't)

Faculty Nominator: Brian Wampler

Department: School of Public Service

SAMANTHA K. SCHAUER, Mechanical Engineering

Lay of the Land: Professional Identity in Our Student Body

Faculty Nominators: Krishna Pakala and Eric Jankowski

Department: Mechanical and Biomedical Engineering (Krishna) / Material Science and Engineering (Eric)

ALLEN SKIRVIN, Music Composition

A Northwest American Sound in Classical Music

Faculty Nominator: Linda Kline

Department: Music

YUNG STIFFLER, Multidisciplinary Studies, Anthropology Minor

Employee Time-Off Benefits

Faculty Nominator: Kendall House

Department: Anthropology

CHELLE SZURGOT, Astrophysics and Applied Mathematics

Summoning Devils in the Desert

Faculty Nominator: Brian Jackson

Department: Physics

JOEY P. TUCCINARDI, Chemistry

The Confluence of Computation, Biology, and Organic Chemistry in Combating Breast Cancer Metastasis

Faculty Nominator: Don Warner

Department: Chemistry and Biochemistry

NATE WEBER, Health Studies and Spanish Minor

What Animal Studies Can Teach Us about Glyphosate Toxicity to Pregnant Women & Their Children

Faculty Nominator: Cynthia Curl

Department: Community and Environmental Health

POSTER Presentations

1 Magneto-structural Interactions of Magnetic Shape Memory Alloy Ni-Mn-Ga*

Claire L. Adams, Dr. Medha Veligatla (research supervisor, graduate student), Dr. Peter Müllner (research supervisor, faculty)

2 Experiential Learning During Early Childhood Play: Free Play, Problem Solving, and Executive Function

Jessica Aebischer, Dr. Iryna Babik (research supervisor, faculty)

3 Boise State University Maker Lab Usage and Demographics Student Survey (VIP Course[†])

Simon Aleksander, Amy Vecchione (research supervisor, faculty), Ellie Dworak (research supervisor, faculty), Nathan Staley, Marisa Hadley

4 Abductive Reasoning As an Evolved Cognitive Capability*

Samuel D. Anderson, Dr. John Ziker (research supervisor, faculty), Karl Mertens (research supervisor, graduate student), Annemarie Hasnain (graduate student), Ann Wozniak (graduate student), Michel Sousa, Grace Kohler (Honors)

5 Blu-foot: A Hands-free Way to Learn*

Sidney Anderson, Hannah Winger, Katelyn Murphy (Honors), Mitch Lambert, Christy Suci (research supervisor, faculty)

6 Faculty Perspectives on the Impact of Virtual Office Hours in Engineering Courses*

Brooke-Lynn Andrade, Dr. Krishna Pakala (research supervisor, faculty), Dr. Diana Bairaktarova (faculty, Virginia Tech), Doug Hagemeyer (faculty), Dr. Harish Subbaraman (faculty)

7 The Influence of Social Networking Site (SNS) Usage on Conflict in Intimate Relationships

Cody Andrus, Ellie Begin, Mariem Laaraj, Dr. Mary Pritchard (research supervisor, faculty)

8 Creating an Inclusive Learning Environment in Electrical Engineering Circuits Undergraduate Laboratories: A LabView Interface for Laboratory Test Equipment for the Visually Impaired*

Randall A. Bassine, Dr. Kris Campbell (research supervisor, faculty)

9 Use of Contact Shielding and Modern Technology Provides Negligible Benefit*

Aline Bates, Natalie Mourant (research supervisor, faculty), Michael Johnson, Chelsea Clower, Madison Wirth, Madison Koster

10 Shared Stories Lab: How We Got Here (VIP Course[†])

Kacey May Bates, Paris Boddie, Sam Heidelberg (Honors), Amy Mallory, Clare Tester, Jill Heney (research supervisor, faculty), Tiffany Hitesman (research supervisor, faculty)

11 Body Image and Disordered Eating Within College Students Using Social Media*

Ellie Begin, Cody Andrus, Mariem Laaraj, Dr. Mary Pritchard (research supervisor, faculty)

12 Inhibitory Control As a Possible Mediator in the Relation Between Pretend Play and Math Skills During Early Childhood

Andrew C. Belarski (Honors), Dr. Iryna Babik (research supervisor, faculty)

13 Better Health-Nutritional Product App*

Rebecca D. Bettencourt, Cassidy Turner, Jady Beebe, Luke Oja, Christy Suci (research supervisor, faculty)

14 The Association Between Sex Ratio and Intimate Partner Violence in New York State and California*

Zoey Bevington, Dr. Kristin Snopkowski (research supervisor, faculty)

15 Parental Behavior of California Condors in Wild and Captive Populations (VIP Course[†])*

Jenna A. Bishop, Leah Dunn (research supervisor, The Peregrine Fund), Carolina Granthon (research supervisor, The Peregrine Fund), Chris McClure (research supervisor, The Peregrine Fund)

16 Kinetic Studies of Human Carbonyl Reductase Inhibition by (2E)-3-[5-(2H-1,3-benzodioxo-5-yl)-4-phenylfuran-2-yl]prop-2-enoic Acid

Jasmin M. Blackmore, Dr. Henry A. Charlier (research supervisor, faculty)

17 Loss of Parental Attachment at a Young Age and Adult Health*

Sarah Bofukya Bope (Honors, McNair Scholar), Dr. Robin Allen (research supervisor, faculty)

POSTER Presentations

18 ESS Multiple Comparison Methods for Long Memory Processes: Application to US Stock Volatilities

Holly E. Bossart, Dr. Jaechoul Lee (research supervisor, faculty)

19 The Hexaameron in Peter Comestor's *Historia Scholastica**

Joseph A. Bradshaw, Emma A. Halverson, Karen Wadley (research supervisor, faculty)

20 New Ages and Constraints of Volcanic Eruptions and Tectonic Processes Using U-Pb Dating. Owyhee Mountains, Southwest Idaho

Cody J. Brown, Scott T. Flanagan-Keyes, Dr. Virginia Gillerman (faculty), Dr. Mark Schmitz (research supervisor, faculty)

21 Don't Sweat It!*

Madi S. Brown, Giana Borelli, Aidan Smith, Lydia Gross, Christy Suci (research supervisor, faculty)

22 Boise State's Path to Carbon Neutrality: A Climate Action Plan*

Morgan Brummund (Honors), Dr. John Gardner (research supervisor, faculty), Dr. Jen Pierce (research supervisor, faculty)

23 Impact of Outdoor Recreation on Undergraduate Health Students' Overall Health

Andrew C. Burnett, Andy Hyer (research supervisor, faculty)

24 Increasing Citizen Participation: A Toolkit for the City of Boise to Engage Young Adults*

Michael Byrd (Honors), Doug Exton (Honors), Seth Hayes-Fugal, Ryan Hurlburt, Hanna Veal, Katie Wright, Dr. Jillian Moroney (research supervisor, faculty), Ashley Orme Nichols (research supervisor, faculty)

25 Sports Participation and Illicit Prescription Drug Use*

Sidney K. Carscallen, Lauren Williams, Jeremy Knapp, Dr. Megan Smith (research supervisor, faculty)

26 The Effect of Bilingualism on the Development of Executive Functions and Mathematical Skills

Maria Castillo (Honors), Dr. Iryna Babik (research supervisor, faculty)

27 Exploring Antibiotic Alternatives by Inhibiting Bacterial Quorum Sensing*

Aliona Chernish, Dr. Shibani Basu (post-doctoral fellow), Dr. Rajesh Nagarajan (research supervisor, faculty)

28 EPRICC: Exploring Peer Relationships in an Inclusive College Classroom*

Nicole Cherry (Honors), Julia Gorman (graduate student), Dr. Lisa Beymer (research supervisor, faculty)

29 Trend Symmetry of Dominant Limb During Prolonged Load Carriage*

Fred W. Christensen, Micah Drew (graduate student), Samantha Krammer (graduate student), Dr. Tyler N. Brown (research supervisor, faculty)

30 Factors That Affect Dose to the Eyes of the Operator of a C-arm Guided Procedure*

Rachel Christensen, Abby Dunton, Darby Lyon, Paige Tilden, Natalie Mourant (research supervisor, faculty)

31 The Effects of a Divorce of Parents on a Child's Mental Health

Harrison M. Cleveland, Peyton Perry, Michelle Chavez, Dr. Megan Smith (research supervisor, faculty)

32 Inhibition of Anthracycline Cardiotoxicity

Taylor C. Colleran, Dr. Henry A. Charlier (research supervisor, faculty), Bryona Hamilton, Anthony Scaife

33 Vulnerabilities of the Artificial Pancreas System and Proposed Cryptographic Solutions (VIP Course[†])*

DJ Cooke, Kristen Garcia, Andres Guzman, Lindsey Kim (high school student, Boise High School), Brooklyn Mesia, Jacob Palmer, Shawn Shields, Milan Zanussi (graduate student), Dr. Liljana Babinkostova (research supervisor, faculty), Dr. Marion Scheepers (research supervisor, faculty), Jay Radcliffe (research supervisor, Thermo Fisher Scientific), Robert Erbes (research supervisor, Idaho National Laboratory)

34 Recreation and Wildlife Activity in the Wood River Valley*

Sarah E. Coose (Honors), Edward Trout (research supervisor, graduate student), Dr. Neil Carter (research supervisor, faculty, University of Michigan), Dr. Kelly Hopping (research supervisor, faculty), Kris Thoreson (Wood River Wolf Project), Greg Hill (Wood River Wolf Project)

POSTER Presentations

35 Mowat-Wilson Syndrome*

Nicholas Cordell, Jordan Council, Crislyn Rausch, Rachel Kessinger, Stephen Schott, Dr. Julia Oxford (research supervisor, faculty)

36 Baller-Gerold Syndrome: Description of Pathology*

Grace H. Coughlin (Honors), Darren J. Lighter, K. Sanchez, I. Anaya Carmona, Dr. Julia Oxford (research supervisor, faculty)

37 The Advancement of Breast Cancer Treatment by Developing Novel Cytokine Inhibitors*

Grace H. Coughlin (Honors), Thomas Conrad, Darren J. Lighter, Thaaer Muhammed (faculty), Dr. Don L. Warner (research supervisor, faculty), Dr. Cheryl Jorcyk (faculty), Dr. Lisa Warner (faculty), Dr. Matthew D. King (faculty)

38 Luff for the Skin*

Emily M. Covolo, Christy Suci (research supervisor, faculty), Kendra N. Chaffee, Kelby L. Fipps, Trevor A. Brendlin

39 Wiedemann-Rautenstrauch Syndrome*

Austin Cram, Jacob Hart, Maddie Miller, Dr. Julia Oxford (research supervisor, faculty)

40 Determining Recharge Through Small-scale Geochemical Analysis on Samaria Mountain Springs*

Elizabeth M. Crowther, Dr. James McNamara (research supervisor, faculty), Pamela A. Cedillo (research supervisor, faculty)

41 Visual-spatial Advantage in Problem Solving Among Bilingual Children*

Quentin Cruz-Boyer, Dr. Iryna Babik (research supervisor, faculty)

42 Cloning and Purification of the ArtB Binding Subunit From a Novel Toxin in *Salmonella enterica* Typhimurium*

Leyla Cufurovic, Adriana Rodriguez, Omid Mohammad Mousa, Dr. Juliette Tinker (research supervisor, faculty)

43 Developing a Bioacoustics Analysis Pipeline for Anti-bat Moth Sounds*

Alyssa A. Culver, Dr. Jesse Barber (research supervisor, faculty)

44 Modeling Shielding Designs for the Safe Operation of Neutron Generators

Samuel Cutler, Dr. Brian J. Jaques (research supervisor, faculty), Allyssa Bateman (research supervisor, research associate), Dr. Brenden Heidrich (Idaho National Laboratory), Dr. R. A. Borrelli (Idaho National Laboratory), James Simpson (Thermo Fisher Scientific)

45 Centralized: A Central Bill Pay Service*

Matthew Daniels, Lysie Pardo, Dakota Bruneau, Christy Suci (research supervisor, faculty)

46 Interrater Reliability Between Undergraduate Psychology Teaching Assistants*

Kayla Daughters, Dr. Cindy McCrea (research supervisor, faculty)

47 A Bench Study Evaluation of the Amount of Auto-PEEP When Ventilating an Electronic Lung Model Simulated to Represent Normal, ARDS and COPD Conditions*

Kathleen A. Davis, Heather P. Peterson, Alex R. Sanders, Lonny Ashworth (research supervisor, faculty)

48 Combating “The Flesh-eating Disease,” Increasing Our Understanding of How Two Toxins Destroy Our Cells*

Christopher S. Dayton, Dr. Sarah Hobdey (research supervisor, Idaho Veterans Research and Education Foundation), Eric McIndoo (research supervisor, Idaho Veterans Research and Education Foundation), Dr. Dennis Stevens (research supervisor, Idaho Veterans Research and Education Foundation), Dr. Amy Bryant (research supervisor, Idaho Veterans Research and Education Foundation)

49 Boise Wage Growth for Skilled Positions

Nathaniel R. de Boer, Dr. Samia Islam (research supervisor, faculty), Champe Kotara, Casey Robbins, Jessica Lincoln, Cole Franklin

50 Improving Senior’s Mobility Through Innovation*

Matthew J. Dean (Honors), Grant A. Breidenbach (Honors), Hadley M. Underwood, Skylar P. Merschel (Honors), Christy Suci (research supervisor, faculty)

51 Assistive Transportation Project*

Jeremy J. DeLisle, Johnny Gonzalez, Brayan Vazquez Logan Cole, Dr. Amy Moll (research supervisor, faculty), Paul Robertson (research supervisor, faculty), Dr. Noah Salzman (research supervisor, faculty), Dr. Vicki Stieha (research supervisor, faculty)

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POSTER Presentations

52 Easy Biz: Business Incubator/Accelerator Website*

Alessandra G. Denning, Aly Clark, Fran Magee, Grant Mullikin, Christy Suci (research supervisor, faculty)

53 The Direction of Future Energy Source*

Cynthia Evon Dent (Honors), Dr. John Bernardo (Idaho Power), Dr. Jared Romero (research supervisor, faculty)

54 Adaptive Mesh Refinement in Non-hydrostatic Unified Model of the Ocean (NUMO)

Chithkala Dhulipati (Honors), Dr. Michal Kopera (research supervisor, faculty)

55 Evaluating the Utility of Cost-effective, Consumer-grade, Wearable Air Monitoring Devices Under Mock Occupational Conditions; Wildfire Smoke and Impact Testing*

Allison Dockery, Sara Fortunati, Todd Messick, Joseph Hendry, Dr. Luke Montrose (research supervisor, faculty)

56 Microstructural Evaluation of Laser Additive Manufactured 316 Stainless Steel*

Cayden Doyle, Sandeep Dhakal (graduate student), Allyssa Bateman (research associate), Dr. Indrajit Charit (faculty, University of Idaho), Mark Jaster (Premier Technologies), Dr. Brian J. Jaques (research supervisor, faculty)

57 Industrial Assessment Center at Boise State University Serving the Region's Manufacturing Industry*

Andrea Eborn, Ryan Montrose (graduate student), Mateo Rios, Jason Talford, Robert Cotner, Matthew Walsh, Elias Dotterer, Dr. Krishna Pakala (research supervisor, faculty), Dr. John Gardner (research supervisor, faculty)

58 Idaho Power: Snake River White Sturgeon Conservation Plan*

Shadee K. R. Edralin, Dr. Jared Romero (research supervisor, faculty)

59 Cardiovascular Response to ApoE4 Fragmentation*

Wesley Ercanbrack (Boise State and Brigham Young University) (Honors), Madyson Preston (research supervisor, graduate student), Dr. Julia Oxford (research supervisor, faculty), Dr. Troy Rohn (research supervisor, faculty)

60 Nautical Research Platform for Water-bound Experiments (VIP Course+)*

Dillon J. Eyer, Monica Leibowitz, Amanda White, Zachariah Vandeventer, Heather Dyer, Andrew Byrd (Honors), Dustin Nguyen (Honors), Terek Zimmerman, Hugh Sheldon (Honors), Morgan Hill, Jeremy Bouchard (Honors), Jessica M. Mueller (McNair Scholar), Adam Torek, Kalynn Cotten (Honors), Jose Escobosa, Tyler Johnson, Nathan Sundquist, Zuly Lapa, Ryan Olson (Honors), Carolyn Murrey, David Maldonado, Aidan McConnehey (Honors), Keaton Poe (Honors), Libbie Luevanos, Andrew Handzel, Dr. Steve Swanson (research supervisor, faculty), Gus Engstrom (research supervisor, faculty), Megan Gambs (research supervisor), Dr. Gunes Uzer (research supervisor, faculty)

