UCUR Annual Conference

Agenda

Hosted by Utah Valley University

800 W University Parkway
Orem, UT 84058

February 15, 2024, 6:00 – 10:00 PM
February 16, 2024, 7:00 AM – 5:00 PM

https://www.uvu.edu/undergrad-research/ucur/
Welcome

Modeled after the National Conference on Undergraduate Research, UCUR is a celebration of academic, professional, and personal achievements from undergraduate research projects and creative endeavors.

Each year, the Utah Conference on Undergraduate Research allows student researchers from all over the state to come together and present their research.

Presentations are given to an interdisciplinary audience. Abstract topics can be anything from art to molecular biology. Presentation opportunities include poster displays, oral presentations, and creative performances. Students from all disciplines are encouraged to apply.

UCUR 2024 promises to be like no UCUR before. With the first ever kickoff party Thursday night with live entertainment, food trucks, swag and a variety of games and activities. You won't want to miss it!

Conference day will have new presentation options, keynote speakers in both the Arts and Sciences and a distinguished guest to get the day started.

**UCUR State Steering Committee**

Lynn Patten, Brigham Young University  
Lane Law, Salt Lake Community College  
Lindsay Chaney, Snow College  
Camille Thomas, Southern Utah University  
Annie Fukushima, University of Utah  
Cindy Greaves, University of Utah  
Julie Hartley, Utah System of Higher Education  
Alexa Sand, Utah State University  
Athena Dupont, Utah State University  
Vinodh Chellamuthu, Utah Tech University  
Shelly Andrus, Utah Valley University  
Matt North, Utah Valley University  
Therese Cavlovic, Weber State University  
Shawn Coon, Westminster University
# Program in Brief

## Thursday, February 15, 2024

<table>
<thead>
<tr>
<th>Event</th>
<th>Venue</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thursday Evening Check-in</td>
<td>Sorensen Center Ballroom Foyer</td>
<td>6:00 – 8:00 PM</td>
</tr>
<tr>
<td>Food Trucks</td>
<td>Student Life &amp; Wellness Center Plaza</td>
<td>6:00 – 8:30 PM</td>
</tr>
<tr>
<td>Kickoff Party</td>
<td>Student Life/Sorensen Center Ballroom</td>
<td>6:00 – 10:00 PM</td>
</tr>
</tbody>
</table>

## Friday, February 16, 2024

<table>
<thead>
<tr>
<th>Event</th>
<th>Venue</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friday Morning Check-in</td>
<td>Fugal Gateway Welcome Center</td>
<td>7:00 AM – 1:00 PM</td>
</tr>
<tr>
<td>Conference Breakfast/Keynotes</td>
<td>Keller Building Vallejo Auditorium</td>
<td>8:00 – 9:00 AM</td>
</tr>
<tr>
<td>Grad/Career Fair</td>
<td>Hall of Flags</td>
<td>9:00 AM – 2:00 PM</td>
</tr>
<tr>
<td>Huntsman Cancer Session 1</td>
<td>Sorensen Center – Center Stage</td>
<td>9:00 AM – 12:00 Noon</td>
</tr>
<tr>
<td>Session A</td>
<td>Sorensen Center &amp; Keller Building</td>
<td>9:00 – 10:30 AM</td>
</tr>
<tr>
<td>Session B</td>
<td>Sorensen Center &amp; Keller Building</td>
<td>10:45 AM – 12:15 Noon</td>
</tr>
<tr>
<td>Conference Lunch</td>
<td>Sorensen Center Ballroom</td>
<td>12:00 Noon – 1:30 PM</td>
</tr>
<tr>
<td>Lunch Keynote</td>
<td>Sorensen Center Ballroom</td>
<td>12:15 PM – 1:00 PM</td>
</tr>
<tr>
<td>UCUR Steering Committee Lunch</td>
<td>Sorensen Center 213C</td>
<td>1:00 – 2:00 PM</td>
</tr>
<tr>
<td>Huntsman Cancer Session 2</td>
<td>Sorensen Center – Center Stage</td>
<td>2:00 – 5:00 PM</td>
</tr>
<tr>
<td>Session C</td>
<td>Sorensen Center &amp; Keller Building</td>
<td>1:45 – 3:15 PM</td>
</tr>
<tr>
<td>Session D</td>
<td>Sorensen Center &amp; Keller Building</td>
<td>3:30 PM – 5:00 PM</td>
</tr>
</tbody>
</table>

To search for a specific author, subject, or presentation within this agenda, use the PDF viewer search option.
# Table of Contents

Welcome ........................................................................................................................................ 2
Program in Brief ............................................................................................................................... 3
Survey ................................................................................................................................................ 26
Sponsors ............................................................................................................................................ 27
Welcome Message: Gary R. Herbert .............................................................................................. 28
Morning Keynote: Brent Baum ....................................................................................................... 29
Lunch Keynote: Tammy Clark ........................................................................................................ 30
Huntsman Cancer Institute Welcome Message: Brad Cairns ..................................................... 31
Huntsman Cancer Institute Welcome Message: Donald Ayer .................................................... 32
Huntsman Cancer Institute Special UCUR Sessions ................................................................. 33

