A showcase of creative ideas.

UNDERGRADUATE RESEARCH SHOWCASE

LIGHTNING TALKS
Friday, April 17, 2020

POSTER LAUNCH
Friday, April 24, 2020
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
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PLANNING Committee

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THE POSTER ABSTRACTS ARE AVAILABLE AT: scholarworks.boisestate.edu/under_showcase_2020
ACKNOWLEDGEMENTS

CAMPUS Partners

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

CHELSE 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 Suciu (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 Hagemeier (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, Jadyn Beebe, Luke Oja, Christy Suciu (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-enoi 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)

*This poster is on display at the virtual poster session available at [www.boisestate.edu/undergraduate-research/virtual-poster-session/](http://www.boisestate.edu/undergraduate-research/virtual-poster-session/)

†VIP = Vertically Integrated Project (see [boisestate.edu/vip](http://boisestate.edu/vip) for more information)
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 Hexaemeron 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 Suciu (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. Liliana 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)

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†VIP = Vertically Integrated Project (see boisestate.edu/vip for more information)
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 Suciu (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), Pamella 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, Lynsie Pardo, Dakota Bruneau, Christy Suciu (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 Suciu (research supervisor, faculty)

51 Assistive Transportation Project*
Jeremy J. DeLisle, Johhny 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 Suciu (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), Alyssa 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*
Shadée 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 Vandeveuter, 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, faculty), 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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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 Malliaris, 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 Mourant (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 Mourant (research supervisor, faculty)

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

*This poster is on display at the virtual poster session available at www.boisestate.edu/undergraduate-research/virtual-poster-session/
**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 Metallocyanides 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 Mourant (research supervisor, faculty)

131 Hand Hygiene in the Hospital Setting*
Katelyn Ann McAllister, Jaysee Willmorth, Preston Schow, Natalie Mourant (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, 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 Mourant (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 Kebrïbïyah 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 Letteleir, 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. Wurtenberger, 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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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 Carboxyl Reductase
Maddi Nilson (Honors), Dr. Henry Charlier (research supervisor, faculty), Kourtney Williams

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

160 Nano Vacuum Channel Transistors (NVCT)*
Oleksandr Novytskyy, 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 Suciu (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 Bairaktaroa (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 Thorne (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 Martinez (research supervisor, faculty), Dr. Tim Thorne (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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**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 Stiehla (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 Fyanes (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. Strope, 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)

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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 Rafia (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)

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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), Schyler 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)

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**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)

*This poster is on display at the virtual poster session available at [www.boisestate.edu/undergraduate-research/virtual-poster-session/](http://www.boisestate.edu/undergraduate-research/virtual-poster-session/)*
STUDENT COLLABORATORS’ MAJOR by College Department

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UNDERGRADUATE STUDENTS
BOISE STATE UNIVERSITY
General–Undeclared
Skinner, Mark: 198
Wylie, 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
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### 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**

- Lettelier, 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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<table>
<thead>
<tr>
<th>College Department</th>
<th>Student Name</th>
<th>Poster Number</th>
</tr>
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<tbody>
<tr>
<td>History</td>
<td>Phillips, Alison</td>
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<td>Schroeder, Kyra L.</td>
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<td>Spero, Hannah</td>
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<td>Swanson, Caitlyn</td>
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**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

**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
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.

**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, Lynsie: 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
Malliarias, Nick: 72
Mayer, Victoria: 90
Merschel, Skylar P.: 50
Mullikin, Grant: 52
Pardo, Lynsie: 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

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.

**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, Brayon: 51
Whitehead, Trevin: 108
Wojcik, Maxwell: 240, 241

**Computer Science**

*Computer Science BS*
Bouchard, Jeremy: 60
Burt, Forest: 105
Gzman, 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
Novytksy, 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
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.

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
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: 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
Clover, 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*
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
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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
Thomas, Abigail: 242
Warren, Jordan: 144
Weidemaier, Arie: 171
Whittingon, Amy: 150
Wolfe, Alissa Dianna: 242
Wright, Christopher W.: 243

**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

**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
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**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

**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

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A showcase of logical ideas.