61 One Health: Sustainable Farming and Agriculture (VIP Course+)*

Kyle G. Felix, Dr. Jared Romero (research supervisor, faculty)

62 Foster Care and Academic Achievement: The Effects of Foster Care on Adolescents and Their Academic Achievement*

Alex Firkins, Dr. Megan Smith (research supervisor, faculty)

63 Synthesis of Small Molecule Inhibitors to Obstruct Inflammatory Cytokine Activity*

Kyle Fisch (Honors), Joey Day, Joseph Tuccinardi, Riley Olsen (graduate student), Dr. Don L. Warner (research supervisor, faculty)

64 Understanding the Molecular Links Between Exercise and Brain Health Using Pyrosequencing Technology*

Miranda Fischer, Erica Rowe, Brandi Sweet, Dr. Stephanie Hall (research supervisor, faculty), Dr. Luke Montrose (research supervisor, faculty)

65 Refining Ages of Mineralization in Delamar Mine Though U-Pb Dating

Scott T. Flanagan-Keyes, Dr. Mark Schmitz (research supervisor, faculty), Dr. Virginia Gillerman (research supervisor, faculty), Cody J. Brown

66 Idaho Beaver Outreach Plan*

Lillianne French, Melissa Symmes, Rosio Ojeda, Dr. Emily Wakild (research supervisor, faculty)

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

POSTER Presentations

67 An Illustrative Review of Protective Factors That Foster Resilience Among Refugee Populations*

Hailey Fritz, Dr. April S. Masarik (research supervisor, faculty)

68 Becoming Teacher Researchers: Using 3D Printing to Create Individualized Assistive Technology for High School Students With Disabilities*

Joseph T. Fritz, Maggie Dillon, Kierstyn Heilbrun (Honors), Dr. Lisa Beymer (research supervisor, faculty)

69 Using Keystone Species for Restoration

Mike Fulton, Dr. Jared Romero (research supervisor, faculty)

70 A Clean and Green Future for the Boise School District*

Benjamin A. Gage, Dr. Janet Kaufman (faculty), Chris Taylor (Boise School District), Eric Willadsen (Sierra Club), Dr. Jen Pierce (research supervisor, faculty)

71 Can Citizen Science Help With Determining Beaver Dam Analogues Placement for Beaver Restoration in Idaho for Riparian Habitat Rehabilitation

Lee Gahley, Dr. Emily Wakild (research supervisor, faculty)

72 Start-to-finish Stapler*

Sophia Gallardo, Whitnee Wall, Carlie Rueth, Nick Malliaras, Alhareth Alhisan, Christy Suciu (research supervisor, faculty)

73 The Influence of Coaching Feedback on Athlete's Passion and Sport Satisfaction*

Nolan Garabo, Dr. Eric Martin (research supervisor, faculty)

74 Evaluating the Influence of Atmospheric Conditions on Infrasound Data Recorded at Volcán Villarrica (Chile)*

Scott J. Gauvain, Dr. Jeffrey B. Johnson (research supervisor, faculty), Dr. Jacob Anderson (post-doctoral fellow), Jerry C. Mock

75 Scoliosis Positioning and Breast Exposure*

Shaylynn R. Giroir, Lauren Mattaini, Diana Stelmakh, Kendal Sweet, Natalie Maurant (research supervisor, faculty)

76 3D Printing a Transhumeral Prosthetic Arm Controlled by Myoelectric Sensors (VIP Course+)*

Hayden Golay, Zane McCarty, Mason Francsak, Amy Vecchione (research supervisor, faculty)

77 MC3T3 Gene Expression in Response to Ascorbic Acid Treatment*

Abigail M. Gonzalez, Dana A. Small (Honors), Nick Cordell, Dr. Julia Oxford (research supervisor, faculty), Stephanie Tuft (graduate student), Akina Fujimoto (research assistant)

78 Archaeological Predictive Model: Orchard Combat Training Center*

Julio Gonzalez Tepetla, Dr. Pei-Lin Yu (research supervisor, faculty), Dr. Mark Plew (research supervisor, faculty), James Eschenbrenner (College of Western Idaho, Idaho National Guard), Jake Fruhlinger (Idaho National Guard and Office of Emergency Management)

79 Metastatic Breast Cancer and the Road to Drug Discovery

Briana R. Grantham (McNair Scholar), Dr. Lisa Warner (research supervisor, faculty), Luke Woodbury (research associate), Dr. Olga Mass (post-doctoral fellow)

80 Carbon Isotopic Analysis of Thaynes Formation Limestones: Using Global Carbon Cycle Perturbations to Explore the Temporal Correlation Between Early Triassic Ammonoid Biochronozones in North America and South China

Kate M. Grosswiler, Dr. Mark Schmitz (research supervisor, faculty)

81 Biomedical Applications of Near-infrared Thermography*

Noah Guidara, James Lamb, Dr. Marcus Pearlman (research supervisor, post-doctoral fellow), Attila Rektor, Dr. Nirmala Kandadai (research supervisor, faculty)

82 The Effects of an Explicit Instruction Intervention in a Special Education Classroom*

Gabby Halaby, Dr. Gena Nelson (research supervisor, faculty)

83 The Linguistics of Climate Change: Exploring Metaphor in Climate Change Media Discourse

Percy Haley (Honors), Dr. Chris VanderStouwe (research supervisor, faculty)

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

POSTER Presentations

84 Cell Model System for Glucocorticoid-induced Osteoporosis*

Fabio Halla, Emmie Jennings, Dr. Julia Oxford (research supervisor, faculty), Stephanie Tuft (graduate student), Akina Fujimoto (research assistant)

85 A New Translation of Canestrelli's *A Kootenai Grammar**

Emma A. Halverson, Dr. Tim Thornes (research supervisor, faculty)

86 X-ray Penetration Through Barriers*

Carey Hammer, Jenna Draper, TJ Rhodes, Susan Pett, Natalie Maurant (research supervisor, faculty)

87 Examining (2E)-3-[4,5-bis(2h-1,3-benzodioxol-5-yl)furan-2-yl]prop-2-enoic Acid for Its Potential to Inhibit Human Liver Carbonyl Reductase

Sara M. Hammond, Jovana Kuljanin, Dr. Henry A. Charlier (research supervisor, faculty)

88 Novel Antiparasitics Synergize Metronidazole Treatment of *Giardia intestinalis**

Nathan Harrison (Honors), Ryland McDermott (Honors), Tyler Smith (research assistant), Dr. Ken Cornell (research supervisor, faculty)

89 Towards a (Truly) Anti-racist Center*

Amanda Nicole Hawks (Honors, McNair Scholar), Dr. Whitney Douglas (research supervisor, faculty)

90 Wheel Shield*

Collin J. Hepworth, Victoria Mayer, Suzanne Vaccaro, Tara Kalemba, Christy Suci (research supervisor, faculty)

91 The New Cartel Strategy: Hiding in Plain Sight

Robert C. Herold II, Dr. Isaac Castellano (research supervisor, faculty)

92 Investigation Into Integrin Switch Gene Expression in NIH/3T3 Cells in Response to High Ascorbic Acid Treatment*

Nichole M. Hoffman, Julie Wagner, Brandi Sweet, Akina Fujimoto (research assistant), Stephanie Tuft (research supervisor, graduate student), Dr. Julia Oxford (research supervisor, faculty)

93 2019 Sustainability Report: College of Business and Economics, College of Health Sciences and School of Public Service

Margaret Hofmann, Kodi Romero (research supervisor, Blue Sky Institute), Erik Gonring (research supervisor, Blue Sky Institute), Vasudha Bhandare (research supervisor, graduate student), Kelsey Hausman (graduate student), Philine Fleck (graduate student), Bella Pratt (graduate student), Rebecca Bouley, Sydney Nickel

94 One Health: Harmful Algal Blooms*

Katelyn Hopkins, Dr. Jared Romero (research supervisor, faculty)

95 Restoration of Idaho's Lands: Why Beaver History Is Important to the Wellbeing of Idaho*

Nick M. Hougaard, Katelyn M. Thom, Dr. Emily Wakild (research supervisor, faculty)

96 How Differing Diagnoses Impact Patients' Views on Eating Disorder Recovery*

Jane K. Hula, Carly Smart, Dr. Mary Pritchard (research supervisor, faculty)

97 Faster Liposome Preparation Using Electrodialysis*

Zoe E. Hutchinson (McNair Scholar), Gamid Abatchev (graduate student), Andrew Bogard (graduate student), Jason Ward (McNair Scholar), Dr. Daniel Fologea (research supervisor, faculty)

98 Corrosion Testing of Additively Manufactured Ti-6Al-4V With Different Print Parameters*

Brielle Ibe, Hunter Good, Dr. Jake Benzing (Fatigue and Fracture Group, National Institute of Standards and Technology), Dr. Michael Hurley (research supervisor, faculty)

99 Zoobiquity: The Intersection of Human and Animal Health*

Lindsey E. Johnson, Dr. Jared Romero (research supervisor, faculty)

100 Cholesteatoma*

Kayla Jonas, Cameron J. Skaggs, Elizabeth Catalano, Lexi Bray, Erik Barfuss, Dr. Julia Oxford (research supervisor, faculty)

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POSTER Presentations

101 Living High in the Sky: Modelling Prehistoric High Altitude Camps in the Great Basin*

Julie Julison, Dr. Pei-Lin Yu (research supervisor, faculty)

102 The Influence of the Multilingual Student Alliance on Sense of Belonging and Educational Success Among Refugee Background Students*

Shukuru Kamulete, Georgette Bisoka, Dr. April S. Masarik (research supervisor, faculty)

103 Segmentation-free Korean Handwriting Recognition Using Neural Network Training*

Steven Kim, Dr. Elisa H. Barney (research supervisor, faculty), Nishatul Majid (graduate student)

104 Rescue of Lipid-induced Autophagy Inhibition by Rapamycin Treatment*

Koby W. Kimball (Honors), Alex Soto (graduate student), Lexi Bray, Dr. Eric Ortland (faculty, Emory University), Dr. Brad Morrison (research supervisor, faculty)

105 VARScint (VIP Course⁺)*

Dakota Kimble, Sierra Sandison, Andrew Armstrong (graduate student), Forrest Burt, Dr. John Bieter (research supervisor, faculty), Dr. Peter Müllner (research supervisor, faculty)

106 A Pilot Study Concept to Evaluate If Exercise and Diet Can Increase Resilience in Firefighters

Hailey P. Kiser, Dr. Luke Montrose (research supervisor, faculty), Dr. Shawn Simonson (research supervisor, faculty)

107 The Effectiveness of Youth-centered Suicide Prevention Programs: The Case of a Longstanding Peer-led Program in Alaska*

Sierra A. Kistler (McNair Scholar), Dr. Sandina Begic (research supervisor, faculty)

108 Assistive Technology: Robot Arm*

Trevor M. Klabo, Tyler Valdez, Trevin Whitehead, Nicholas Petitmermet, Callum Young, Dr. Amy Moll (research supervisor, faculty), Dr. Noah Salzman (research supervisor, faculty), Dr. Vicki Stieha (research supervisor, faculty), Shane Panter (research supervisor, faculty), Susan Latta (research supervisor, faculty)

109 Assessing the Effects of Intraspecific Plant Differences on Soil Microbial Functioning*

Lola M. Klammer (Honors), Megan Kelly-Slaten (graduate student), Dr. Julie Jastrow (Argonne National Laboratory), Dr. Marie-Anne de Graaff (research supervisor, faculty)

110 The Role of Parent Child Relationships and Further Child Rearing Decisions*

Rachel N. Koch, Dr. Kristin Snopkowski (research supervisor, faculty), Dr. Shelly Volsche (faculty)

111 Enhancing SCADA System Security Via Spiking Neural Network

Kyle D. Kramer (McNair Scholar), Robert Ivans (graduate student), Nathaniel Fisher, Dr. Kurtis Cantley (research supervisor, faculty)

112 Construction Market Boom? How Has Boise's Growth Affected the Industry & Economy*

Emily E. Kuehl, Chase Silvestre, Brooke Ross, Avery Williams, Alex Henri, Dr. Samia Islam (research supervisor, faculty)

113 Investigating Recycled 3D Printing Filament Infrastructure: A Cost-benefit Analysis*

Emily E. Kuehl, Luke Favillo, Nate Buslach, Dr. Amy Moll (research supervisor, faculty)

114 Effect of Surface Treatment on the Switching Field of Ni-Mn-Ga

Jiheon Kwon, Dr. Peter Müllner (research supervisor, faculty)

115 Relationships Between Jealousy in Intimate Partnerships and the Use of Snapchat*

Mariem Laaraj, Cody Andrus, Ellie Begin, Dr. Mary Pritchard (research supervisor, faculty)

116 Soil Recovery After Fire and Invasion: Implications for Sagebrush Reestablishment

Ashley J. Leavell, Dr. Marie-Anne de Graaff (research supervisor, faculty), Sabrina Schuler (graduate student)

117 (2E)-3-4,5-bis(2H-1,3-benzodioxol-5-yl)-1-methyl-1H-pyrrol-2-yl]prop-2-enoic Acid Inhibition of an Enzyme Linked to Anthracycline-induced Cardiotoxicity

Marissa Lehor, Kenna Hofer, Dr. Henry A. Charlier (research supervisor, faculty)

118 An Analysis on Medical Device Recalls and Cybersecurity Implications on Patient Safety (VIP Course⁺)*

Rachel N. Leone, Dr. Liljana Babinkostova (research supervisor, faculty), Dr. Marion Scheepers (research supervisor, faculty), Kristen Garcia, Sulema Jimenez, Tabarak Alomar

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

POSTER Presentations

119 Screening of Optimized Inhibitors Against Proinflammatory Cytokines in Breast Cancer Metastasis*

Darren J. Lighter, Clyde Pruett, Cody Wolf (graduate student), Joseph Tuccinardi, Riley Olsen (graduate student), Dr. Matthew D. King (faculty), Dr. Don L. Warner (research supervisor, faculty), Dr. Cheryl L. Jorcyk (research supervisor, faculty)

120 6th Graders in STEM: Development of an International Climate Team and Weather Station at Washington Elementary*

Rachel Anne Lindsey, Pamella A. Cedillo (research supervisor, faculty), Dr. Jen Pierce (research supervisor, faculty), Dr. Cheryl Finley (Washington Elementary School), Hannah Courtright (Washington Elementary School), Chris Taylor (Boise School District)

121 Identifying Accreting X-ray Binaries in the Small Magellanic Cloud

Kirk A. Long (Honors), Dr. Daryl J. Macomb (research supervisor, faculty)

122 iSTEM 2.0

Allyson L. Loomis, Dr. Julianne A. Wenner (research supervisor, faculty), Dr. Sara Hagenah (research supervisor, faculty), Chris Taylor (Boise School District)

123 Impacts of Violent Crime on Age and Gender

Samantha R. Lovelady, Dr. Kristin Snopkowski (research supervisor, faculty)

124 Developing New Elementary Climate Science Curriculum Strategies for K-12 Students at the Boise Watershed*

Dustin Lukehart, Dr. Jen Pierce (faculty), Cindy Busche (research supervisor, City of Boise), Augusto Gabrielli (City of Boise), Tristan Harris (City of Boise)

125 Synthesis and Characterization of Metalloacyanides for Meteorite Analysis

Crystal J. Lundgren, Dr. Adam C. Colson (research supervisor, faculty), Dr. Michael P. Callahan (research supervisor, faculty)

126 Golden Gate Bridge*

Seth Mackley, Connor Eastwick, Adrian Marquez, Dr. Kirsten Davis (research supervisor, faculty)

127 Hidden Figures of Environmental Racism: Undocumented Farmworkers and Pesticide Exposure*

Karla M. Magaña (Honors, McNair Scholar), Dr. Isaac Castellano (research supervisor, faculty)

128 Characterizing Cattle Behavior in the Rugged Rangeland of the Southeastern Oregon Using Low-cost GPS Collars*

Angela N. Malliaras, Dr. Dylan Mikesell (research supervisor, faculty), Dr. Joe Champion (faculty), Dr. Sergio Arispe (faculty, Oregon State University)

129 The Comeback Kid: *Castor canadensis* / Opportunities and Challenges to Reintegrating Beavers in Southwest Idaho*

Alicia E. Martin, Dr. Emily Wakild (research supervisor, faculty)

130 Effectiveness of Cleaning Protocols in Radiology Departments*

Kate O. Maryon, Nathan A. Drussel, Zach B. Williams, Moises Lazo, Natalie Maurant (research supervisor, faculty)

131 Hand Hygiene in the Hospital Setting*

Katelyn Ann McAllister, Jaysee Willmorth, Preston Schow, Natalie Maurant (research supervisor, faculty), Dr. Catherine Masters (research supervisor, faculty)