<table>
<thead>
<tr>
<th>Session A: Poster Presentations, 9:00 AM in Keller Building (KB) Rooms 401/403/405</th>
<th>38</th>
</tr>
</thead>
<tbody>
<tr>
<td>Venetian Elegance: Harmonizing Heritage and Innovation on the Grand Canal, by Samuel Weisler, Colton Korpi, Josh Lythgoe</td>
<td>38</td>
</tr>
<tr>
<td>A Natural Advantage: An Eye-Tracking Analysis of Indoor and Outdoor Spaces, by Samuel Weisler</td>
<td>38</td>
</tr>
<tr>
<td>Sacred Space Design and Spiritual Experience: A Study of Latter-Day Saint Temples, by Colton Korpi</td>
<td>38</td>
</tr>
<tr>
<td>Investigating Homeowner Contentment: Exploring areas for improvement in home design and construction, by Josh Lythgoe</td>
<td>38</td>
</tr>
<tr>
<td>The Pagoda at Memory Grove Park Analytique, by Sadie Stutz</td>
<td>38</td>
</tr>
<tr>
<td>AI Impact on Form and Shape of Architectural Design, by Yan ho Ng</td>
<td>38</td>
</tr>
<tr>
<td>Mosques Through Different Lenses: Perceptions Across Cultures and Religions, by Barrett Blake</td>
<td>38</td>
</tr>
<tr>
<td>Traditional Urban Resurgence: A Blueprint for Mental Wellness in Modern Cities, by Jacob M Wendt</td>
<td>38</td>
</tr>
<tr>
<td>Understanding the Value of Function Following Form, by Eric Burton</td>
<td>39</td>
</tr>
<tr>
<td>What's That Building? Exploring Public Perceptions of Architectural Functionality Based on Form, by Sean Donner</td>
<td>39</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Session A: Art Display, 9:00 AM in Science Building (SB) Atrium</th>
<th>35</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sculpting Dichotomies to Evoke Reflective Emotions, by Brittany Cowley</td>
<td>35</td>
</tr>
<tr>
<td>DID, by McKayla Ridenour</td>
<td>35</td>
</tr>
<tr>
<td>Oneness in diversity, by Nawres Al Saud</td>
<td>35</td>
</tr>
<tr>
<td>Nuestra Virgen Tonantzín, by Kessley Durrant</td>
<td>35</td>
</tr>
<tr>
<td>Understanding Panic, by Rebekah Victoria Still</td>
<td>35</td>
</tr>
<tr>
<td>Unlocking Your Creativity: The Power of Painting for Fun and Purpose, by Rayne Beau Vanderpool</td>
<td>35</td>
</tr>
<tr>
<td>Playing Games, by Silvia Medina</td>
<td>35</td>
</tr>
<tr>
<td>The Process of Trying and Failing, by Jessica DeWeese</td>
<td>35</td>
</tr>
<tr>
<td>Spatiotemporal Continuity Capture through Cyanotyping, by Brittney Weiland</td>
<td>36</td>
</tr>
<tr>
<td>Revealing the Unknown, by Emily Barber</td>
<td>36</td>
</tr>
<tr>
<td>Contrasting elements in visual art, by Ripjaw Lemus</td>
<td>36</td>
</tr>
<tr>
<td>The Human-Nature Connection: Exploring Metaphorical and Physical Landscapes, by Jessica Downs</td>
<td>36</td>
</tr>
<tr>
<td>Female Allegory, by Olivia Mard Oquist</td>
<td>36</td>
</tr>
<tr>
<td>Desert Water, by Maddalena Willis</td>
<td>36</td>
</tr>
<tr>
<td>Visual Linguistics, by Brianna Bastian</td>
<td>36</td>
</tr>
<tr>
<td>Breaking Boundaries, by Arawyn Walter</td>
<td>36</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Session A: Artist Performance, 9:00 AM in Science Building (SB) doTERRA Auditorium (Room 134)</th>
<th>37</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music and Emotion: Using Music as an Apparatus for Connection, by Kimberly Lewin</td>
<td>37</td>
</tr>
<tr>
<td>Sonata in G Minor for Piano, by George Wells</td>
<td>37</td>
</tr>
<tr>
<td>Carnegie Hall Performance, by Annalicia Loveridge, Maren Daynes, Noah Guzman</td>
<td>37</td>
</tr>
</tbody>
</table>

Session A: Poster Presentations, 9:00 AM in Keller Building (KB) Rooms 401/403/405

*Venetian Elegance: Harmonizing Heritage and Innovation on the Grand Canal*, by Samuel Weisler, Colton Korpi, Josh Lythgoe

*A Natural Advantage: An Eye-Tracking Analysis of Indoor and Outdoor Spaces*, by Samuel Weisler

*Sacred Space Design and Spiritual Experience: A Study of Latter-Day Saint Temples*, by Colton Korpi

*Investigating Homeowner Contentment: Exploring areas for improvement in home design and construction*, by Josh Lythgoe

*The Pagoda at Memory Grove Park Analytique*, by Sadie Stutz

*AI Impact on Form and Shape of Architectural Design*, by Yan ho Ng

*Mosques Through Different Lenses: Perceptions Across Cultures and Religions*, by Barrett Blake

*Traditional Urban Resurgence: A Blueprint for Mental Wellness in Modern Cities*, by Jacob M Wendt