132 Foot Progression Angle Predicts Knee Adduction During Load Running*

Matthew W. McDonald, Alay Parikh (Idaho College of Osteopathic Medicine), Dr. Tyler N. Brown (research supervisor, faculty)

133 Evolution of Biomedical Research Community Over 20 Years*

Tragon A. Mcfall, Diane Smith (research supervisor, faculty), Dr. Julia Oxford (research supervisor, faculty)

134 Molecular Dynamics of Self Assembled Water Chains

Tragon A. McFall, Dr. Byung Kim (research supervisor, faculty)

135 Long-term Optical Photometric Variability of Mrk 501 Measured Using Repeated CAO Imaging*

Nathan J. McGregor, Dr. Daryl J. Macomb (research supervisor, faculty)

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POSTER Presentations

136 Investigation of Localized Corrosion Resistance for Surface Treated Martensitic Stainless Steels*

Samuel McMurdie, Brielle Ibe, Dr. Michael Hurley (research supervisor, faculty)

137 Revolutionizing Mechanical Engineering Undergraduate Curriculum*

Shelby A. McNeilly, Dr. Krishna Pakala (research supervisor, faculty), Dr. Don Plumlee (research supervisor, faculty)

138 How Does Bullying Affect the Mental Health of Our Youth

Hailey Merrick, Dr. Megan Smith (research supervisor, faculty), Ashlee Decker, Jenni Forsyth

139 Demonstration of Cold Atmospheric Pressure Plasma Biofilm Removal Using Profilometry (VIP Course+)*

Dalton A. Miller (Honors), Dr. Ken Cornell (research supervisor, faculty), Dr. Jim Browning (research supervisor, faculty), Adam Croteau (research supervisor, graduate student), Brett Nelson (Honors), Jasper Theel (Honors)

140 Topographic Effects of Infrasound Wave Propagation*

Jerry C. Mock, Dr. Jacob Anderson (post-doctoral fellow), Dr. Jeffrey B. Johnson (research supervisor, faculty), Scott J. Gauvain

141 How Collimation Affects Patient Radiation Dose*

Dylan Mogensen, Almira Mujic, Katelyn Bolam, Natalie Maurant (research supervisor, faculty)

142 Do Bats Perceive Tailed Moths As More Complex Prey? An Acoustic Analysis of Bat Sonar Attacks on Moths*

Felecia Moore, Juliette Rubin (research supervisor, graduate student), Dr. Jesse Barber (research supervisor, faculty)

143 The EDISIn Project: Engineering Design in Scientific Inquiry*

ShaKayla Moran (Honors), Dr. Leslie Atkins Elliott (research supervisor, faculty), Graham Johnson (graduate student)

144 A Case Study Examining Refugees' Effect on Their Environment and the Environmental Impacts Associated With Displacement*

Abigail M. Morgan, Margaret Hofmann, Alessa Skelton, Jordan Warren, Dr. Lisa Meierotto (research supervisor, faculty)

145 High-precision U-Pb Zircon Age Calibration of Mid-Miocene Flora, Northern Idaho*

Jessica M. Mueller (McNair Scholar), Dr. Mark Schmitz (research supervisor, faculty)

146 Developing Social Cohesion; Educational Inequality in Kebribeyah Refugee Camp in Ethiopia

Ahmed A. Muhumed (McNair Scholar), Dr. Saleh Ahmed (research supervisor, faculty)

147 (2E)-3-[4,5-bis(2H-1,3-benzodioxol-5-yl)thiophen-2-yl]Prop-2-enoic Acid As a Potential Inhibitor of Human Carbonyl Reductase

Riley K. Mungo (Honors), Dr. Henry A. Charlier (research supervisor, faculty), Jason Lettelleir, Lauren Madsen

148 Single Crystal Casting*

Ali W. Mustafa, Brent Johnston, Dillon J. Eyer, Gianella Condor, Hailee Munoz, Dr. Peter Müllner (research supervisor, faculty)

149 Engagement With College Students: Could the Use of Social Media Platforms and Casual Information Sessions Bridge the Gap Between the City of Boise and the Modern Young Adult?*

Haley E. Neill, Seth Hayes-Fugal, Bryan Schell, Hanna Veal, Emma Hill, Dr. Samia Islam (research supervisor, faculty)

150 Invasive Plant Species Succession in Riparian Areas Post Installation of Beaver Dam Analogues on Streams in Southern Idaho*

Haley E. Neill, Benjamin A. Gage, Amy Whittington, Marlisa Sass, Dr. Emily Wakild (research supervisor, faculty)

151 Animating Volcanic Processes

Clare E. Nelson, Wyatt P. Wurttenberger, Dr. Jeffrey B. Johnson (research supervisor, faculty)

152 Characterization of Inhibition of Human Liver Carbonyl Reductase by (2E)-3-[4,5-bis(3,4-dimethoxyphenyl)furan-2-yl]prop-2-enoic Acid

Megan C. Nelson, Dr. Henry A. Charlier (research supervisor, faculty)

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POSTER Presentations

153 Engineering a Better Way to Transport Assistive Technology*

Miranda Nelson (Honors), Alyssa Clark (Honors), Pardis Kabeh, Anjelica Lee, Dr. Amy Moll (research supervisor, faculty), Dr. Noah Salzman (research supervisor, faculty), Dr. Vicki Stieha (research supervisor, faculty)

154 Impact of Body Borne Load and Locomotor Speed on Tibial Compressive Force*

Miranda Nelson (Honors), Elijah M. Walker (graduate student), Gaervyn J. Salverda (graduate student), Dr. Tyler N. Brown (research supervisor, faculty)

155 Walt Disney Concert Hall *

Matt Ness, Skylar Huschka, Ben Armstrong, Dr. Kirsten Davis (research supervisor, faculty)

156 The Role of Collagen Type XI in Retinal Tearing and Detachment

Daniel Newell (Boise State and Brigham Young University), Makenna Hardy (graduate student), Dr. Julia Oxford (research supervisor, faculty)

157 Qualitative Analysis of a Commerical Floatant

Richard Nguyen (Honors), Dr. Henry Charlier (research supervisor, faculty)

158 Steady-state Kinetics and Binding Studies of a Known Inhibitor of Human Liver Carbonyl Reductase

Maddi Nilson (Honors), Dr. Henry Charlier (research supervisor, faculty), Kourtney Williams

159 The Genetic Diversity and Heterozygosity in Six Sagebrush Populations: Estimating the Evolutionary Potential of a Keystone Species in a Changing World*

Nicole Nimlos, Dr. Stephen Novak (research supervisor, faculty)

160 Nano Vacuum Channel Transistors (NVCT)*

Oleksandr Novytsky, Dr. Ranajoy Bhattacharya (post-doctoral fellow), Jessica Carlson, Adam Croteau (graduate student), Addie Higgins, John McClarin, David Vogel (Honors), Dr. Jim Browning (research supervisor, faculty)

161 The Effects of Violence Proximity on Adolescent Depression*

Kiana Nygaard, Dr. Megan Smith (research supervisor, faculty)

162 Implementing a Research Based Reading Intervention to a Transition Age Student With an Intellectual Disability*

Claire M. Oberg (Honors), Lauren Klokkevold, Dr. Jeremy W. Ford (research supervisor, faculty)

163 The Effects of Undergraduate Education Research on Our Lives: A Self-study*

Claire M. Oberg (Honors), Julianne Mori (Honors), Dr. Sherry Dismuke (research supervisor, faculty)

164 How Beaver Trapping Affects Social Relations*

Riley T. O'Connor, Zachary Marcin, Dr. Emily Wakild (research supervisor, faculty)

165 Korean Honorific Expressions: Immediate Indication of One's Social Relationship With Others*

Megan Ostermann, Annie Coleman, Sam K. Navas, Kyleigh Pollock (Honors), Qurnain Rao, Adam Thompson (Honors), Kailee Walker, Hailey Windley, Anne Wylie, Jungmi Woo, Dr. Yookyung Lee (research supervisor, faculty)

166 Is the Uncertainty Around the Safety of Glyphosate Real or Manufactured?

Taylor R. Oxley, Dr. Cynthia Curl (research supervisor, faculty), Meredith Spivak (research supervisor, faculty)

167 The Effects of Exercise on a TgF344-AD Rat Model of Alzheimer's Disease

Jillian S. Palmos, Dr. Stephanie Hall (research supervisor, faculty)

168 Why Countries Transition to Clean Energy—and Why They Don't*

Emily Pape (Honors), Dr. Brian Wampler (research supervisor, faculty)

169 Childhood Depression Correlation With Parental Education

Madisyn L. Parker, Dr. Megan Smith (research supervisor, faculty)

170 Stellar Composition May Reveal Origins of Bizarre Planets*

Ciera Partyka-Worley, Dr. Brian Jackson (research supervisor, faculty), Sevio Stanton

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POSTER Presentations

171 How 'Climate Change' Discourse in the Past Ten Years, 2010–2020, Has Been Viewed in a Rural and Urban County in Idaho*

Mallory Payne, Arie Weidemaier, Dr. Lisa Meierotto (research supervisor, faculty)

172 Receipts Enhance Memory (REM)*

Kaylene R. Peet, Christy Suci (research supervisor, faculty), Jordan Gray, Danielle Daniel, Brandon Hazel

173 Meta-analysis Literature Review of Clinical Advancement in Sanfilippo Syndrome Type A*

Kassidi S. Petersen, Molly Felix, Molly Ross, Cassandra Marshall, Lauren Grillo, Dr. Julia Oxford (research supervisor, faculty)

174 Factors Influencing Children's Perception of Disability*

Megan Pfohl, Dr. Iryna Babik (research supervisor, faculty)

175 Active-learning Strategies: A Different Approach to Teaching Climate Change to Idaho Students*

Alison Phillips, Dr. Jen Pierce (research supervisor, faculty)

176 Moving Day: Examining Translocation of the American Beaver (*Castor canadensis*) Within the State of Idaho*

Ian C. Pickens, Scott T. Cook, Rebecca J. Bouley, Dr. Emily Wakild (research supervisor, faculty)

177 North American Beaver Scent Communication

Nicole Piercy, Dr. Emily Wakild (research supervisor, faculty)

178 Seed Predation by Harvester Ants Severely Limits Seed Recruitment by Slickspot Peppergrass in a Low-yield Growing Season*

Nicol D. Plesner, Dr. Ian C. Robertson (research supervisor, faculty)

179 How Gentrification Is Impacting Communities in Ada County*

Kacie Pontius, Dr. Lisa Meierotto (research supervisor, faculty), Jennifer Adams, Erik Lauritzen

180 Developing Conservation Measures to Restore and Rehabilitate Rangelands on Degraded Sage-grouse Habitat in Southeastern Oregon

Noah S. J. Poulin, Dr. Sergio Arispe (research supervisor, faculty, Oregon State University), Dr. Kirk Davies (research supervisor, faculty, Oregon State University), Dr. Dustin Johnson (research supervisor, faculty, Oregon State University)

181 Cold Atmospheric Pressure Plasma Inactivation of *Staphylococcus* and *Pseudomonas* Biofilms (VIP Course*)

Mariah Provost, Kalynn Cotten (Honors), Dr. Jim Browning (research supervisor, faculty), Dr. Ken Cornell (research supervisor, faculty)

182 Job Skills Matching*

Tyler Qualls, Dr. Samia Islam (research supervisor, faculty), Kali Greenwald, Will Hauscarriague, Joshua Olsen, Trevor Eicher

183 Australian Wildfires and How They Interact With Human and Natural Systems*

Gabriella A. Rebata, Clare O'Brien, John Bates, Natasha Pederson, Dr. Lisa Meierotto (research supervisor, faculty)

184 Linguistic Perception on Multilingual/Unknown Speakers

Jesus A. Rivera Orozco (Honors, McNair Scholar), Dr. Gail Shuck (research supervisor, faculty)

185 Perceptions and Stereotypes of Female Sex Offenders*

Gabriela Roggy (Honors, McNair Scholar), Sarah Ritter (research supervisor, faculty), Dr. Laura King (faculty)

186 Methodology to Assess the Effect of Exposure to Environmental Toxins on Reproductive Health and Birth Outcomes*

Alyssa Jo Romero (Honors), Dr. Cynthia Curl (research supervisor, faculty), Meredith Spivak (research supervisor, faculty)

187 Wearable Bluetooth Interface for Flexible Piezoelectric Sensors*

Betsy L. Rosales (Honors), Dr. Zhangxian Deng (faculty), Dr. Benjamin C. Johnson (research supervisor, faculty)

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

POSTER Presentations

188 A Comparison of Two Ventilators Using Volume Guarantee Modes for Ventilation of the Neonate Using a Lung Model

Ashley Ross, Kelly Reilly, Celine Brown, Ryan Forbush (research supervisor, faculty)

189 Examining the Role of Aqueous Alteration on the Organic Composition of Carbonaceous Meteorites

Rebekah L. Rozowski, Patrick K. Schwartz (graduate student), Dr. Michael P. Callahan (research supervisor, faculty)

190 The Expression and Purification of a Bioactive Inflammatory Cytokine for Structural and Drug Discovery Applications

Brittany R. Rushing, Briana R. Grantham (McNair Scholar), Luke Woodbury (research associate), Dr. Olga Mass (post-doctoral fellow), Dr. Lisa Warner (research supervisor, faculty)

191 Extracurricular Activities and Marijuana Use

Gloire Steven Rusingiza, Dr. Megan Smith (research supervisor, faculty)

192 Analysis of Particle Attrition and Material Abrasion at Varying Temperatures for Solar Energy Applications*

Andrew Russell, Dr. Todd Otanicar (research supervisor, faculty), Dr. Nipun Goel (research supervisor, post-doctoral fellow), Mei-lin Fong (graduate student)

193 Plasma Scalpel Device for Biofilm Removal (VIP Course+)*

Drake H. Sanborn, Amanda White, Michael Okebiorun (graduate student), Adam Croteau (graduate student), Jacob Tenorio, Dr. Ken Cornell (research supervisor, faculty), Dr. Don Plumlee (research supervisor, faculty), Dr. Jim Browning (research supervisor, faculty)

194 Carbon Storage in the Soil and the Role of Root Morphology

Abigail Sasso, Dr. Marie-Anne de Graaff (research supervisor, faculty), Megan Kelly-Slatten (research supervisor, graduate student)

195 Lay of the Land: Professional Identity in Our Student Body*

Samantha Schauer (Honors), Dr. Eric Jankowski (research supervisor, faculty), Dr. Krishna Pakala (research supervisor, faculty), Dr. Sara Hagenah (faculty)

196 Virtual Office Hours and the Student Learning Experience*

Samantha Schauer (Honors), Dr. Krishna Pakala (research supervisor, faculty), Dr. Diana Bairaktarova (faculty)

197 When Earth's Tectonic Plates Collide: Reevaluation of the Pressure and Temperature History of Metamorphic Rocks in the Eastern Alps*

Kyra L. Schroeder, Maya Cizina (graduate student), Sam Couch (graduate student), Dr. Matthew Kohn (research supervisor, faculty)

198 Acrylamide Detection in Food Using Near Infrared Spectroscopy*

Jared Seale, Mark Skinner, Maranda Cantrell (graduate student), Crystal Paulus (graduate student), Dr. Owen McDougal (research supervisor, faculty)

199 Evaluation of Three Sizes of Nasal Cannula Interface to Deliver NIV to Neonates Using a Lung Simulator

Lynae Dawn Seifrit, Tiffany Silvestri, Jori Dudgeon, Jill Sherlock, Jeremy Gibbs, Ryan Forbush (research supervisor, faculty)

200 Acknowledging the Implications of Native North American Language Revitalization Efforts: A Focus on the Teaching of Western Shoshoni

Taylor M. Sharp (Honors), Dr. Tim Thornes (research supervisor, faculty)

201 Linguistic Features of Shona*

Taylor M. Sharp (Honors), Akira Enderle, Ben Geffon (Honors), Emma A. Halverson, Cation Jones (Honors), Matthew Lyman, Kayla Scord (Honors), Hailey Scott (Honors), Caroline Zasadny, Dr. Michal Temkin Martínez (research supervisor, faculty), Dr. Tim Thornes (research supervisor, faculty)

202 Kunst an Kunst: Weimar Anxieties Through Avant Garde Short Film*

Wyatt Russell Sherod, Dr. Beret Norman (research supervisor, faculty)

203 Sleeping Beauty Syndrome

Alexis Shusterove, Aubrie Tubach, Adriana Rodriguez, Dr. Julia Oxford (research supervisor, faculty)

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

POSTER Presentations

204 Studying Limits to Self-assembly With a Two-dimensional Model of Virus Capsids

Rachel Singleton (Honors), Jenny Fothergill (graduate student), Dr. Eric Jankowski (research supervisor, faculty)

205 A Northwest American Sound in Classical Music*

Allen W. Skirvin (Honors), Dr. Eric S. Alexander (research supervisor, post-doctoral fellow), Dr. Linda Kline (research supervisor, post-doctoral fellow)

206 Development of a Cold Atmospheric Pressure Plasma Array to Kill Microbial Pathogens on Food Processing Surfaces (VIP Course[†])

Cade M. Solich (Honors), Dr. Ken Cornell (research supervisor, faculty), Dr. Jim Browning (research supervisor, faculty), Zachary Ford, Spencer Goering (Honors)

207 Modeling the Teton Dam Failure for Downstream Consequences and Validating Geoclaw Code With Geophysical Techniques*

Hannah Spero, Dr. Donna Calhoun (research supervisor, faculty), Dr. Brittany Brand (faculty), Dr. Jeffrey B. Johnson (faculty)

208 Recycled P.E.T. Plastic*

Gianna A. Stelluto, Lindsey Plum, Vaughn Pollock, Dr. Amy Moll (research supervisor, faculty), Dr. Vicki Stieha (research supervisor, faculty), Dr. Noah Salzman (research supervisor, faculty)

209 How Coaching Feedback Influences an Athlete's Motivation: A Self-determination Perspective*

Emily A. Stevens, Dr. Eric Martin (research supervisor, faculty)

210 Computer Accessibility

Kylie M. Stewart, Kirk Mendive, Adonis Olivas, Dr. Amy Moll (research supervisor, faculty)

211 Employees' Time Off Experience*

Yung Stiffler, Dr. Kendall House (research supervisor, faculty)

212 Attitudes of Boise State Students on the Exemption of Immunizations Law in Idaho*

Serena Stranger, Gail Fyans (research supervisor, faculty), Andy Hyer (research supervisor, faculty)

213 Using Citizen Science to Examine the Range Expansion of Bewick's Wren and Lesser Goldfinch Into Idaho*

Carter M. Strobe, Bryce M. Robinson (Ornithologi: A Studio for Bird Study), Heidi Ware Carlisle (research supervisor, faculty)

214 Streamlining Spatio-temporal Analysis and Visualization of High Sampling Rate Animal Data*

Thea Sukianto, Dr. Joe Champion (research supervisor, faculty), Dr. Sergio Arispe (faculty, Oregon State University), Dr. Dylan Mikesell (faculty)

215 Cold Atmospheric Pressure Plasma Arrays Inactivate Bacterial Biofilms in *Ex Vivo* Porcine Ear Models of Chronic Wounds (VIP Course[†])*

Madison Sullivan, Rachael Neckels (graduate student), Dr. Jim Browning (research supervisor, faculty), Dr. Ken Cornell (research supervisor, faculty)

216 Aeolian Deposition Analysis in Reynolds Creek Experimental Watershed*

Caitlyn Swanson, Dr. Jen Pierce (research supervisor, faculty), Erin Murray (research supervisor, USDA Agricultural Research Service), Clayton Roehner (USDA Forest Service)

217 Exercise Protects the Brain....But Why?*

Brandi Sweet, Miranda Fischer, Erica Rowe, Dr. Stephanie Hall (research supervisor, faculty), Dr. Luke Montrose (research supervisor, faculty)

218 The Relationship Between the Type of Resources Teachers Use to Develop Lesson Plans and Teacher Characteristics

Natalie C. Swesey, Dr. Gena Nelson (research supervisor, faculty)

219 Influencing Culture Condition for Promotion of Enhanced Growth and Increased Sustainability for Laboratory Maintenance of Fastidious Organisms: *Pseudomonas aeruginosa*, *Lactococcus lactis*, and *Serratia marcescens**

Savannah Marie Temple, Tim J. O'Donnell (research supervisor, faculty)

220 Denver International Airport Main Terminal*

Aaron Terrell, Tucker Ewing, Kenny Bradley, Dr. Kirsten Davis (research supervisor, faculty)

POSTER Presentations

221 Physical Properties of High-cholesterol Containing Membranes*

Jackson Thieme, Mason Marosvari, Dr. Laxman Mainali (research supervisor, faculty)

222 Bucket List Hospice*

Shaylee A. Thompson, Eli Foli, Michael Storch, Christy Suciu (research supervisor, faculty)

223 Fabrication of a Nanoscale Electrical Thermometry Platform for 2D Materials*

Annalies G. Tipton (McNair Scholar), Karen Perez, Dr. Elton Graugnard (research supervisor, faculty), Dr. David Estrada (research supervisor, faculty)

224 Spectroscopic Determination of Acrylamide in Coffee*

Rebecca K. Torres, Maranda Cantrell (graduate student), Dr. Owen McDougal (research supervisor, faculty)

225 Wildlife and the Spread of Rabies*

Ethan H. Van-Derpoel, Dr. Jared Romero (research supervisor, faculty)

226 Simulation Study of Sweeping Actuation of a Magnetic Shape Memory Micropump With Electromagnetic Coils

Ian D. Varie, Dr. Peter Müllner (research supervisor, faculty), Brent Johnston, Andrew Armstrong (graduate student), Dr. Nader Rafla (research supervisor, faculty)

227 Investigating Mechanisms of Protein Degradation During Stem Cell Differentiation*

Peyton B. Vasquez, Nick Lehning (graduate student), Dr. Brad Morrison (research supervisor, faculty)

228 Development of Novel Antiparasitics to Treat *Giardia* Infections*

Julie Wagner, Caleb Leach, Colton Brodock, Tyler Smith (research assistant), Dr. Ken Cornell (research supervisor, faculty)

229 Characterization of Steroidal Alkaloids Isolated From *V. californicum*

Jeffrey C. Watkins, Dr. Owen McDougal (research supervisor, faculty), Dr. Matthew Turner (graduate student), Joseph Collins (graduate student), Madison Dirks (graduate student), Jared Seale, Hanna Seppa

230 Cystic Fibrosis*

Chloe Watt, Leyla Cufurovic, Joe Peterson, Janae Stockton, Dr. Julia Oxford (research supervisor, faculty)

231 Idaho Trail Blazers*

Stephan Weathers, Kaleigh Hollingsworth, Rob VerPlanck, Anes Srna, Christy Suciu (research supervisor, faculty)

232 What Animal Studies Can Teach Us About Glyphosate Toxicity to Pregnant Women and Their Children*

Nathan M. Weber (Honors), Dr. Cynthia Curl (research supervisor, faculty), Meredith Spivak (faculty)

233 Using Distributed Bragg Reflectors to Improve Photon Collection From Quantum Dots*

Ariel Eden Weltner, Dr. Christopher F. Schuck (graduate student), Kevin D. Vallejo (graduate student), Kathryn E. Sautter (graduate student), Trent A. Garrett (McNair Scholar), Dr. Kevin Silverman (National Institute of Standards and Technology), Dr. Galan Moody (faculty, University of California Santa Barbara), Dr. Paul J. Simmonds (research supervisor, faculty)

234 APRV: A Comparison of APRV/Bilevel, PC-APRV, Bilevel and BiVent*

Megan Anne West, Camille Hinchcliff, Morgan Sorg, Lonny Ashworth (research supervisor, faculty)

235 Fabrication of an Eight Element Plasma Array for Biofilm Removal (VIP Course+)*

Amanda White, Adam Croteau (graduate student), Catherine Gale, Sarah Pooley, Dr. Don Plumlee (research supervisor, faculty), Dr. Ken Cornell (research supervisor, faculty), Dr. Jim Browning (research supervisor, faculty)

236 Foreign Gifts and Higher Education: Evidence From the US*

Cade White, Dr. Jayash Paudel (research supervisor, faculty)

237 Oculocutaneous Albinism in Embryonic Development*

Ryan Williams, Madison Edwards, Dana A. Small (Honors), Shadee K. R. Edralin, Ian Tornello, Dr. Julia Oxford (research supervisor, faculty)

POSTER Presentations

238 Effects of Oxide Additives on the Microstructure of Surrogate Nuclear Fuels*

Riley C. Winters, Cayden Doyle, Adrianna E. Lupercio (graduate student), Dr. Andrew T. Nelson (Oak Ridge National Laboratory), Dr. Brian J. Jaques (research supervisor, faculty)

239 Student Athletes in STEM Majors*

Ellie Woerner, Dr. Krishna Pakala (research supervisor, faculty)

240 Machu Picchuv*

Maxwell Wojcik, Riley Roppel, Ben Tolomeo, Dr. Kirsten Davis (research supervisor, faculty)

241 Project Plastic Funnel*

Maxwell Wojcik, Dr. Amy Moll (research supervisor, faculty), Dr. Noah Salzman (research supervisor, faculty), Dr. Vicki Stieha (research supervisor, faculty), Iris Torres, Edward Bowers*

242 Government Transparency*

Alissa Dianna Wolfe, Abigail Thomson, Zachary Marcin, Isaac Davis, Dr. Samia Islam (research supervisor, faculty)

243 Theoretical Ecology: Areas of Application

Christopher W. Wright, Christian Friday, Travis Moody, Cole Pavlik, Dr. Lisa Meierotto (research supervisor, faculty)

244 Wage Inflation in Boise — Unskilled Positions*

Katie Wright, Rachel Yingling, Jared Puglisi, Tara Allegood, Aaron DeNagy, Dr. Samia Islam (research supervisor, faculty)

245 Stressors and Supports That Affect Refugee Fathers' Parenting and Their Children's Development*

Rabia Zahid (McNair Scholar), Dr. April S. Masarik (research supervisor, faculty)

246 The Evolution of Wildlife Crime Trends in Idaho*

Lily B. Anson (high school student, Timberline High School), Addie V. Meyer (high school student, Timberline High School), Erin Stutzman (research supervisor, Timberline High School), Dr. Don L. Warner (faculty)

247 Solar Panel Installment Trends and Choices in Idaho

Isaac North Benson (high school student, Timberline High School), Ranay Majji (high school student, Timberline High School), Erin Stutzman (research supervisor, Timberline High School), Dr. Ben Otto (research supervisor, Idaho Conservation League), Dr. Don L. Warner (faculty)

248 Methane Emissions From Commercial Dairy Feedlots

Jessica R. Byres (high school student, Timberline High School), Schylar J. Smith (high school student, Timberline High School), Erin Stutzman (research supervisor, Timberline High School), Dr. David Bunzow (Headon Designs Consultants), Dr. Robert Dey (Herd Health PLLC), Dr. Don L. Warner (faculty)

249 Algae Growth Due to Eutrophication and Climate Change in Southwestern Idaho and Its Impacts on Native Trout Populations

Harrison Cheever (high school student, Timberline High School), William Springman (high school student, Timberline High School), Dr. Don L. Warner (faculty), Erin Stutzman (research supervisor, Timberline High School)

250 The Implications of Dams on Native Salmon and Steelhead Populations in the Pacific Northwest

Brooklyn Christie (high school student, Timberline High School), Chloe Nelson (high school student, Timberline High School), Shanzay Ali (Timberline High School), Erin Stutzman (research supervisor, Timberline High School), Dr. Don L. Warner (faculty)

251 A Study on the Effects of Catchable Size Stocked Fish on Idaho's Native Fish Populations

Gideon Coprivnicar (high school student, Timberline High School), Stuart Elder (high school student, Timberline High School), Erin Stutzman (research supervisor, Timberline High School), Dr. Don L. Warner (faculty)

252 The Impact of Human-induced Pharmaceuticals on the Health of Our Watershed

Ishaan Guha (high school student, Timberline High School), Collin Bushee (high school student, Timberline High School), Erin Stutzman (research supervisor, Timberline High School), Dr. Don L. Warner (faculty)

POSTER Presentations

253 Investigating Ecological Impacts of the Fashion Industry

Adiah W. Jackson (high school student, Timberline High School), Brooke Roldan (high school student, Timberline High School), Dr. Don L. Warner (research supervisor, faculty), Erin Stutzman (research supervisor, Timberline High School)

254 Implications of Local and Global Change on Anadromous Fish

Carina J. Keyt (high school student, Timberline High School), Dr. Don L. Warner (faculty), Erin Stutzman (research supervisor, Timberline High School)

255 Remote Water Sampling Apparatus and Associated Water Quality Analysis System*

Nicolas R. Medapalli (high school student, Timberline High School), Jimin Ryu (high school student, Timberline High School), Dr. Jae Ryu (research supervisor, faculty, University of Idaho), Dr. Paul Verhage (Treasure Valley Math and Science Center), Sean Boston (research supervisor, Timberline High School), Dr. Don L. Warner (faculty)

256 Human's Impact on Idaho's Great Gray Owl (*Strix nebulosa*)

Elizabeth Minnich (high school student, Timberline High School), Dr. Don L. Warner (faculty), Erin Stutzman (research supervisor, Timberline High School), Esmé Ringelstetter (high school student, Timberline High School)

257 Ocean Acidification and Its Potential Effects on Marine Ecosystems

Kyeongseo Nam (high school student, Timberline High School), Gabriel Baldassarre (high school student, Timberline High School), Alejandro Vidrio (Timberline High School), Minyu Ho (high school student, Timberline High School), Erin Stutzman (research supervisor, Timberline High School), Dr. Don L. Warner (faculty)

258 An in Depth Analysis of Energy Consumption and Emissions Produced at a Traditional High School in Boise, Idaho

Elizabeth P. Oakley (high school student, Timberline High School), Sydney Hews (high school student, Timberline High School), Dr. John Gardner (research supervisor, faculty), Dr. Damon Woods (research supervisor, faculty, University of Idaho), Erin Stutzman (research supervisor, Timberline High School), Dr. Don L. Warner (faculty)

259 Genetic Diversity of Recently Detected Infestations of Medusahead (*Taeniatherum caput-medusae*) Populations in the Western United States

Krista M. Suarez (high school student, Timberline High School), Lydia F. Tolman (high school student, Timberline High School), Dr. Stephen Novak (research supervisor, faculty), Erin Stutzman (research supervisor, Timberline High School), Dr. Don L. Warner (faculty)

260 Starch-based Eco-friendly Plastics

Xaver J. Suarez (high school student, Timberline High School), Sophia Duncan (high school student, Timberline High School), Dr. Scott Phillips (research supervisor, faculty), Erin Stutzman (research supervisor, Timberline High School), Dr. Don L. Warner (faculty)

261 An Analysis of the Effects of Stocked Fish on Native Fisheries

Nicklaus A. Zenner (high school student, Timberline High School), Jake S. Stranzl (high school student, Timberline High School), Charlie G. Stands (Timberline High School), Erin Stutzman (research supervisor, Timberline High School), Dr. Don L. Warner (faculty)

STUDENT COLLABORATORS' MAJOR by College Department

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UNDERGRADUATE STUDENTS

BOISE STATE UNIVERSITY

General-Undeclared

Skinner, Mark: 198
Wyllie, Anne: 165
Cook, Scott T.: 176

COLLEGE OF ARTS AND SCIENCES

Anthropology

Anthropology BS

Anderson, Samuel D.: 4
Bevington, Zoey: 14
Cook, Scott T.: 176
Gonzalez Tepetla, Julio: 78
Julison, Julie: 101
Koch, Rachel N.: 110
Lovelady, Samantha R.: 123

Art, Design, and Visual Studies

Graphic Design BFA

Rao, Qurnain: 165

Illustration BFA

Nelson, Clare E.: 151
Wurtenberger, Wyatt P.: 151

Applied Science

Bachelor of Applied Science

Palmer, Jacob: 33

Biological Sciences

Biology BS

Alomar, Tabarak: 118
Anaya Carmona, I.: 36
Barfuss, Erik: 100
Bishop, Jenna A.: 15
Bofukya Bope, Sarah: 17
Bray, Lexi: 100, 104
Catalano, Elizabeth: 100
Chernish, Aliona: 27
Coose, Sarah E.: 34
Cordell, Nicholas: 35
Cotten, Kalynn: 181, 60
Coughlin, Grace H.: 36, 37
Council, Jordan: 35
Cram, Austin: 39
Culver, Alyssa A.: 43
Dayton, Christopher S.: 48
Dent, Cynthia Evon: 53

Edralin, Shadee K. R.: 58, 237
Edwards, Madison: 237
Felix, Kyle G.: 61
Felix, Molly: 173
Ford, Zachary: 206
Fulton, Mike: 69
Goering, Spencer: 206
Gonzalez, Abigail M.: 77
Grantham, Briana R.: 79, 190
Grillo, Lauren: 173
Halla, Fabio: 84
Hamilton, Bryona: 32
Harrison, Nathan: 88
Hart, Jacob: 39
Hoffman, Nichole M.: 92
Hopkins, Katelyn: 94
Jennings, Emmie: 84
Jonas, Kayla: 100
Kessinger, Rachel: 35
Kimball, Koby W.: 104
Klamm, Lola M.: 109
Leach, Caleb: 228
Leavell, Ashley J.: 116
Leone, Rachel N.: 118
Lighter, Darren J.: 36, 37, 119
Luevanos, Libbie: 60
Madsen, Lauren: 147
Malliaras, Angela N.: 128
Marosvari, Mason: 221
Marshall, Cassandra: 173
Miller, Maddie: 39
Moore, Felecia: 142
Moran, ShaKayla: 143
Navas, Sam K.: 165
Neill, Haley E.: 149, 150
Nelson, Brett: 139
Nimlos, Nicole: 159
Nygaard, Kiana: 161
Petersen, Kassidi S.: 173
Peterson, Joe: 230
Plesner, Nicol D.: 178
Pollock, Kyleigh: 165
Poulin, Noah S. J.: 180
Provost, Mariah: 181
Pruett, Clyde: 119
Rausch, Crislyn: 35
Rodriguez, Adriana: 42, 203
Ross, Molly: 173
Rowe, Erica: 64, 217
Rushing, Brittany R.: 190

STUDENT COLLABORATORS' MAJOR by College Department

The college and departments correspond with Boise State University student collaborators. Students with multiple majors are listed in each major/department. All other institution collaborators are listed after Boise State collaborators. Poster numbers follow student names.