*Understanding the Value of Function Following Form*, by Eric Burton

*What’s That Building? Exploring Public Perceptions of Architectural Functionality Based on Form*, by Sean Donner
<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beyond Blueprints: A Comprehensive Exploration of the Impact of Rendering Methods on Architectural Design</td>
<td>Lydia Beazier, Trevor Carter, Audrey Christiansen</td>
<td>41</td>
</tr>
<tr>
<td>Communication and Presentation Strategies</td>
<td>Hailey Packard</td>
<td>39</td>
</tr>
<tr>
<td>Architectural Contextualism: How Context Shapes Building Perception</td>
<td>Kevin Hart</td>
<td>39</td>
</tr>
<tr>
<td>Neurological Links to Home Design Preferences: A Comparative Study using Eye-Emulation Software</td>
<td>Thomas Cryer, Brandon Ro</td>
<td>39</td>
</tr>
<tr>
<td>Finding Harmony in Design: Exploring the Connection of Music and Architecture Through Proportion</td>
<td>Desiree Ritchie</td>
<td>39</td>
</tr>
<tr>
<td>Re-Examining Architectural Design: The Balance Between Simplicity and Complexity</td>
<td>Joseph Laude</td>
<td>39</td>
</tr>
<tr>
<td>Visual Perception of the Classical Orders: Eye-tracking Simulations on the Orders</td>
<td>Alexia Trapier</td>
<td>39</td>
</tr>
<tr>
<td>Thomas S. Monson Center Building Analytique</td>
<td>Bronwyn Brown</td>
<td>40</td>
</tr>
<tr>
<td>Pixels to Pillars: AI’s Role in Architectural Design</td>
<td>Nathaniel Stucki</td>
<td>40</td>
</tr>
<tr>
<td>Interior Design Senior Capstone: The Grove</td>
<td>Abby Hoyt</td>
<td>40</td>
</tr>
<tr>
<td>ARTShare Project</td>
<td>Andrea Tyler</td>
<td>40</td>
</tr>
<tr>
<td>Senior capstone</td>
<td>Raya Adham</td>
<td>40</td>
</tr>
<tr>
<td>Capstone Project</td>
<td>Raya Adham</td>
<td>40</td>
</tr>
<tr>
<td>The McCune Mansion Hope Center</td>
<td>Morgan Watson</td>
<td>40</td>
</tr>
<tr>
<td>Senior Capstone - Haven Adaptive Reuse Project</td>
<td>Mikayla Buckway</td>
<td>40</td>
</tr>
<tr>
<td>Design of an Inexpensive Combined Loading Spinal Disc Replacement Wear Testing Machine</td>
<td>Tyler Peterson, Anna Jensen, Daniel Orr, Anton E Bowden</td>
<td>40</td>
</tr>
<tr>
<td>3D Printable Thickness Accommodated Origami Flasher Patterns</td>
<td>Davis Wing</td>
<td>41</td>
</tr>
<tr>
<td>Deployment Technique Optimization for Satellites</td>
<td>Lais Oliveira, Corinne Jackson</td>
<td>41</td>
</tr>
<tr>
<td>Tracking UAS Flight Paths with Multiple Radar Ground Stations</td>
<td>Gabe Snow, Joseph Ward</td>
<td>41</td>
</tr>
<tr>
<td>Investigation of the impact of heat treatment on Nitinol wires</td>
<td>Joseph Moore</td>
<td>41</td>
</tr>
<tr>
<td>An Apparatus for Fetal Descent Simulation</td>
<td>Benjamin Merrell</td>
<td>41</td>
</tr>
<tr>
<td>Novel Method of Tensegrity Construction via Acoustic String Tuning</td>
<td>Harrison Denning, Ammon Bullinger</td>
<td>41</td>
</tr>
<tr>
<td>Exploration of Bi-Stable Tensegrity Models with Differing Stiffness Modes</td>
<td>Harrison Denning, Spencer Thompson</td>
<td>41</td>
</tr>
<tr>
<td>Facilitating Public Engagement with Academic Research Through Deliberate Outreach Methods</td>
<td>Lydia Beazer, Trevor Carter, Audrey Christiansen</td>
<td>41</td>
</tr>
<tr>
<td>Investigating Porosity Defects in Printed Zones of Binder Jet 3D Printing</td>
<td>Madi Hancock</td>
<td>42</td>
</tr>
<tr>
<td>Acoustic calipers to measure human tissue properties</td>
<td>Jakob G Bates, Matthew B Snyder, Porter Adelman</td>
<td>42</td>
</tr>
<tr>
<td>Exploring MSR Salt Thermal Conductivities for Advanced Clean Energy</td>
<td>Tyler Hamm, Jake Numbers, Ryan Ruth, Hunter Pitchford, David Allred, Troy Munro</td>
<td>42</td>
</tr>
<tr>
<td>GAMERS: General Arm Mechatronic Exoskeleton Robot System</td>
<td>Michael Olson</td>
<td>42</td>
</tr>
<tr>
<td>Rapid Data Collection Device for Neural Network in Agriculture</td>
<td>Nathan Jones, Carter Noh, Douglas Cook</td>
<td>42</td>
</tr>
<tr>
<td>Surrogate Folds in Gossamer Satellites</td>
<td>Carolina Wright</td>
<td>42</td>
</tr>
<tr>
<td>Inertial Energy Storage for Jumping Robots</td>
<td>Caleb McDougall</td>
<td>42</td>
</tr>
<tr>
<td>Peltier Element creation using microfluidics</td>
<td>Caleb Fears</td>
<td>43</td>
</tr>
<tr>
<td>The Effect of the Position of Manually Extruded Nanocomposite Strain Gauges on their Physical Properties</td>
<td>Jordan Penfold, Cera Gowans, David T Fullwood, Anton E Bowden</td>
<td>43</td>
</tr>
<tr>
<td>Manufacturing compliant carbon fiber origami using powdered resin</td>
<td>Jacob Winters</td>
<td>43</td>
</tr>
<tr>
<td>Application of Statistical Approaches in Non-Linear Normal Mode Calculations</td>
<td>Davis Wing</td>
<td>43</td>
</tr>
<tr>
<td>Use of data processing and statistical models to understand large sets of experimental chemistry data</td>
<td>Isaac Sudweeks, Bradley Adams</td>
<td>43</td>
</tr>
<tr>
<td>A portable device for measuring Achilles tendon stresses in dancers</td>
<td>Joey McConkie, Jackson Wilcox, Eli Smith, David Phair</td>
<td>43</td>
</tr>
<tr>
<td>Improving convective cooling during focused ultrasound thalamotomy</td>
<td>Chris Paul, Alex Edwards</td>
<td>43</td>
</tr>
<tr>
<td>Image segmentation for breast cancer focused ultrasound therapies</td>
<td>Taylor Forbes, Rachel Harris, Benjamin Jackson, Nicole Peterson, Sydney Tanner, Chloe Nelson</td>
<td>43</td>
</tr>
<tr>
<td>Tissue-Mimicking Phantoms with Tunable Acoustic and Mechanical Properties for Visualizing MRgFUS Cavitation Lesions</td>
<td>Elizabeth M J Allen, Steven P Allen, Henrik C A Odeen</td>
<td>44</td>
</tr>
<tr>
<td>Multi-Material Metallurgical Additive Manufacturing</td>
<td>Joshua Lim</td>
<td>44</td>
</tr>
</tbody>
</table>
Magnetic Field Spatial Gradient Delivery Optimization For Visualization of Ultrasound Waves During Neuramodulation, by Davi Cavintatto .................................................................................................................. 44
Investigating the feasibility of focused ultrasound actuation of shape memory alloy, by Aldo Chipana, Sarah G Sanderson, Joseph Moore, Jeffery R Hill, Christopher R Dillon .......................................................... 44
Pressure Sensor Resistance Changes in Varying Biocompatible Metals, by Kasielynn Busard, Dakota Stringham ...... 44
Five-Dimensional Assessment Model for Operation and Maintenance of Stormwater Control Measures - Cedar City Case Study, by Mohamed Askar, Matthew Roberts, Jeremy Matney, Andrew Larsen, Edwin Cansaya Sanchez ............ 44