Sanchez, K.: 36
Sasso, Abigail: 194
Scaife, Anthony: 32
Schott, Stephen: 35
Shusterove, Alexis: 203
Small, Dana A.: 77, 237
Solich, Cade M.: 206
Stockton, Janae: 230
Stranger, Serena: 212
Strope, Carter M.: 213
Sweet, Brandi: 64, 92, 217
Temple, Savannah Marie: 219
Tolomeo, Ben: 240
Tornello, Ian: 237
Tubach, Aubrie: 203
Van-Derpoel, Ethan H.: 225
Vasquez, Peyton B.: 227
Wagner, Julie: 92, 228
Watt, Chloe: 230
Williams, Ryan: 237

Chemistry and Biochemistry

Chemistry BS

Blackmore, Jasmin M.: 16
Day, Joey: 63
Dent, Cynthia Evon: 53
Fisch, Kyle: 63
Hammond, Sara M.: 87
Leach, Caleb: 228
Lehor, Marissa: 117
Lundgren, Crystal J.: 125
Miller, Dalton A.: 139
Mousa, Omid Mohammad.: 42
Mungo, Riley K.: 147
Nelson, Megan C.: 152
Nguyen, Richard: 157
Nilson, Maddi: 158
Poe, Keaton: 60
Rozowski, Rebekah L.: 189
Seale, Jared: 198, 229
Seppa, Hanna: 229
Staley, Nathan: 3
Torres, Rebecca K.: 224
Tuccinardi, Joseph: 63, 119
Watkins, Jeffrey C.: 229

COLLEGE OF ARTS AND SCIENCES

Arts And Sciences–Undeclared

Lettelleir, Jason: 147

Associate of Science (AS)

Walker, Kailee: 165

Interdisciplinary Studies BS

French, Lillianne: 66
Johnson, Lindsey E.: 99

Communication and Media

Communication BA

Sherod, Wyatt Russell: 202

Media Arts BA

Bradshaw, Joseph A.: 19

English

English, Linguistics Emphasis BA

Enderle, Akira: 201
Geffon, Ben: 201
Haley, Percy: 83
Halverson, Emma A.: 19, 85, 201
Jones, Cation: 201
Lyman, Matthew: 201
Ostermann, Megan: 165
Rivera Orozco, Jesus A.: 184
Scord, Kayla: 201
Scott, Hailey: 201
Sharp, Taylor: 200, 201
Walker, Kailee: 165
Zasadny, Caroline: 201

English Teaching BA

Heidelberg, Sam: 10

English, Technical Communication BA

Bates, Kacey May: 10

English, Writing and Rhetoric Emphasis BA

Hawks, Amanda Nicole: 89
Tester, Clare: 10

Geosciences

Geosciences BS

Brown, Cody J.: 20, 65
Crowther, Elizabeth M.: 40
Flanagan-Keyes, Scott T.: 20, 65
Gauvain, Scott J.: 74, 140
Grosswiler, Kate M.: 80
Mock, Jerry C.: 74, 140
Mueller, Jessica: 60, 145

STUDENT COLLABORATORS' MAJOR by College Department

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Phillips, Alison: 175
Schroeder, Kyra L.: 197
Spero, Hannah: 207
Swanson, Caitlyn: 216

History

History BA

Exton, Doug: 24

Mathematics

Applied Mathematics BS

Bossart, Holly E.: 18
Dhulipati, Chithkala: 54
Garcia, Kristen: 33, 118
Qualls, Tyler: 182
Singleton, Rachel: 204
Sukianto, Thea: 214
Young, Callum: 108

Mathematics BS

Cooke, DJ: 33
Enderle, Akira: 201
Guidara, Noah: 81

Multidisciplinary Studies

Multidisciplinary Studies BA

Dyer, Heather: 60
McCarty, Zane: 76
Stiffler, Yung: 211

Music

Music, Composition BM

Skirvin, Allen W.: 205

Physics

Physics BS

Garrett, Trent A.: 233
Hill, Morgan: 60
Hutchinson, Zoe E.: 97
Ibe, Brielle: 98, 136
Long, Kirk A.: 121
Mcfall, Tragon A.: 133, 134
McGregor, Nathan J.: 135
Partyka-Worley, Ciera: 170
Sundquist, Nathan: 60
Theel, Jasper: 139
Thieme, Jackson: 221
Ward, Jason: 97

Psychological Science

Psychology BS

Aebischer, Jessica: 2
Andrus, Cody: 7, 11, 115
Begin, Ellie: 7, 11, 115
Belarski, Andrew C.: 12
Castillo, Maria: 26
Cruz-Boyer, Quentin: 41
Daughters, Kayla: 46
Fritz, Hailey: 67
Hula, Jane K.: 96
Laaraj, Mariem: 7, 11, 115
Palmos, Jillian S.: 167
Pfohl, Megan: 174
Smart, Carly: 96
Temple, Savannah Marie: 219
Thompson, Adam: 165
Zahid, Rabia: 245

Sociology

Social Science BS

Hadley, Marisa: 3

Theatre, Film, and Creative Writing

Creative Writing BA

Mallory, Amy: 10

World Languages

French BA

Coleman, Annie: 165

German BA

Coleman, Annie: 165

COLLEGE OF BUSINESS AND ECONOMICS

College of Business and Economics

Business and Economics - Undeclared

Greenwald, Kali: 182
Kotara, Champe: 49

Pre-Business

Boddie, Paris: 10
Buslach, Nate: 113
Davis, Isaac: 242
Eicher, Trevor: 182
Franklin, Cole: 49
Handzel, Andrew: 60
Henri, Alex: 112
Robbins, Casey: 49
Schell, Bryan: 149
Vaccaro, Suzanne: 90

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Economics

Business and Economic Analytics

White, Cade: 236

Business Economics BBA

de Boer, Nathaniel R.: 49

Hauscarriague, Will: 182

Lincoln, Jessica: 49

Williams, Avery: 112

Economics, Quantitative Emphasis BA

Allegood, Tara: 244

Bossart, Holly E.: 18

Qualls, Tyler: 182

Economics BA

Olsen, Joshua: 182

Puglisi, Jared: 244

Silvestre, Chase: 112

Yingling, Rachel: 244

Finance

Finance BBA

DeNagey, Aaron: 244

IT & Supply Chain Management

Business and Economic Analytics

White, Cade: 236

Management

Business Administration BBA

Beebe, Jady: 13

Bettencourt, Rebecca D.: 13

Brown, Madi S.: 21

Bruneau, Dakota: 45

Chaffee, Kendra N.: 38

Clark, Aly: 52

Covolo, Emily M.: 38

Daniels, Matthew: 45

Denning, Alessandra G.: 52

Gray, Jordan: 172

Gross, Lydia: 21

Hazel, Brandon: 172

Kotara, Champe: 49

Magee, Fran: 52

Merschel, Skylar P.: 50

Murphy, Katelyn: 5

Pardo, Lysie: 45

Rueth, Carlie: 72

Smith, Aidan: 21

Srna, Anes: 231

Thompson, Shaylee A.: 222

Underwood, Hadley M.: 50

Wall, Whitnee: 72

Weathers, Stephan: 231

Winger, Hannah: 5

Entrepreneurship Management BBA

Anderson, Sidney: 5

Borelli, Giana: 21

Breidenbach, Grant A.: 50

Brendlin, Trevor A.: 38

Clark, Aly: 52

Daniel, Danielle: 172

Dean, Matthew J.: 50

Fipps, Kelby L.: 38

Foli, Eli: 222

Hepworth, Collin J.: 90

Oja, Luke: 13

Srna, Anes: 231

Human Resource Management BBA

Brown, Madi S.: 21

Bruneau, Dakota: 45

Chaffee, Kendra N.: 38

Denning, Alessandra G.: 52

Gallardo, Sophia: 72

Gross, Lydia: 21

Hollingsworth, Kaleigh: 231

Kalemba, Tara: 90

Lambert, Mitch: 5

Malliaras, Nick: 72

Mayer, Victoria: 90

Merschel, Skylar P.: 50

Mullikin, Grant: 52

Pardo, Lysie: 45

Peet, Kaylene R.: 172

Storch, Michael: 222

Turner, Cassidy: 13

Underwood, Hadley M.: 50

Vaccaro, Suzanne: 90

VerPlanck, Rob: 231

Marketing

Marketing BBA

Breidenbach, Grant A.: 50

STUDENT COLLABORATORS' MAJOR by College Department

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COLLEGE OF EDUCATION

Curriculum, Instruction and Fundamental Studies

Educational Studies BA

Loomis, Allyson L.: 122

Elementary Educ BA

Heilbrun, Kierstyn: 68

Mori, Julianne: 163

Early and Special Education

Dual: Special Education, Elementary Education

Dillon, Maggie: 68

Halaby, Gabby: 82

Klokkevold, Lauren: 162

Oberg, Claire M.: 162, 163

Swesey, Natalie C.: 218

Literacy, Language and Culture

Elementary Education TESOL/ENL

Bisoka, Georgette: 102

Cherry, Nicole: 28

Fritz, Joseph T.: 68

Windley, Hailey: 165

COLLEGE OF ENGINEERING

Civil Engineering

Civil Engineering BS

Roppel, Riley: 240

College of Engineering

Engineering BS

Bowers, Edward: 241

Clark, Alyssa: 153

Cole, Logan: 51

DeLisle, Jeremy J.: 51

Favillo, Luke: 113

Kabeh, Pardis: 153

Klabo, Trevor M.: 108

Kuehl, Emily E.: 112, 113

Lee, Anjelica: 153

Nelson, Miranda: 153, 154

Olivas, Adonis: 210

Plum, Lindsey: 208

Pollock, Vaughn: 208

Stelluto, Gianna A.: 208

Stewart, Kylie M.: 210

Torres, Iris: 241

Valdez, Tyler: 108

Vazquez, Brayan: 51

Whitehead, Trevin: 108

Wojcik, Maxwell: 240, 241

Computer Science

Computer Science BS

Bouchard, Jeremy: 60

Burt, Forest: 105

Guzman, Andres: 33

Kim, Steven: 103

Kohler, Grace: 4

Petitmermet, Nicholas: 108

Torek, Adam: 60

Young, Callum: 108

Construction Management

Construction Management BS

Armstrong, Ben: 155

Bradley, Kenny: 220

Eastwick, Connor: 126

Ewing, Tucker: 220

Huschka, Skylar: 155

Mackley, Seth: 126

Marquez, Adrian: 126

Electrical and Computer Engineering

Electrical Engineering BS

Bassine, Randall A.: 8

Eyer, Dillon J.: 60, 148

Fisher, Nathaniel: 111

Guidara, Noah: 81

Higgins, Addie: 160

Kramer, Kyle D.: 111

Mesia, Brooklyn: 33

Novytsky, Oleksandr: 160

Rosales, Betsy L.: 187

Sanborn, Drake H.: 193

Shields, Shawn: 33

Terrell, Aaron: 220

Varie, Ian D.: 226

Vogel, David: 160

Materials Science and Engineering

Materials Science and Engineering BS

Adams, Claire L.: 1

Aleksander, Simon: 3

Condor, Gianella: 148

Cutler, Samuel: 44

Doyle, Cayden: 56, 238

Eborn, Andrea: 57

Eyer, Dillon J.: 60, 148

Good, Hunter: 98

Kwon, Jiheon: 114

STUDENT COLLABORATORS' MAJOR by College Department

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Lamb, James: 81
Leibowitz, Monica: 60
McMurdie, Samuel: 136
Munoz, Hailee: 148
Mustafa, Ali W.: 148
Nguyen, Dustin: 60
Pooley, Sarah: 235
Rektor, Attila: 81
Staley, Nathan: 3
Tipton, Annalies G.: 223
Weltner, Ariel Eden: 233
Winters, Riley C.: 238

Mechanical and Biomedical Engineering

Mechanical Engineering BS

Andrade, Brooke-Lynn: 6
Byrd, Andrew: 60
Carlson, Jessica: 160
Christensen, Fred W.: 29
Cotner, Robert: 57
Dotterer, Elias: 57
Gale, Catherine: 235
Golay, Hayden: 76
Johnston, Brent: 148, 226
Lapa, Zuly: 60
McClarin, John: 160
McNeilly, Shelby A.: 137
Mendive, Kirk: 210
Murrey, Carolyn: 60
Ness, Matt: 155
Perez, Karen: 223
Rios, Mateo: 57
Russell, Andrew: 192
Sandison, Sierra: 105
Schauer, Samantha: 195, 196
Talford, Jason: 57
Vandeventer, Zachariah: 60
Walsh, Matthew: 57
White, Amanda: 60, 193, 235
Woerner, Ellie: 239
Zimmerman, Terek: 60

Pre-Mechanical Engineering

Escobosa, Jose: 60
Gonzalez, Johnny: 51
Johnson, Tyler: 60
Maldonado, David: 60
McConnehey, Aidan: 60
Olson, Ryan: 60
Sheldon, Hugh: 60
Tenorio, Jacob: 193

COLLEGE OF HEALTH SCIENCES

College of Health Sciences

Health Science Undeclared

Carscallen, Sidney K.: 25
Harrison, Nathan: 88
Nelson, Miranda: 153, 154

Community and Environmental Health

Environmental and Occupational Health BS

Hendry, Joseph: 55

Health Studies BS

Brodock, Colton: 228
Burnett, Andrew C.: 23
Cleveland, Harrison M.: 31
Colleran, Taylor C.: 32
Conrad, Thomas: 37
Cufurovic, Leyla: 42, 230
Decker, Ashlee: 138
Forsyth, Jenni: 138
Garabo, Nolan: 73
Hofer, Kenna: 117
Jimenez, Sulema: 118
Kistler, Sierra A.: 107
Knapp, Jeremy: 25
Kuljanin, Jovana: 87
Luevanos, Libbie: 60
McDonald, Matthew W.: 132
Oxley, Taylor R.: 166
Romero, Alyssa Jo: 186
Rusingiza, Gloire Steven: 191
Skaggs, Cameron J.: 100
Sullivan, Madison: 215
Weber, Nathan M.: 232
Williams, Lauren: 25

Pre-Medical Studies BS

Anaya Carmona, I.: 36
Brodock, Colton: 228
Coughlin, Grace H.: 36, 37
Council, Jordan: 35
Day, Joey: 63
Halla, Fabio: 84
Kistler, Sierra A.: 107
Kuljanin, Jovana: 87
Leone, Rachel N.: 118
Lettelleir, Jason: 147
McDermott, Ryland: 88
Miller, Dalton A.: 139
Nilson, Maddi: 158

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Pruett, Clyde: 119
Shusterove, Alexis: 203
Stranger, Serena: 212

Pre-Occupational Therapy

Pfohl, Megan: 174

Pre-Physician Assistant

Oxley, Taylor R.: 166

Public Health

Dockery, Allison: 55
Firkins, Alex: 62
Fortunati, Sara: 55
Merrick, Hailey: 138
Messick, Todd: 55
Nickel, Sydney: 93
Parker, Madisyn L.: 169
Sousa, Michel: 4

Kinesiology

Kinesiology BS

Fischer, Miranda: 64, 217
Kiser, Hailey P.: 106
Stevens, Emily A.: 209
Williams, Kourtney: 158

Nursing

Pre-Nursing

Sherlock, Jill: 199

Radiologic Sciences

Pre-Radiologic Science

Chavez, Michelle: 31

Radiologic Sciences BS

Bates, Aline: 9
Bolam, Katelyn: 141
Christensen, Rachel: 30
Clower, Chelsea: 9
Draper, Jenna: 86
Drussel, Nathan A.: 130
Dunton, Abby: 30
Giroir, Shaylynn R.: 75
Hammer, Carey: 86
Koster, Madison: 9
Lazo, Moises: 130
Lyon, Darby: 30
Maryon, Kate O.: 130
Mattaini, Lauren: 75

McAllister, Katelyn Ann: 131
Mogensen, Dylan: 141
Mujic, Almira: 141
Perry, Peyton: 31
Pett, Susan: 86
Rhodes, TJ: 86
Schow, Preston: 131
Stelmakh, Diana: 75
Sweet, Kendal: 75
Tilden, Paige: 30
Williams, Zach B.: 130
Willmorth, Jaysee: 131
Wirth, Madison: 9

Respiratory Care

Respiratory Care BS

Brown, Celine: 188
Davis, Kathleen A.: 47
Dudgeon, Jori: 199
Hinchcliff, Camille: 234
Peterson, Heather P.: 47
Reilly, Kelly: 188
Ross, Ashley: 188
Seifrit, Lynae Dawn: 199
Sherlock, Jill: 199
Silvestri, Tiffany: 199
West, Megan Anne: 234

School of Social Work

Social Work BA

Kamulete, Shukuru: 102

COLLEGE OF INNOVATION AND DESIGN

Games, Interactive Media, and Mobile

Games, Interactive Media, and Mobile

Francsak, Mason: 76
Kimble, Dakota: 105

SCHOOL OF PUBLIC SERVICE

Criminal Justice

Criminal Justice BS

Roggy, Gabriela: 185

Environmental Studies

Environmental Studies BA

Adams, Jennifer: 179
Bates, John: 183
Bouley, Rebecca J.: 93, 176
Brummund, Morgan: 22
Cook, Scott T.: 176

STUDENT COLLABORATORS' MAJOR by College Department

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Friday, Christian: 243
Gage, Benjamin A.: 70, 150
Gahley, Lee: 71
Hill, Emma: 149
Hougaard, Nick M.: 95
Lauritzen, Erik: 179
Lindsey, Rachel Anne: 120
Lukehart, Dustin: 124
Marcin, Zachary: 242, 164
Martin, Alicia E.: 129
Moody, Travis: 243
Neill, Haley E.: 149, 150
O'Brien, Clare: 183
O'Connor, Riley T.: 164
Ojeda, Rosio: 66
Pavlik, Cole: 243
Payne, Mallory: 171
Pederson, Natasha: 183
Pickens, Ian C.: 176
Piercy, Nicole: 177
Pontius, Kacie: 179
Rebata, Gabriella A.: 183
Sass, Marlisa: 150
Skelton, Alessa: 144
Symmes, Melissa: 66
Thom, Katelyn M.: 95
Thomson, Abigail: 242
Warren, Jordan: 144
Weidemaier, Arie: 171
Whittington, Amy: 150
Wolfe, Alissa Dianna: 242
Wright, Christopher W.: 243

Global Studies

Global Studies BA

Geffon, Ben: 201
Hofmann, Margaret: 93, 144
Morgan, Abigail M.: 144
Muhumed, Ahmed A.: 146
Pape, Emily: 168

Political Science

Political Science BS

Herold II, Robert C.: 91
Magana, Karla M.: 127

Urban Studies and Community Development

Urban Studies and Community Development

Byrd, Michael: 24
Hayes-Fugal, Seth: 24, 149

Hurlburt, Ryan: 24
Puglisi, Jared: 244
Ross, Brooke: 112
Veal, Hanna: 24, 149
Wright, Katie: 24, 244

GRADUATE STUDENTS

COLLEGE OF ARTS AND SCIENCES

Anthropology

Anthropology, MA

Hasnain, Annemarie: 4

Biological Sciences

Biology, MS

Preston, Madyson: 59
Schuler, Sabrina: 116
Trout, Edward: 34

Ecology, Evolution, and Behavior

Kelly-Slatten, Megan: 109, 194
Mertens, Karl: 4
Rubin, Juliette: 142

EEB Emphasis in Global Change

Wozniak, Ann: 4

Biomolecular Sciences

Biomolecular Sciences MS

Abatchev, Gamid: 97
Cantrell, Maranda: 198, 224
Hardy, Makenna: 156
Neckels, Rachael: 215
Soto, Alex: 104
Wolf, Cody: 119

Biomolecular Sciences PhD

Abatchev, Gamid: 97
Bogard, Andrew: 97
Cantrell, Maranda: 198, 224
Collins, Joseph: 229
Hardy, Makenna: 156
Lehning, Nick: 227
Soto, Alex: 104
Tuft, Stephanie: 77, 84, 92
Turner, Matthew: 229
Wolf, Cody: 119

STUDENT COLLABORATORS' MAJOR by College Department

The college and departments correspond with Boise State University student collaborators. Students with multiple majors are listed in each major/department. All other institution collaborators are listed after Boise State collaborators. Poster numbers follow student names.

Chemistry and Biochemistry

Chemistry, MS
Dirks, Madison: 229
Olsen, Riley: 63, 9
Paulus, Crystal: 198
Schwartz, Patrick K.: 189

Geosciences

Geoscience, MS
Cizina, Maya: 197

Geosciences, PhD

Couch, Sam: 197

Mathematics

Mathematics, MS
Johnson, Graham: 143
Zanussi, Milan: 33

COLLEGE OF BUSINESS & ECONOMIC

College of Business and Economic

Business Administration

Bhandare, Vasudha: 93
Fleck, Philine: 93
Hausman, Kelsey: 93
Pratt, Bella: 93

COLLEGE OF EDUCATION

Early and Special Education

Early and Special Education MEd
Gorman, Julia: 28

COLLEGE OF ENGINEERING

Electrical and Computer Engineering
Electrical and Computer Engineering MS
Croteau, Adam: 139, 160, 193, 235

Electrical and Computer Engineering PhD

Ivans, Robert: 111
Majid, Nishatul: 103

Materials Science and Engineering

Materials Science and Engineering MEngr
Schuck, Christopher F.: 233
Vallejo, Kevin D.: 233

Materials Science and Engineering PhD

Armstrong, Andrew: 105, 226
Dhakal, Sandeep: 56
Fothergill, Jenny: 204

Lupercio, Adrianna E.: 238
Sautter, Kathryn E.: 233
Schuck, Christopher F.: 233
Vallejo, Kevin D.: 233
Veligatla, Medha: 1

Mechanical and Biomedical Engineering

Biomedical Engineering

Okebiorun, Michael: 193
Walker, Elijah M.: 154

Mechanical Engineering, MS

Fong, Mei-lin: 192
Montrose, Ryan: 57

COLLEGE OF HEALTH SCIENCES

Kinesiology

Biomedical Engineering
Walker, Elijah M.: 154

Kinesiology, MS

Drew, Micah: 29
Krammer, Samantha: 29
Salverda, Gaervyn J.: 154

STUDENTS FROM

OTHER INSTITUTIONS

BRIGHAM YOUNG UNIVERSITY

Ercanbrack, Wesley: 59
Newell, Daniel: 156

BOISE HIGH SCHOOL

Kim, Lindsey: 33

TIMBERLINE HIGH SCHOOL

Anson, Lily B.: 246
Baldassarre, Gabriel: 257
Benson, Isaac North: 247
Bushee, Collin: 252
Byres, Jessica R.: 248
Cheever, Harrison: 249
Christie, Brooklyn: 250
Coprivnicar, Gideon: 251
Duncan, Sophia: 260
Elder, Stuart: 251
Guha, Ishaan: 252
Hews, Sydney: 258
Ho, Minyu: 257
Jackson, Adiah W.: 253

STUDENT COLLABORATORS' MAJOR by College Department

The college and departments correspond with Boise State University student collaborators. Students with multiple majors are listed in each major/department. All other institution collaborators are listed after Boise State collaborators. Poster numbers follow student names.

Keyt, Carina J.: 254
Majji, Ranay: 247
Medapalli, Nicolas R.: 255
Meyer, Addie V.: 246
Minnich, Elizabeth: 256
Nam, Kyeongseo: 257
Nelson, Chloe: 250
Oakley, Elizabeth P.: 258
Ringelstetter, Esmé: 256

Roldan, Brooke: 253
Ryu, Jimin: 255
Smith, Schylar J.: 248
Springman, William: 249
Stranzl, Jake S.: 261
Suarez, Krista M.: 259
Suarez, Xaver J.: 260
Tolman, Lydia F.: 259
Zenner, Nicklaus A.: 261

FACULTY and STAFF COLLABORATORS

College, School, Department, and other Affiliation

The colleges and departments correspond with Boise State faculty and staff collaborators. All other institution and organization collaborators are listed after Boise State collaborators. Poster numbers follow collaborator/supervisor names.

ALBERTSONS LIBRARY

Dworak, Ellie: 3
Vecchione, Amy: 3, 76

BLUE SKY INSTITUTE

Gonring, Erik: 93
Romero, Kodi: 93

COLLEGE OF ARTS AND SCIENCES

Biomolecular Research Center

Fujimoto, Akina: 77, 84, 92
Smith, Diane: 133
Smith, Tyler: 88, 228
Woodbury, Luke: 79, 190

Department of Anthropology

House, Dr. Kendall: 211
Plew, Dr. Mark: 78
Snopkowski, Dr. Kristin: 14, 110, 123
Volsche, Dr. Shelly: 110
Yu, Dr. Pei-Lin: 78, 101
Ziker, Dr. John: 4

Department of Art, Design, and Visual Studies

Latta, Susan: 108

Department of Biological Sciences

Barber, Dr. Jesse: 43, 142
de Graaff, Dr. Marie-Anne: 109, 116, 194
Hopping, Dr. Kelly: 34
Jorcyk, Dr. Cheryl L.: 37, 119
Morrison, Dr. Brad: 104, 227
Novak, Dr. Stephen: 159, 259
O'Donnell, Tim J.: 219
Oxford, Dr. Julia: 35, 36, 39, 59, 77,
84, 92, 100, 133, 156, 173, 203,
230, 237
Robertson, Dr. Ian C.: 178
Rohn, Dr. Troy: 59
Romero, Dr. Jared: 53, 58, 61, 69, 94,
99, 225
Tinker, Dr. Juliette: 42
Ware Carlisle, Heidi: 213

Department of Chemistry & Biochemistry

Basu, Dr. Shibani: 27
Callahan, Dr. Michael P.: 125, 189
Charlier, Dr. Henry A.: 16, 32, 87, 117, 147,
152, 157, 158

Colson, Dr. Adam C.: 125
Cornell, Dr. Ken: 88, 139, 181, 193, 206,
215, 228, 235
King, Dr. Matthew D.: 37, 119
Mass, Dr. Olga: 79, 190
McDougal, Dr. Owen: 198, 224, 229
Muhammed, Thaaer: 37
Nagarajan, Dr. Rajesh: 27
Warner, Dr. Don L.: 37, 63, 119, 246,
247, 248, 249, 250, 251, 252, 253,
254, 255, 256, 257, 258, 259, 260, 261
Warner, Dr. Lisa: 37, 79, 190

Department of Geosciences

Anderson, Dr. Jacob: 74, 140
Brand, Dr. Brittany: 207
Cedillo, Pamella A.: 40, 120
Gillerman, Dr. Virginia: 20, 65
Johnson, Dr. Jeffrey B.: 74, 140, 151, 207
Kohn, Dr. Matthew: 197
McNamara, Dr. James: 40
Mikesell, Dr. Dylan: 128, 214
Pierce, Dr. Jen: 22, 70, 120, 124, 175, 216
Schmitz, Dr. Mark: 20, 65, 80, 145

Department of History

Bieter, Dr. John: 105
Wadley, Karen: 19
Wakild, Dr. Emily: 66, 71, 95, 129, 150,
164, 176, 177

Department of Mathematics

Babinkostova, Dr. Liljana: 33, 118
Calhoun, Dr. Donna: 207
Champion, Dr. Joe: 128, 214
Kopera, Dr. Michal: 54
Lee, Dr. Jaechoul: 18
Scheepers, Dr. Marion: 33, 118

Department of Music

Alexander, Dr. Eric S.: 205
Kline, Dr. Linda: 205

Department of Physics

Fologea, Dr. Daniel: 97
Jackson, Dr. Brian: 170
Kim, Dr. Byung: 134
Macomb, Dr. Daryl J.: 121, 135
Mainali, Dr. Laxman: 221
Simmonds, Dr. Paul J.: 233

FACULTY and STAFF COLLABORATORS

College, School, Department, and other Affiliation

The colleges and departments correspond with Boise State faculty and staff collaborators. All other institution and organization collaborators are listed after Boise State collaborators. Poster numbers follow collaborator/supervisor names.

Department of Psychological Science

Babik, Dr. Iryna: 2, 12, 26, 41, 174
Masarik, Dr. April S.: 67, 102, 245
McCrea, Dr. Cindy: 46
Pritchard, Dr. Mary: 7, 11, 96, 115

Department of World Languages

Lee, Dr. Yookyung: 165
Norman, Dr. Beret: 202

English Department

Douglas, Dr. Whitney: 89
Heney, Jill: 10
Hitesman, Tiffany: 10
Shuck, Dr. Gail: 184
Temkin Martínez, Dr. Michal: 201
Thornes, Dr. Tim: 85, 200, 201
VanderStouwe, Dr. Chris: 83

COLLEGE OF BUSINESS AND ECONOMIC

Department of Economics

Paudel, Dr. Jayash: 236

Department of Management

Suciu, Christy: 5, 13, 21, 38, 45, 50
52, 72, 90, 172, 222, 231

COLLEGE OF BUSINESS AND ECONOMICS

Department of Economics

Islam, Dr. Samia: 49, 112, 149, 182, 242, 244

COLLEGE OF EDUCATION

Center for Multicultural and Educational Opportunities

Ritter, Sarah: 185

Department of Curriculum, Instruction and Foundational Studies

Atkins Elliott, Dr. Leslie: 143
Dismuke, Dr. Sherry: 163
Hagenah, Dr. Sara: 122, 195
Wenner, Dr. Julianne A.: 122

Department of Early and Special Education

Beymer, Dr. Lisa: 28, 68
Ford, Dr. Jeremy W.: 162
Nelson, Dr. Gena: 82, 218

COLLEGE OF ENGINEERING

Robertson, Paul: 51

Department of Computer Science

Panter, Shane: 108

Department of Construction Management

Davis, Dr. Kirsten: 126, 155, 220, 240

Department of Electrical and Computer Engineering

Barney, Dr. Elisa H.: 103
Bhattacharya, Dr. Ranajoy: 160
Browning, Dr. Jim: 139, 160, 181, 193, 206, 215, 235
Campbell, Dr. Kris: 8
Cantley, Dr. Kurtis: 111
Goel, Dr. Nipun: 192
Johnson, Dr. Benjamin C.: 187
Kandadai, Dr. Nirmala: 81
Pearlman, Dr. Marcus: 81
Rafla, Dr. Nader: 226
Salzman, Dr. Noah: 51, 108, 153, 208, 241
Subbaraman, Dr. Harish: 6

Department of Mechanical and Biomedical Engineering

Deng, Dr. Zhangxian: 187
Engstrom, Gus: 60
Gardner, Dr. John: 22, 57, 258
Hagemeier, Doug: 6
Otanicar, Dr. Todd: 192
Pakala, Dr. Krishna: 6, 57, 137, 195, 196, 239
Plumlee, Dr. Don: 137, 193, 235
Uzer, Dr. Gunes: 60

Engineering Plus Program

Stieha, Dr. Vicki: 51, 108, 153, 208, 241

Micron School of Materials Science and Engineering

Bateman, Allyssa: 44, 56
Estrada, Dr. David: 223
Graugnard, Dr. Elton: 223
Hurley, Dr. Michael: 98, 136
Jankowski, Dr. Eric: 195, 204
Jaques, Dr. Brian J.: 44, 56, 238
Moll, Dr. Amy: 51, 108, 113, 153, 208, 210, 241
Müllner, Dr. Peter: 1, 105, 114, 148, 226
Phillips, Dr. Scott: 260

FACULTY and STAFF COLLABORATORS

College, School, Department, and other Affiliation

The colleges and departments correspond with Boise State faculty and staff collaborators. All other institution and organization collaborators are listed after Boise State collaborators. Poster numbers follow collaborator/supervisor names.