Tailoring the Electrical Conductivity of Carbon Nanotube-based Polymer Composite through Computational Approach, by Brandon Clark, Hayden Allen, Zixuan Wang, Rajagopalan Thiruvengadathan ........................................ 44
Microscale Robots, by Alberto Miranda, Samannoy Ghosh, Yong Lin Kong .................................................................. 45
Down Sampling Electromyography for Low-Power Wearables, by Josh D Gubler, Connor D Olsen, Fredi R Mino, Mingchuan Cheng, Jacob A George .......................................................................................... 45
Analyzing Fine EMG Control of Hemiparetic Stroke Patients Using a Virtual-Reality Variant of the Box and Blocks Task, by Cassandra L Burdick, Caleb J Thomson, Troy N Tully, Jacob A George .................................................................................. 45
Signal Processor for Electrogram and Electroanatomic Data (SPEED), by Rui Jin, Lindsay C Rupp, Anna Busatto, Rob S MacLeod........................................................................................................................... 45
Investigation of the Representative Volume Element in Fibrous Porous Systems, by James Walker ........................... 45
Targeted Treatment of Cytomegalovirus, by Alisa Dabb, David Brit, Elizabeth Vargis .............................................. 45
Using Machine Learning to Control Soft Robotics, by Jacob Adams, Larry Catalasan ............................................. 45
Exploring the Quasi-Static Compression Characteristics of Origami-inspired Foldcore Sandwich Composite, by Chase Mortensen, Juhyeong Lee .......................................................................................................................................................................................... 45
Computational Modeling of Curcumin Production in E. coli with Metabolic Engineering, by Lukas Keller, Jixun Zhan, Zhen Zhang ........................................................................................................... 46
An Integrated Microfluidic Model of Subretinal Tissue to Study Age-Related Macular Degeneration, by Sophia Hessami ............................................................................................................................................................................ 46
Implementing Quality Control for the Fluorescent Coating of Intravenous Catheters, by Melissa Wiggins, Aaron Bigelow, Porter Ellis .................................................................................................................. 46
Random-walk model of retina neovessel growth, by Cassandra DuBose Corry ........................................................... 46
Impact Resistance of 3D-Printed Architectured Sandwich Composite Panels for Future Mobility Solutions, by Ethan Layne, Tareq Hassan .............................................................................................................................................. 46
Innovating Disaster Response: Solar-Powered Water Purification, by Evelyn Fuentes, Thomas Keate, Christian Riordan .............................................................................................................................................. 46
Arm Modeling in Preparation for Wearable Mobility-Enhancing Elbow Brace, by Samuel Stearman, Benjamin Crapo, Antonio Trujillo .................................................................................................................. 46
The effects of invasive competition on the phytochemistry of cottonwoods, by Jessica Crook, Brooke Parker, Michael C Rotter .................................................................................................................................................. 47
Prescribing Passion: How Medical Experiences Shape STEM Enthusiasm, by Porter Bischoff, Kody Garrett, Clayton Rawson ............................................................................................................................................. 47
Analytical method development and quantification of chlorinated pesticides in Utah Lake, by Rob Patterson, Nate Graham ........................................................................................................................................................................... 47
Preliminary Studies Towards the Development of a Rapid, Point-of-Care Diagnostic Assay for the Detection of Mycobacterium tuberculosis, by Aubrey Russell, Ben Paepke, Nathan Goldfarb ......................................................................................................................... 47
Estrous cycle-dependent modulation of psychostimulant effects on striatal neurotransmitter release, by Lauren Ford, Joel Woolley, Ryan Powers, Paulina Medellin, Hillary Wadsworth, Jordan Yorgason .......................................................................................................................... 47
Phylogeny of Hetaerina (Odonata: Calopterygidae): Settling taxonomic issues, by Reganne Leigh Hales, Laura Sutherland, Melissa Sanchez Herrera, Samantha Standring .................................................................................................................. 47
Advancing Mycotoxin Detection: Multivariate Rapid Analysis on Corn Using Surface Enhanced Raman Spectroscopy (SERS), by Allison Gabbitas, Kaitlyn Allen, Gene Ahlhorn, Shintaro Pang ................................................................................................................................. 47
The effect of grass species and soil types on early successional forb species, by Raechel Hunsaker, Matthew Madsen, Mallory Hinton, Derek Tilley, April Hulet ................................................................................................................................................ 48
Exploring soil-plant relationships to inform seed selection for rangeland restoration, by Mallory Hinton, Matthew Madsen, Raechel Hunsaker, April Hulet ........................................................................................................... 48
Cattle Resource Selection on Late Fall Sagebrush Steppe Habitat in Idaho, United States, by Cole Kempton, Jim Sprinkle, Randy Larsen, Jameson Brennan, Dan Lauritzen, Sawyer Fonnesbeck, Justin Hatch, April Hulet ..................... 48
Salt-Water Acclimation in Atlantic Salmon sheds light on claudin shifting and tight junction membrane proteins composition, by Joshua Hutchins, Kevin Wong

Meta-Analysis Of 58 Human RNA-seq Datasets To Predict Mechanisms and Markers for Resistance in ER+ Breast Cancer Treated with Letrozole (an aromatase inhibitor), by Brett Pickett, Lincoln Sutherland, Jacob Lang

Neural Networks associated with Gait Apraxia, by Zach Fiore

Exploring the bioactivity of flavonoid metabolites on beta cell function under GLT conditions, by Eden Beazer, Aubree Bench, Ethan Jones, Jared Carter

The overexpression of Stx1A and its effects on glucose stimulated insulin secretion in pancreatic beta cells, by Jakob Lenker, Trevor Kendrick

Effects of Methamphetamine on Microglia through Reactive Oxygen Species, by James Blood, Nathan Sheets, Chase Seiter, Lydia Hawley, Erin Taylor, Eliza White, Hillary Wadsworth, Jason Hansen, Jordan Yorgason

Determining the binding partners of orphan nuclear receptor Nr4a3 and their effect on proliferation and insulin secretion in the beta cells, by Owen Damitz

The Relationship Between Thiamine and Drosophila Melanogaster Preference for Dietary Yeast, by Dean Peterson

Glutamine as an Acetyl-lysine Mimic in Nucleosome Positioning Studies, by Michael Mann, David Bates, Steven Johnson

The Role of Sirt7 in Beta Cell Function and Insulin Secretion, by Trevor Kendrick, Jakob Lenker

Does Sonographically Measured Articular Cartilage Thickness Correlate With Knee Pain in Senior Athletes?, by Noah Bezzant, Mikayla Kimball, Ashley Allain

Panic Disorder Lesion Network Mapping Abstract, by Zach Moore, Owen Benzley, Austin Flitton, Frederic Schaper, Jared Nielsen

Ultrasonic analysis of patellar tendon thickness in active older athletes, by Mikayla Kimball, Noah Bezzant, Ashley Allan, Josh Spoonbeck

Demonstration of Chloride Induced Spreading Depolarizations Using Halorhodopsin, by Hunter Morrill, Ryley Parrish

Role Models v. Knowledge: Should we Use Different Evolution Teaching Strategies for Students with Varying Levels of Scientific Reasoning Skills?, by Grant Rousseau, Kenneth Harrington, Jamie Jensen

Hyperglycemic Conditions Impair Essential Nkx6.1 Expression in Beta Cells, by Jared Wieland, Jacob Herring

Understanding Refractory Status Epilepticus with Novel HD-MEA Technology, by Isaac Stubbs, Skyler Russell, Melissa Blotter, Maxwell Holmes

Thioredoxin-1 is essential for osteogenesis in vitro and in utero, by Caroline Cowley, Megan Jewell, Brenda Mendoza, Aubrey Cluff, Ryan Summerhays, Jason Hansen

Identifying the Interactomes of Disease-Causing CryAB Variants, by Joshua Evans, Allison Voyles, McKenzie Bellon, Julianne Grose

Building Books: The Evolution of Early English Block Prints, by Lucy Peterson

‘I Want to Destroy Public Education’: A Critical Case Study of School Choice in Utah, by Ann Day, Shawn Coon

Session A1: Huntsman Cancer Institute Special Research Session 1, 9:00 AM in Sorenson Center (SC) Center Stage

Introduction, by Brad Cairns and Don Ayer

Optimization of Cell-free Protein Synthesis of RNAse Inhibitors for Inexpensive, At-home Glutamine Biosensor Tests for Cancer Treatment Monitoring, by Chad Hyer, Bradley Bundy, Tyler Free

Raman spectroscopic analysis of fixed lung cancer sections, by Eliza Ballantyne, Maria Lizio, Anshuman Chaturvedi

Detecting microbeads in a dynamic fluid system, by Caroline Torgersen, Tyler O’Loughlin, Ellie Evans, Vern Hart, Clint Flinders

Comparative effectiveness of ChatGPT 4.0 and medical oncologists in telemedicine-based management of metastatic prostate carcinoma (mPC), by Richard Ji, Emre Dal, Ayana Srivastava, Beverly Chigarira, Chadi Hage Chehade, Arshit Narang, Georges Gebrael, Neeraj Agarwal, Umang Swami, Haoran Li


Cancer Research Lightning Poster Presentations

Removing CD6 to enhance CAR T cell therapies, by Sophie Daines, Carlos Moreno, Alka Gour, K Scott Weber

The Caregiving Experience for Children Diagnosed with Cancer: A Secondary Analysis, by Sofia Denise Flowers
Session A2: Science Oral Presentations, 9:00 AM in Sorenson Center (SC) Room 213 B ................. 54
Crest Factor Analyses for Launch Vehicle Noise, by Zach Hendry, Carson Cunningham ................. 54
Glucose concentration’s effect on binding interactions beta cell transcription factors Nkx6.1 and Pdx1 and subsequent transcriptional regulation of downstream targets, by Nathan Vaughan ......................... 54
Genomic Characterization and Mass Spectrometry Analysis of Gordonia Phage Summit Academy, by Sierra M Mellor, Madilyn Brandt, Nathaniel Eberhart, Samuel Flor, Julianne H Grose ........................................... 54
Eigenvalue Finders using Complete Equitable Partitions, by Peter Seely, Joseph Henderson, Benjamin Webb ........... 54
Exploring Methods to Characterize Seizure-like Activity in Mouse Brains, by Benjamin D Kearsley, Jacob H Norby, Micah R Shepherd, R Ryley Parrish .................................................. 54
Complete Equitable Partitions, by Joseph Henderson, Peter Seely, Benjamin Webb ...................... 54

Session A3: Arts Oral Presentations, 9:00 AM in Keller Building (KB) Room 362 ....................... 55
Implementation of Culturally Relevant Teaching in Private Studios, by Aullora Fekete ....................... 55
Asian Representation Within Theatre: Journey Through the Past and the Representation of the Present, by Joseph Stable .............................................................. 55
The Grieving Process, by Becca Fabis .................................................................................... 55
Ballet, Film, and Mythology: A Focus on Persephone, by Samantha Marx, Jessa Wright, Nathan Dobbin ........... 55
Dance and Music: Pathways for Success, by McKayla Pehrson, Emily Hyde .............................. 55