COLLEGE OF HEALTH SCIENCES

Center for Excellence in Environmental Health and Safety

Spivak, Meredith: 166, 186, 232

Center for the Study of Aging

Fyanes, Gail: 212

Department of Community and Environmental Health

Begic, Dr. Sandina: 107

Curl, Dr. Cynthia: 166, 186, 232

Hyer, Andy: 23, 212

Montrose, Dr. Luke: 55, 64, 106, 217

Smith, Dr. Megan: 25, 31, 62, 138, 161, 169, 191

Department of Kinesiology

Brown, Dr. Tyler N.: 29, 132, 154

Hall, Dr. Stephanie: 64, 167, 217

Martin, Dr. Eric: 73, 209

Simonson, Dr. Shawn: 106

Department of Radiologic Sciences

Masters, Dr. Catherine: 131

Mourant, Natalie: 9, 30, 75, 86, 130, 131, 141

Department of Respiratory Care

Ashworth, Lonny: 47, 234

Forbush, Ryan: 188, 199

School of Social Work

Allen, Dr. Robin: 17

DIVISION OF RESEARCH AND ECONOMIC DEVELOPMENT

Swanson, Dr. Steve: 60

INSTITUTE FOR STEM AND DIVERSITY INITIATIVES

Gambs, Megan: 60

OFFICE OF RESEARCH COMPLIANCE

Jared Romero, 53, 58, 61, 69, 94, 99, 225

SCHOOL OF PUBLIC SERVICE

Ahmed, Dr. Saleh: 146

Castellano, Dr. Isaac: 91, 127

King, Dr. Laura: 185

Meierotto, Dr. Lisa: 144, 171, 179, 183, 243

Moroney, Dr. Jillian: 24

Orme Nichols, Ashley: 24

Wampler, Dr. Brian: 168

UNIVERSITY FOUNDATIONS

Kaufman, Dr. Janet: 70

OTHER AFFILIATES

Argonne National Laboratory

Jastrow, Dr. Julie: 109

Boise School District

Taylor, Chris: 70, 120, 122

City of Boise

Busche, Cindy: 124

Gabrielli, Augusto: 124

Harris, Tristan: 124

College of Western Idaho, Idaho National Guard

Eschenbrenner, James: 78

Emory University

Ortland, Dr. Eric: 104

Fatigue and Fracture Group, National Institute of Standards and Technology

Benzing, Dr. Jake: 98

Headon Designs Consultants

Bunzow, Dr. David: 248

Herd Health PLLC

Dey, Dr. Robert: 248

Idaho College of Osteopathic Medicine

Parikh, Alay: 132

Idaho Conservation League

Otto, Dr. Ben: 247

Idaho National Guard and Office of Emergency Management

Fruhlinger, Jake: 78

FACULTY and STAFF COLLABORATORS

College, School, Department, and other Affiliation

The colleges and departments correspond with Boise State faculty and staff collaborators. All other institution and organization collaborators are listed after Boise State collaborators. Poster numbers follow collaborator/supervisor names.

Idaho National Laboratory

Borrelli, Dr. R. A.: 44
Erbes, Robert: 33
Heidrich, Dr. Brenden: 44

Idaho Power

Bernardo, Dr. John: 53

Idaho Veterans Research and Education Foundation

Bryant, Dr. Amy: 48
Hobdey, Dr. Sarah: 48
McIndoo, Eric: 48
Stevens, Dr. Dennis: 48

National Institute of Standards and Technology

Silverman, Dr. Kevin: 233

Oak Ridge National Laboratory

Nelson, Dr. Andrew T.: 238

Oregon State University

Arispe, Dr. Sergio: 128, 180, 214
Davies, Dr. Kirk: 180
Johnson, Dr. Dustin: 180

Ornithologi: A Studio for Bird Study

Robinson, Bryce M.: 213

Premier Technologies

Jaster, Mark: 56

Sierra Club

Willadsen, Eric: 70

The Peregrine Fund

Dunn, Leah: 15
Granthon, Carolina: 15
McClure, Chris: 15

Thermo Fisher Scientific

Radcliffe, Jay: 33
Simpson, James: 44

Timberline High School

Ali, Shanzay: 250
Boston, Sean: 255
Stands, Charlie G.: 261
Stutzman, Erin: 246, 247, 248, 249, 250, 251, 252, 253, 254, 256, 257, 258, 259, 260, 261
Vidrio, Alejandro: 257

Treasure Valley Math and Science Center

Verhage, Dr. Paul: 255

University of California Santa Barbara

Moody, Dr. Galan: 233

University of Idaho

Charit, Dr. Indrajit: 56
Ryu, Dr. Jae: 255
Woods, Dr. Damon: 258

University of Michigan

Carter, Dr. Neil: 34
USDA Agricultural Research Service
Murray, Erin: 216

USDA Forest Service

Roehner, Clayton: 216

Virgina Tech

Bairaktarova, Dr. Diana: 6, 196

Washington Elementary School

Courtright, Hannah: 120
Finley, Dr. Cheryl: 120

Wood River Wolf Project

Hill, Greg: 34
Thoreson, Kris: 34

POSTER Presentation Index

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

- Abatchev, Gamid: 97
 Adams, Claire: 1
 Adams, Jennifer: 179
 Aebischer, Jessica: 2
 Ahmed, Dr. Saleh: 146
 Aleksander, Simon: 3
 Alexander, Dr. Eric: 205
 Alhisan, Alhareth: 72
 Ali, Shanzay: 250
 Allegood, Tara: 244
 Allen, Dr. Robin: 17
 Alomar, Tabarak: 118
 Anaya Carmona, I.: 36
 Anderson, Dr. Jacob: 74, 140
 Anderson, Samuel: 4
 Anderson, Sidney: 5
 Andrade, Brooke-Lynn: 6
 Andrus, Cody: 7, 11, 115
 Anson, Lily: 246
 Arispe, Dr. Sergio: 128, 180, 214
 Armstrong, Andrew: 105, 226
 Armstrong, Ben: 155
 Ashworth, Lonny: 47, 234
 Atkins Elliott, Dr. Leslie: 143
 Babik, Dr. Iryna: 2, 12, 26, 41, 174
 Babinkostova, Dr. Liljana: 33, 118
 Bairaktarova, Dr. Diana: 6, 196
 Baldassarre, Gabriel: 257
 Barber, Dr. Jesse: 43, 142
 Barfuss, Erik: 100
 Barney, Dr. Elisa: 103
 Bassine, Randall: 8
 Basu, Dr. Shibani: 27
 Bateman, Allyssa: 44, 56
 Bates, Aline: 9
 Bates, John: 183
 Bates, Kacey May: 10
 Beebe, Jadyn: 13
 Begic, Dr. Sandina: 107
 Begin, Ellie: 7, 11, 115
 Belarski, Andrew: 12
 Benson, Isaac North: 247
 Benzing, Dr. Jake: 98
 Bernardo, Dr. John: 53
 Bettencourt, Rebecca: 13
 Bevington, Zoey: 14
 Beymer, Dr. Lisa: 28, 68
 Bhandare, Vasudha: 93
 Bhattacharya, Dr. Ranajoy: 160
 Bieter, Dr. John: 105
 Bishop, Jenna: 15
 Bisoka, Georgette: 102
 Blackmore, Jasmin: 16
 Boddie, Paris: 10
 Bofukya Bope, Sarah: 17
 Bogard, Andrew: 97
 Bolam, Katelyn: 141
 Borelli, Giana: 21
 Borrelli, Dr. R. A.: 44
 Bossart, Holly: 18
 Boston, Sean: 255
 Bouchard, Jeremy: 60
 Bouley, Rebecca: 93, 176
 Bowers, Edward: 241
 Bradley, Kenny: 220
 Bradshaw, Joseph: 19
 Brand, Dr. Brittany: 207
 Bray, Lexi: 100, 104
 Breidenbach, Grant: 50
 Brendlin, Trevor: 38
 Brodock, Colton: 228
 Brown, Celine: 188
 Brown, Cody: 20, 65
 Brown, Madi: 21
 Brown, Dr. Tyler: 29, 132, 154
 Browning, Dr. Jim: 139, 160, 181, 193, 206, 215, 235
 Brummund, Morgan: 22
 Bruneau, Dakota: 45
 Bryant, Dr. Amy: 48
 Bunzow, Dr. David: 248
 Burnett, Andrew: 23
 Burt, Forest: 105
 Busche, Cindy: 124
 Bushee, Collin: 252
 Buslach, Nate: 113
 Byrd, Andrew: 60
 Byrd, Michael: 24
 Byres, Jessica: 248
 Calhoun, Dr. Donna: 207
 Callahan, Dr. Michael: 125, 189
 Campbell, Dr. Kris: 8
 Cantley, Dr. Kurtis: 111
 Cantrell, Maranda: 198, 224
 Carlson, Jessica: 160
 Carscallen, Sidney: 25
 Carter, Dr. Neil: 34
 Castellano, Dr. Isaac: 91, 127
 Castillo, Maria: 26
 Catalano, Elizabeth: 100
 Cedillo, Pamela: 40, 120
 Chaffee, Kendra: 38
 Champion, Dr. Joe: 128, 214
 Charit, Dr. Indrajit: 56
 Charlier, Dr. Henry: 16, 32, 87, 117, 147, 152, 157, 158
 Chavez, Michelle: 31
 Cheever, Harrison: 249
 Chernish, Aliona: 27
 Cherry, Nicole: 28
 Christensen, Fred: 29
 Christensen, Rachel: 30
 Christie, Brooklyn: 250
 Cizina, Maya: 197
 Clark, Aly: 52
 Clark, Alyssa: 153
 Cleveland, Harrison: 31
 Clower, Chelsea: 9
 Cole, Logan: 51
 Coleman, Annie: 165
 Colleran, Taylor: 32
 Collins, Joseph: 229
 Colson, Dr. Adam: 125
 Condor, Gianella: 148
 Conrad, Thomas: 37
 Cook, Scott: 176
 Cooke, DJ: 33
 Coose, Sarah: 34
 Coprivnicar, Gideon: 251
 Cordell, Nicholas: 35
 Cordell, Nick: 77
 Cornell, Dr. Ken: 88, 139, 181, 193, 206, 215, 228, 235
 Cotner, Robert: 57
 Cotten, Kalyann: 60, 181
 Couch, Sam: 197
 Coughlin, Grace: 36, 37
 Council, Jordan: 35
 Courtright, Hannah: 120
 Covolo, Emily: 38
 Cram, Austin: 39
 Croteau, Adam: 139, 160, 193, 235
 Crowther, Elizabeth: 40
 Cruz-Boyer, Quentin: 41
 Cufurovic, Leyla: 42, 230
 Culver, Alyssa: 43
 Curl, Dr. Cynthia: 166, 186, 232
 Cutler, Samuel: 44
 Daniel, Danielle: 172
 Daniels, Matthew: 45
 Daughters, Kayla: 46
 Davies, Dr. Kirk: 180
 Davis, Isaac: 242
 Davis, Kathleen: 47
 Davis, Dr. Kirsten: 126, 155, 220, 240
 Day, Joey: 63
 Dayton, Christopher: 48
 de Boer, Nathaniel: 49
 de Graaff, Dr. Marie-Anne: 109, 116, 194
 Dean, Matthew: 50
 Decker, Ashlee: 138
 DeLisle, Jeremy: 51
 DeNagey, Aaron: 244
 Deng, Dr. Zhangxian: 187
 Denning, Alessandra: 52

POSTER Presentation Index

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

Dent, Cynthia Evon: 53	Fothergill, Jenny: 204	Hammer, Carey: 86
Dey, Dr. Robert: 248	Francsak, Mason: 76	Hammond, Sara: 87
Dhakal, Sandeep: 56	Franklin, Cole: 49	Handzel, Andrew: 60
Dhulipati, Chithkala: 54	French, Lillianne: 66	Hardy, Makenna: 156
Dillon, Maggie: 68	Friday, Christian: 243	Harris, Tristan: 124
Dirks, Madison: 229	Fritz, Hailey: 67	Harrison, Nathan: 88
Dismuke, Dr. Sherry: 163	Fritz, Joseph: 68	Hart, Jacob: 39
Dockery, Allison: 55	Fruhlinger, Jake: 78	Hasnain, Annemarie: 4
Dotterer, Elias: 57	Fujimoto, Akina: 77, 84, 92	Hauscarriague, Will: 182
Douglas, Dr. Whitney: 89	Fulton, Mike: 69	Hausman, Kelsey: 93
Doyle, Cayden: 56, 238	Fyanes, Gail: 212	Hawks, Amanda Nicole: 89
Draper, Jenna: 86	Gabrielli, Augusto: 124	Hayes-Fugal, Seth: 24, 149
Drew, Micah: 29	Gage, Benjamin: 70, 150	Hazel, Brandon: 172
Drussel, Nathan: 130	Gahley, Lee: 71	Heidelberg, Sam: 10
Dudgeon, Jori: 199	Gale, Catherine: 235	Heidrich, Dr. Brenden: 44
Duncan, Sophia: 260	Gallardo, Sophia: 72	Heilbrun, Kierstyn: 68
Dunn, Leah: 15	Gambs, Megan: 60	Hendry, Joseph: 55
Dunton, Abby: 30	Garabo, Nolan: 73	Heney, Jill: 10
Dworak, Ellie: 3	Garcia, Kristen: 33, 118	Henri, Alex: 112
Dyer, Heather: 60	Gardner, Dr. John: 22, 57, 258	Hepworth, Collin: 90
Eastwick, Connor: 126	Garrett, Trent: 233	Herold II, Robert: 91
Eborn, Andrea: 57	Gauvain, Scott: 74, 140	Hews, Sydney: 258
Edralin, Shadee: 58, 237	Geffon, Ben: 201	Higgins, Addie: 160
Edwards, Madison: 237	Gibbs, Jeremy: 199	Hill, Emma: 149
Eicher, Trevor: 182	Gillerman, Dr. Virginia: 20, 65	Hill, Greg: 34
Elder, Stuart: 251	Giroir, Shaylynn: 75	Hill, Morgan: 60
Enderle, Akira: 201	Goel, Dr. Nipun: 192	Hinchcliff, Camille: 234
Engstrom, Gus: 60	Goering, Spencer: 206	Hitesman, Tiffany: 10
Erbes, Robert: 33	Golay, Hayden: 76	Ho, Minyu: 257
Ercanbrack, Wesley: 59	Gonring, Erik: 93	Hobdey, Dr. Sarah: 48
Eschenbrenner, James: 78	Gonzalez, Abigail: 77	Hofer, Kenna: 117
Escobosa, Jose: 60	Gonzalez, Johnny: 51	Hoffman, Nichole: 92
Estrada, Dr. David: 223	Gonzalez Tepetla, Julio: 78	Hofmann, Margaret: 93, 144
Ewing, Tucker: 220	Good, Hunter: 98	Hollingsworth, Kaleigh: 231
Exton, Doug: 24	Gorman, Julia: 28	Hopkins, Katelyn: 94
Eyer, Dillon: 60, 148	Grantham, Briana: 79, 190	Hopping, Dr. Kelly: 34
Favillo, Luke: 113	Granthon, Carolina: 15	Hougaard, Nick: 95
Felix, Kyle: 61	Graugnard, Dr. Elton: 223	House, Dr. Kendall: 211
Felix, Molly: 173	Gray, Jordan: 172	Hula, Jane: 96
Finley, Dr. Cheryl: 120	Greenwald, Kali: 182	Hurlburt, Ryan: 24
Fipps, Kelby: 38	Grillo, Lauren: 173	Hurley, Dr. Michael: 98, 136
Firkins, Alex: 62	Gross, Lydia: 21	Huschka, Skylar: 155
Fisch, Kyle: 63	Grosswiler, Kate: 80	Hutchinson, Zoe: 97
Fischer, Miranda: 64, 217	Guha, Ishaan: 252	Hyer, Andy: 23, 212
Fisher, Nathaniel: 111	Guidara, Noah: 81	Ibe, Brielle: 98, 136
Flanagan-Keyes, Scott: 20, 65	Guzman, Andres: 33	Islam, Dr. Samia: 49, 112, 149, 182, 242, 244
Fleck, Philine: 93	Hadley, Marisa: 3	Ivans, Robert: 111
Foli, Eli: 222	Hagemeyer, Doug: 6	Jackson, Adiah: 253
Fologea, Dr. Daniel: 97	Hagenah, Dr. Sara: 122, 195	Jackson, Dr. Brian: 170
Fong, Mei-lin: 192	Halaby, Gabby: 82	Jankowski, Dr. Eric: 195, 204
Forbush, Ryan: 188, 199	Haley, Percy: 83	Jaques, Dr. Brian: 44, 56, 238
Ford, Dr. Jeremy: 162	Hall, Dr. Stephanie: 64, 167, 217	Jaster, Mark: 56
Ford, Zachary: 206	Halla, Fabio: 84	Jastrow, Dr. Julie: 109
Forsyth, Jenni: 138	Halverson, Emma: 19, 85, 201	Jennings, Emmie: 84
Fortunati, Sara: 55	Hamilton, Bryona: 32	