Session A4: Education Oral Presentations, 9:00 AM in Sorenson Center (SC) Room 208 .......... 56
Exploring the Use of Virtual Reality to Teach Academic, Behavioral, Independent Living and Social Skills to individuals with Disabilities, by Megan Sorensen, Lianna Olsen, Maleah Bowen ......................................................... 56
ROSflight: A Lean Research Autopilot, by Jacob Moore, Ian Reid, Brandon Sutherland ...................... 56
Navigating Neurodiversity Online: Inclusive Educational Materials for Autistic Learners, by Sara Peel, Addisyn Bushman, Adam Rice .................................................................................. 56
Design insights for extended reality technical training, by Ezra Bradley, Sam Wald, Steve Francis, Derek Hansen, Jason McDonald, Jon Balszotti ................................................................. 56
Virtual Reality: The Next Step in Technology-Based Education, by Payton Jones ....................... 56

Session A5: Engineering Oral Presentations, 9:00 AM in Keller Building (KB) Room 244 ...... 57
Rotational Robotic Trigger, by Mitch McEntire ........................................................................ 57
Fault Injection Testing FPGA Structural Comparison Tools, by Keenan Faulkner ...................... 57
Optimizing wafer placement in an origami-based LIDAR array, by Brooklyn Clark ..................... 57
Guidelines for Manufacturing Compliant Mechanisms using 3D Printing, by Austin Martel, Bethany Parkinson, Spencer Magleby .......................................................... 57
Building the Groundwork for the Equitable Integration of Wireless Power Technology, by Josie Allred ......... 57
First Measurements of the Longitudinal Shear Modulus of Corn Stalk Tissues, by Braxton Fieldsted, Joseph Carter, Grant Ogilvie, Josh Hoffman .......................................... 57

Session A6: Health & Medicine Oral Presentations, 9:00 AM in Keller Building (KB) Room 248 .... 58
Recommendations for Adapting Religious Materials for People with Aphasia, by Allison Dahl .......... 58
Neural Gene Expression: An Insight into Opioid Addiction, by Addison Smartt, Timothy Smartt .......... 58
The effects of access to healthcare in varying levels of urbanization on mortality, by Jaren Wilson ........ 58
Intact endothelial cell autophagy attenuates outcomes of acute ischemic stroke in mice, by Milo E Light, Sohom Mookherjee, J. David Symons, Megan Tandar, Nathan Hill ........................................ 58
Autism Friendly Healthcare: Improving Patient Care for Individuals with Autism through an Evidence-Based Educational Video, by Gaby Sutton Clark, Emily Santillán, Katreena Merrill ................................................................. 58
“Utah Women in Medicine,” pioneering physicians, by Maddie Reese, Meg Boren, Emma Sellers, Sheri Tesseyman . 58

Session A7: Humanities Oral Presentations, 9:00 AM in Keller Building (KB) Room 302 ......................... 59
A Passion for Regression: The Psychology of Hume’s Skepticism at THN 1.4.1, by Brandon Ascione ................. 59
Integrating Longitudinal Peer-tutoring in University Composition Classes for Multilingual Students, by Luke Beckstrand ................................................................. 59
Divine Encounters and Phenomenological Christology: A Comparative Analysis of Theophanies in Ether 3 and Exodus 3, by Lincoln Whitney ................................................................. 59
中文的名词动词化: The Denominal Verbalization of Chinese Nouns, by Anna Hutchinson, Sean Cameron ....... 59
How English verbs are borrowed into Jordanian Arabic: morphological integration and social perception, by Hannah Smith ................................................................................................................. 59
Maria Firmina dos Reis: A Voice from the Past that Echoes in the Present, by Joshua Cook Wright ............... 59

Session A8: Science Oral Presentations, 9:00 AM in Keller Building (KB) Room 306 ................................. 60
Investigating Knot Invariants Arising from Petal Diagram, by Adam Call, Parker Myers ................................. 60
Using reinforcement learning to study problems in braiding, by Abraham Harris, Juliana Corbridge .......... 60
Using reinforcement learning to model topoisomerase action during cell division, by Samantha Richardson, Sam Simmons ................................................................. 60
Leveraging Deep Reinforcement Learning and Braid Representations to Explore Knot Theory, by Dylan Skinner..... 60
Protein-Protein Binding Between the Beta Cell Transcription Factor Nkx6.1 and PACS1 in Rat Beta Cells, by Spencer Paulsen ................................................................................................. 60
Estimating the Prevalence of Images in Biology Literature that are Problematic for People with a Color-Vision Deficiency, by Harlan Stevens, Arwen Oakley ................................................................. 60

Session A9: Social Science Oral Presentations, 9:00 AM in Keller Building (KB) Room 344 ..................... 61
Detecting Fake People in the United States Census, by Allen Otterstrom ......................................................... 61
Counsellor Knockolds and Captain Swing: Urban-Rural Relations and Social Protest in Early 19th-Century East Anglia, by Hyrum Veach ................................................................................................................. 61
Broken Heart Syndrome: Understanding the Spousal Correlation in Mortality Using Kin-Linked Data, by Sven Wilson, Joseph Price, Hannah Hammond, Katharine Wilson ................................................................. 61
Legal Representation and Fairness in the Provo City Justice Court, by Macaulay Gould, Chelsea Romney, Andrew Moss ................................................................................................................. 61
Perceptions of National Identity Among Brazilian Americans Living in Northern Utah, by Elisabeth Morris ........ 61
The Hyrum Smith Papers Project: Uncovering 19th Century History, by Liberty Rausch ............................... 61

Session A10: Nursing Oral Presentation, 9:00 AM in Keller Building (KB) Room 346 ................................. 62
Perceived Risks for Maternal Mortality Among Utah Women, by Marie Gibb ....................................................... 62

Session A10: Health & Medicine Rapid-fire Oral Presentations, 9:00 AM in Keller Building (KB) Room 346 . 62
Meta-Analysis of Success Determining Factors of Healthcare Innovations, by Barry Gyman ......................... 62
Health Insurance Literacy Among UVU Students, by Emmalie Parker ......................................................... 62
The Inseparable Connection Between Body and Mouth, by Maddy Howard, Brooke Dension, Shanna Groesbeck..... 62
Acitudes, Barreras, y Cambios: Adapting Prehabilitation for Latino Patient Populations, by Quinn Gerber, Lucas Carpenter, Jacob Clemons, Cindy Kin ................................................................. 62
Geminivirus Resistance in Mustard Plants, by Adam K Hales ........................................................................ 62
Assessment of the Use of Phragmites australis as a Biomarker for Trace Metal Pollution, by Aljexi Olsen, Hali Lukacs ................................................................................................................. 62
Analysis of Estrous Cycle in POMC-deficient mice, by Isaac Gillins, Zoe Thompson ................................. 63
Investigating Intraspecific Temporal Behavior in Mule Deer (Odocoileus hemionus) across Life Stages: Fawning and Non-Fawning, by Danielle Terry, Seth Helton, Michael Creer ........................................................................ 63
Using Snapshot Camera Trap data to evaluate the extent of the “weekend effect” across varying climatic regions of the contiguous United States, by Austin Green, Gaby Karakcheyeva ................................................................. 63

Session B: Poster Presentations, 10:45 AM in Keller Building (KB) Rooms 401/403/405 ............................. 64
Implicit Bias: Impacts of a Transformative DEIB Business Course, by Ramon Zabriskie, Erica Miller, Felicia Korth, Anna Taylor .......................................................................................................................... 64
Social Connection in Shared Experiences, by Lizzie Stewart, Hayden Underwood, Dallas Goolsby, Spencer Sears........ 64
Face it! How reliable is emotional facial expression coding within and across raters?, by Anna Norman, Chloe Houghton, Macall Walker, Audrey Saunders .................................................. 64
A gamified app that educates autistic population on social media safety, by Changxi Xing, Kirsten Chapman ....... 64
Art Beyond the Bars: The Value of Arts Programming in Correctional Settings, by Brenda Payan Medina ................. 64
Automating the Analysis of Language Samples Obtained from the Frog Story Series: Step 1, by Tessa Sabin, Derek Bagley, Kylie Olsen, Alexis Klein, Haven Broadhurst ............................................ 64
Examination of Effort Belief and Self-Competence in Classrooms Using Mastery-Based Grading and Active Learning, by Grant Hendrickson, Christian Moody, Nellie Bowman, Nick Jeffery, Cairo Ziebarth, Joel Davis, Melissa Reeves, Heather Wilson Ashworth ............................................................. 64
Gender disparities in the pursuit of biology at UVU, by Eden Backman, Britt Wyatt, Kandace Flanary, Jessica Cusick, T Heath Ogden, Joshua Premo ................................................................. 65
How different students’ groups perceive learning in out-of-class collaborative environment?, by Sophia Kramer, Violeta Vasilevska .................................................................................................................. 65
Sodium to Potassium Ratio Is Associated with Increased Blood Pressure in Males but Not in Females, by Karen Hoggan, Adia Migliori, Jonathan Harr, David Aguilar Alvarez .......................................................... 65
Cell Death, Inflammation, and Extracellular Vpr in the R77Q Mutation of Vpr in HIV-1, by Amanda Carlson .......... 65
Changes in receptor sensitivity in the ventralregional area after morphine conditioning, by Calista Greenwood, Ciera Sanders, Pacen Williams, Kaleb Gardner, Caylor Hafen, Hillary Wadsworth ................................................................................. 65
Staying Hydrated - A Comparative Analysis of Humectants in Human Cadaveric Tissue, by Rachel Prince, Joseph Monsen ........................................................................................................... 65
Investigating Gender Differences in Facial Expressiveness during Personal Narratives Using a Modified FACES Protocol, by Leila Moore, Marin Farnsworth .............................................................................. 66
Assessing Eccentric Hamstring Strength in football Players: Muscle-Specific contrihutions, by Logan McMaster, Joshua Sponbeck, Malorie Wilwand, A. Wayne Johnson ............................................................ 66
Lesion Network Mapping of Anosognosia for Hemiplegia, by Joseph Holmes ......................................................... 66
No Difference Found in Hamstring Strength Across Division I Football Positions, by Spencer Jezek, Malorie Wilwand, Joshua Sponbeck, Hunter Jack, Kaden Kennard, A Wayne Johnson .......................................................... 66
The effects of terminating a 24-hr fast with a low versus a high carbohydrate shake on hunger and appetite, by Katelyn Hales, Katya Hulse, Spencer Hawes ........................................................................ 66
The Effects of a High Carbohydrate vs. High Fat Pre-Fast Meal on Incretin Hormone Secretion: A Randomized Crossover Study, by Parker Graves, Landon Deru, Bruce Bailey .................................................. 66
The Effects of Dual-Task Activities on Language Fluency: Language Production While Driving, by Alex Jarvis, Brooklyn Flowers, June Oaks, Sadie North ................................................................................. 66
Differences in Ultrasound Elastography Measurements Of The Patellar Tendon Using Pad vs No Pad and Of Dominant vs Non Dominant Legs, by Ashley Allan, Mikayla Kimball, Noah Bezzant, Brent Feland, Josh Sponbeck ...... 67
The Effects of Initiating a 24-hour Fast with a Low Versus a High Carbohydrate Shake on pancreatic hormones in the Elderly: A Randomized Crossover Study, by Spencer Hawes, Katya Hulse, McKay Knowlton, Landon Deru, Bruce Bailey .................................................................................. 67
Transcriptomic Analysis of B cell RNA-seq Data Reveals Novel Targets for Lupus Treatment, by Sehi Kim, Naomi Rapier-Sharman, Michael Told ......................................................................................... 67
Addressing Health Care Access Disparities: Bridging the Gap for a Healthier Society, by Jayden Peacock ................. 67
Concurrent Validity of Heart Rate Measurements by Bicep Worn Polar Verity Sense and OH1 Devices During Moderately Heavy Resistance Training, by Marcus M Lawrence, Merrill Funk, Jeffrey C Cowley, Amanda Hawkes, Aaron McKenzie, Alexandra Routsis, Wesley Ziegler, Talon Thornton, Spencer Maxwell, Korina Ziegler, James Navaleta 67 Differences in Absolute and Relative Upper and Lower Body Strength Measures in Intermediate and Advanced Climbers, by ANNA EDLER, RYAN KUNKLER, CASEY WEBB, JACOB MANNING, MARCUS M LAWRENCE ....................................................................................................................... 68
Repetition Count Concurrent Validity of Various Garmin Wrist Watches During Light Circuit Resistance Training, by Wesley Ziegler, Spencer Maxwell, Aaron McKenzie, Talon Thornton, Alexandra Routsis, Korina Ziegler, Jae Bovell, Devin Green, Bryson Carrier, James Navalta, Setareh Star Zarei, Kaye Lavin, Jeffrey C Cowley, Amanda Hawkes, Merrill Funk, Marcus M Lawrence, Charli Aguilar......................................................................................................................... 68