POSTER Presentation Index

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

Jimenez, Sulema: 118	Lee, Anjelica: 153	McIndoo, Eric: 48
Johnson, Dr. Benjamin: 187	Lee, Dr. Jaechoul: 18	McMurdie, Samuel: 136
Johnson, Dr. Dustin: 180	Lee, Dr. Yookyung: 165	McNamara, Dr. James: 40
Johnson, Graham: 143	Lehning, Nick: 227	McNeilly, Shelby: 137
Johnson, Dr. Jeffrey: 74, 140, 151, 207	Lehor, Marissa: 117	Medapalli, Nicolas: 255
Johnson, Lindsey: 99	Leibowitz, Monica: 60	Meierotto, Dr. Lisa: 144, 171, 179, 183, 243
Johnson, Michael: 9	Leone, Rachel: 118	Mendive, Kirk: 210
Johnson, Tyler: 60	Lettelleir, Jason: 147	Merrick, Hailey: 138
Johnston, Brent: 148, 226	Lighter, Darren: 36, 37, 119	Merschel, Skylar: 50
Jonas, Kayla: 100	Lincoln, Jessica: 49	Mertens, Karl: 4
Jones, Cation: 201	Lindsey, Rachel Anne: 120	Mesia, Brooklyn: 33
Jorcyk, Dr. Cheryl: 37, 119	Long, Kirk: 121	Messick, Todd: 55
Julison, Julie: 101	Loomis, Allyson: 122	Meyer, Addie: 246
Kabeh, Pardis: 153	Lovelady, Samantha: 123	Mikesell, Dr. Dylan: 128, 214
Kalemba, Tara: 90	Luevanos, Libbie: 60	Miller, Dalton: 139
Kamulete, Shukuru: 102	Lukehart, Dustin: 124	Miller, Maddie: 39
Kandadai, Dr. Nirmala: 81	Lundgren, Crystal: 125	Minnich, Elizabeth: 256
Kaufman, Dr. Janet: 70	Lupercio, Adrianna: 238	Mock, Jerry: 74, 140
Kelly-Slatten, Megan: 109, 194	Lyman, Matthew: 201	Mogensen, Dylan: 141
Kessinger, Rachel: 35	Lyon, Darby: 30	Moll, Dr. Amy: 51, 108, 113, 153, 208, 210, 241
Keyt, Carina: 254	Mackley, Seth: 126	Montrose, Dr. Luke: 55, 64, 106, 217
Kim, Dr. Byung: 134	Macomb, Dr. Daryl: 121, 135	Montrose, Ryan: 57
Kim, Lindsey: 33	Madsen, Lauren: 147	Moody, Dr. Galan: 233
Kim, Steven: 103	Magaña, Karla: 127	Moody, Travis: 243
Kimball, Koby: 104	Magee, Fran: 52	Moore, Felecia: 142
Kimble, Dakota: 105	Mainali, Dr. Laxman: 221	Moran, ShaKayla: 143
King, Dr. Laura: 185	Majid, Nishatul: 103	Morgan, Abigail: 144
King, Dr. Matthew: 37, 119	Majji, Ranay: 247	Mori, Julianne: 163
Kiser, Hailey: 106	Maldonado, David: 60	Moroney, Dr. Jillian: 24
Kistler, Sierra: 107	Malliaras, Angela: 128	Morrison, Dr. Brad: 104, 227
Klabo, Trevor: 108	Malliaras, Nick: 72	Mourant, Natalie: 9, 30, 75, 86, 130, 131, 141
Klamm, Lola: 109	Mallory, Amy: 10	Mousa, Omid: 42
Kline, Dr. Linda: 205	Marcin, Zachary: 242, 164	Mueller, Jessica: 60, 145
Klokkevold, Lauren: 162	Marosvari, Mason: 221	Muhammed, Thaaer: 37
Knapp, Jeremy: 25	Marquez, Adrian: 126	Muhumed, Ahmed: 146
Koch, Rachel: 110	Marshall, Cassandra: 173	Mujic, Almira: 141
Kohler, Grace: 4	Martin, Alicia: 129	Mullikin, Grant: 52
Kohn, Dr. Matthew: 197	Martin, Dr. Eric: 73, 209	Müllner, Dr. Peter: 1, 105, 114, 148, 226
Kopera, Dr. Michal: 54	Maryon, Kate: 130	Mungo, Riley: 147
Koster, Madison: 9	Masarik, Dr. April: 67, 102, 245	Munoz, Hailee: 148
Kotara, Champe: 49	Mass, Dr. Olga: 79, 190	Murphy, Katelyn: 5
Kramer, Kyle: 111	Masters, Dr. Catherine: 131	Murray, Erin: 216
Krammer, Samantha: 29	Mattaini, Lauren: 75	Murrey, Carolyn: 60
Kuehl, Emily: 112, 113	Mayer, Victoria: 90	Mustafa, Ali: 148
Kuljanin, Jovana: 87	McAllister, Katelyn Ann: 131	Nagarajan, Dr. Rajesh: 27
Kwon, Jiheon: 114	McCarty, Zane: 76	Nam, Kyeongseo: 257
Laaraj, Mariem: 7, 11, 115	McClarín, John: 160	Navas, Sam: 165
Lamb, James: 81	McClure, Chris: 15	Neckels, Rachael: 215
Lambert, Mitch: 5	McConnehey, Aidan: 60	Neill, Haley: 149, 150
Lapa, Zuly: 60	McCrea, Dr. Cindy: 46	Nelson, Dr. Andrew: 238
Latta, Susan: 108	McDermott, Ryland: 88	Nelson, Brett: 139
Lauritzen, Erik: 179	McDonald, Matthew: 132	Nelson, Chloe: 250
Lazo, Moises: 130	McDougal, Dr. Owen: 198, 224, 229	
Leach, Caleb: 228	Mcfall, Tragon: 133, 134	
Leavell, Ashley: 116	McGregor, Nathan: 135	

POSTER Presentation Index

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

Nelson, Clare: 151
Nelson, Dr. Gena: 82, 218
Nelson, Megan: 152
Nelson, Miranda: 153, 154
Ness, Matt: 155
Newell, Daniel: 156
Nguyen, Dustin: 60
Nguyen, Richard: 157
Nickel, Sydney: 93
Nilson, Maddi: 158
Nimlos, Nicole: 159
Norman, Dr. Beret: 202
Novak, Dr. Stephen: 159, 259
Novytsky, Oleksandr: 160
Nygaard, Kiana: 161
Oakley, Elizabeth: 258
Oberg, Claire: 162, 163
O'Brien, Clare: 183
O'Connor, Riley: 164
O'Donnell, Tim: 219
Oja, Luke: 13
Ojeda, Rosio: 66
Okebiorun, Michael: 193
Olivas, Adonis: 210
Olsen, Joshua: 182
Olsen, Riley: 63, 119
Olson, Ryan: 60
Orme Nichols, Ashley: 24
Ortland, Dr. Eric: 104
Ostermann, Megan: 165
Otanicar, Dr. Todd: 192
Otto, Dr. Ben: 247
Oxford, Dr. Julia: 35, 36, 39, 59, 77, 84, 92, 100, 133, 156, 173, 203, 230, 237
Oxley, Taylor: 166
Pakala, Dr. Krishna: 6, 57, 137, 195, 196, 239
Palmer, Jacob: 33
Palmos, Jillian: 167
Panter, Shane: 108
Pape, Emily: 168
Pardo, Lynsie: 45
Parikh, Alay: 132
Parker, Madisyn: 169
Partyka-Worley, Ciera: 170
Paudel, Dr. Jayash: 236
Paulus, Crystal: 198
Pavlik, Cole: 243
Payne, Mallory: 171
Pearlman, Dr. Marcus: 81
Pederson, Natasha: 183
Peet, Kaylene: 172
Perez, Karen: 223
Perry, Peyton: 31
Petersen, Kassidi: 173
Peterson, Heather: 47
Peterson, Joe: 230
Petitmermet, Nicholas: 108
Pett, Susan: 86
Pfohl, Megan: 174
Phillips, Alison: 175
Phillips, Dr. Scott: 260
Pickens, Ian: 176
Pierce, Dr. Jen: 22, 70, 120, 124, 175, 216
Piercy, Nicole: 177
Plesner, Nicol: 178
Plew, Dr. Mark: 78
Plum, Lindsey: 208
Plumlee, Dr. Don: 137, 193, 235
Poe, Keaton: 60
Pollock, Kyleigh: 165
Pollock, Vaughn: 208
Pontius, Kacie: 179
Pooley, Sarah: 235
Poulin, Noah: 180
Pratt, Bella: 93
Preston, Madysyn: 59
Pritchard, Dr. Mary: 7, 11, 96, 115
Provost, Mariah: 181
Pruett, Clyde: 119
Puglisi, Jared: 244
Qualls, Tyler: 182
Radcliffe, Jay: 33
Rafla, Dr. Nader: 226
Rao, Qurnain: 165
Rausch, Crislyn: 35
Rebata, Gabriella: 183
Reilly, Kelly: 188
Rektor, Attila: 81
Rhodes, TJ: 86
Ringelstetter, Esmé: 256
Rios, Mateo: 57
Ritter, Sarah: 185
Rivera Orozco, Jesus: 184
Robbins, Casey: 49
Robertson, Dr. Ian: 178
Robertson, Paul: 51
Robinson, Bryce: 213
Rodriguez, Adriana: 42, 203
Roehner, Clayton: 216
Roggy, Gabriela: 185
Rohn, Dr. Troy: 59
Roldan, Brooke: 253
Romero, Alyssa Jo: 186
Romero, Dr. Jared: 53, 58, 61, 69, 94, 99, 225
Romero, Kodi: 93
Roppel, Riley: 240
Rosales, Betsy: 187
Ross, Ashley: 188
Ross, Brooke: 112
Ross, Molly: 173
Rowe, Erica: 64, 217
Rozowski, Rebekah: 189
Rubin, Juliette: 142
Rueth, Carlie: 72
Rushing, Brittany: 190
Rusingiza, Gloire Steven: 191
Russell, Andrew: 192
Ryu, Dr. Jae: 255
Ryu, Jimin: 255
Salverda, Gaervyn: 154
Salzman, Dr. Noah: 51, 108, 153, 208, 241
Sanborn, Drake: 193
Sanchez, K.: 36
Sanders, Alex: 47
Sandison, Sierra: 105
Sass, Marlisa: 150
Sasso, Abigail: 194
Sautter, Kathryn: 233
Scaife, Anthony: 32
Schauer, Samantha: 195, 196
Scheepers, Dr. Marion: 33, 118
Schell, Bryan: 149
Schmitz, Dr. Mark: 20, 65, 80, 145
Schott, Stephen: 35
Schow, Preston: 131
Schroeder, Kyra: 197
Schuck, Dr. Christopher: 233
Schuler, Sabrina: 116
Schwartz, Patrick: 189
Scord, Kayla: 201
Scott, Hailey: 201
Seale, Jared: 198, 229
Seifrit, Lynae Dawn: 199
Seppa, Hanna: 229
Sharp, Taylor: 200, 201
Sheldon, Hugh: 60
Sherlock, Jill: 199
Sherod, Wyatt Russell: 202
Shields, Shawn: 33
Shuck, Dr. Gail: 184
Shusterove, Alexis: 203
Silverman, Dr. Kevin: 233
Silvestre, Chase: 112
Silvestri, Tiffany: 199
Simmonds, Dr. Paul: 233
Simonson, Dr. Shawn: 106
Simpson, James: 44
Singleton, Rachel: 204
Skaggs, Cameron: 100
Skelton, Alessa: 144

POSTER Presentation Index

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

Skinner, Mark: 198	Tenorio, Jacob: 193	Ware Carlisle, Heidi: 213
Skirvin, Allen: 205	Terrell, Aaron: 220	Warner, Dr. Don: 37, 63, 119, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261
Small, Dana: 77, 237	Tester, Clare: 10	Warner, Dr. Lisa: 37, 79, 190
Smart, Carly: 96	Theel, Jasper: 139	Warren, Jordan: 144
Smith, Aidan: 21	Thieme, Jackson: 221	Watkins, Jeffrey: 229
Smith, Diane: 133	Thom, Katelyn: 95	Watt, Chloe: 230
Smith, Dr. Megan: 25, 31, 62, 138, 161, 169, 191	Thompson, Adam: 165	Weathers, Stephan: 231
Smith, Schylar: 248	Thompson, Shaylee: 222	Weber, Nathan: 232
Smith, Tyler: 88, 228	Thomson, Abigail: 242	Weidemaier, Arie: 171
Snopkowski, Dr. Kristin: 14, 110, 123	Thoreson, Kris: 34	Weltner, Ariel Eden: 233
Solich, Cade: 206	Thornes, Dr. Tim: 85, 200, 201	Wenner, Dr. Julianne: 122
Sorg, Morgan: 234	Tilden, Paige: 30	West, Megan Anne: 234
Soto, Alex: 104	Tinker, Dr. Juliette: 42	White, Amanda: 60, 193, 235
Sousa, Michel: 4	Tipton, Annalies: 223	White, Cade: 236
Spero, Hannah: 207	Tolman, Lydia: 259	Whitehead, Trevin: 108
Spivak, Meredith: 166, 186, 232	Tolomeo, Ben: 240	Whittington, Amy: 150
Springman, William: 249	Torek, Adam: 60	Willadsen, Eric: 70
Srna, Anes: 231	Tornello, Ian: 237	Williams, Avery: 112
Staley, Nathan: 3	Torres, Iris: 241	Williams, Kourtney: 158
Stands, Charlie: 261	Torres, Rebecca: 224	Williams, Lauren: 25
Stanton, Sevio: 170	Trout, Edward: 34	Williams, Ryan: 237
Stelluto, Gianna: 208	Tubach, Aubrie: 203	Williams, Zach: 130
Stelmakh, Diana: 75	Tuccinardi, Joseph: 63, 119	Willmorth, Jaysee: 131
Stevens, Dr. Dennis: 48	Tuft, Stephanie: 77, 84, 92	Windley, Hailey: 165
Stevens, Emily: 209	Turner, Cassidy: 13	Winger, Hannah: 5
Stewart, Kylie: 210	Turner, Dr. Matthew: 229	Winters, Riley: 238
Stieha, Dr. Vicki: 51, 108, 153, 208, 241	Underwood, Hadley: 50	Wirth, Madison: 9
Stiffler, Yung: 211	Uzer, Dr. Gunes: 60	Woerner, Ellie: 239
Stockton, Janae: 230	Vaccaro, Suzanne: 90	Wojcik, Maxwell: 240, 241
Storch, Michael: 222	Valdez, Tyler: 108	Wolf, Cody: 119
Stranger, Serena: 212	Vallejo, Kevin: 233	Wolfe, Alissa Dianna: 242
Stranzl, Jake: 261	Van-Derpoel, Ethan: 225	Woo, Jungmi: 165
Strope, Carter: 213	VanderStouwe, Dr. Chris: 83	Woodbury, Luke: 79, 190
Stutzman, Erin: 246, 247, 248, 249, 250, 251, 252, 253, 254, 256, 257, 258, 259, 260, 261	Vandeventer, Zachariah: 60	Woods, Dr. Damon: 258
Suarez, Krista: 259	Varie, Ian: 226	Wozniak, Ann: 4
Suarez, Xaver: 260	Vasquez, Peyton: 227	Wright, Christopher: 243
Subbaraman, Dr. Harish: 6	Vazquez, Brayan: 51	Wright, Katie: 24, 244
Suciu, Christy: 5, 13, 21, 38, 45, 50, 52, 72, 90, 172, 222, 231	Veal, Hanna: 24, 149	Wurtenberger, Wyatt: 151
Sukianto, Thea: 214	Vecchione, Amy: 3, 76	Wyllie, Anne: 165
Sullivan, Madison: 215	Veligatla, Dr. Medha: 1	Yingling, Rachel: 244
Sundquist, Nathan: 60	Verhage, Dr. Paul: 255	Young, Callum: 108
Swanson, Caitlyn: 216	VerPlanck, Rob: 231	Yu, Dr. Pei-Lin: 78, 101
Swanson, Dr. Steve: 60	Vidrio, Alejandro: 257	Zahid, Rabia: 245
Sweet, Brandi: 64, 92, 217	Vogel, David: 160	Zanussi, Milan: 33
Sweet, Kendal: 75	Volsche, Dr. Shelly: 110	Zasadny, Caroline: 201
Swesey, Natalie: 218	Wadley, Karen: 19	Zenner, Nicklaus: 261
Symmes, Melissa: 66	Wagner, Julie: 92, 228	Ziker, Dr. John: 4
Talford, Jason: 57	Wakild, Dr. Emily: 66, 71, 95, 129, 150, 164, 176, 177	Zimmerman, Terek: 60
Taylor, Chris: 70, 120, 122	Walker, Elijah: 154	
Temkin Martínez, Dr. Michal: 201	Walker, Kailee: 165	
Temple, Savannah Marie: 219	Wall, Whitnee: 72	
	Walsh, Matthew: 57	
	Wampler, Dr. Brian: 168	
	Ward, Jason: 97	



A showcase of logical ideas.