Perceived Fatigue and Physical Activity Enjoyment Following Indoor and Outdoor Moderately Heavy Superset Resistance Training, by Korina Ziegler, Aaron McKenzie, Wesley Ziegler, Spencer Maxwell, Bryson Carrier, Charli Aguilar, Alexandra Routsis, Talon Thornton, Jae Bovell, Setareh Star Zarei, Devin Green, Amanda Hawkes, Jeffrey C Cowley, Merrill Funk, James Navalta, Marcus M Lawrence.......................................................................................................................... 68

Relationships Between Dominant and Non-Dominant Finger Rate of Force Development (RFD) and Finger Strength, Shoulder Strength, and Lower-Body Strength in Recreational to Advanced Climbers, by Ryan Kunkler, Marcus Lawrence, Anna Edler, Casey Webb, Jacob Manning......................................................................................................................... 68

Nutrient Release of Tumor Stroma is Controlled by Glucocorticoids, by Libby Brooks................................................................. 68

Behavioral Effects of Trauma Recruit Separate Populations of Ventral Hippocampal Neurons, by Addison Hedges, Kevin Sattler.......................................................................................................................... 68

EFFECTS OF DOCOSAHEXAENOIC ACID ON NEURONAL OUTCOMES IN A RAT MODEL OF PEDIATRIC TRAUMATIC BRAIN INJURY, by Amber Brooks.......................................................................................................................... 69

Advanced Alkaline Amine Fuel Cell Development, by Jackson Rose, Kevin Shurtleff................................................................. 69

Investigating the Role of Concurrent NF1 and BRAF Mutations in Melanoma, by Lorelei Sole, Riley Elmer, Gennie Parkman, David Kircher, Katie Culver, Tursun Turapov, David Viskocil, Sheri Holmen................................................................. 69

Three-Dimensional Construction of Coronary Vasculature Geometries, by Aksel Anderson, Lindsay Rupp, Anna Busatto, Rob MacLeod......................................................................................................................... 69

Internalized HIV stigma among women giving birth in Tanzania: A mixed-methods study, by Anya Weglarz........... 69

Ovarian Exosomal Therapy for Nuerological Health in mice, by Nathan McCoy................................................................. 69

Antioxidant Combinatory Cytomegalovirus Treatment, by Kade Robison, David Britt, Elizabeth Vargis......................... 69

An Investigation into the Effect of Access to Dental Radiology Skill Practice in Virtual Reality on Undergraduate Dental Hygiene Student Competency and Learning Compared with Access to Traditional Study and Practice Methods, by Michaela Lovejoy, Rylee Udom, Lindsey Fry, Hailey Roubidoux, Makayla Dunbar, Kali Hunt, Mandy Gibbs, Lisa Welch.......................................................................................................................... 69

The Effects of Pterostilbene on NADH Oxidase in Endothelial Cells Exposed To Hyperglycemic Conditions, by Gabe Matthews, Easton Eddie.................................................................................. 70

Revolutionary goniometric knee attachment, by Syrus Miner, Ryland Day, Justin LeClair, Adam Dimaio......................... 70

Opioid Use Disorders Treatment Related Disparities in Patients with Psychiatric Illness, by Caroline Nielsen, Connor Baird.......................................................................................................................... 70

Velocity-based training instruments compared to 3D motion capture analysis, by Anthony Cornwall, Jake Rhea, Travis Ficklin................................................................. 70

Experimentally determined moments of inertia for a regulation baseball vs. a baseball with redistributed mass, by Dylan Snook, Anthony Cornwall, Travis Ficklin........................................................................ 70

The relationship between differential finger force in a squeezing task and spin characteristics of a four-seam fastball thrown by division-I collegiate baseball pitchers, by Anthony Cornwall, Dylan Snook, Travis Ficklin ................................................................. 70

Plants, oral health, and microbes: Properties of North American chewing sticks, by Kevin Kuehne, Jake Hess ........... 71

The Impact of Population Density on COVID-19 Case Numbers during the Omicron Surge: A Comparative Analysis of US Counties and Sweden, by Hazel Ticas, Daniel Scott................................................................. 71

Whiter than a Toilet Bowl, by Tiba Hasan, Elise Larsen, McKell Gillins.................................................................................. 71

Intersectionality in Science, by Britt Wyatt, Alyssa Habel, Jess Cusick, Heath Ogden, Josh Premo................................. 71

Lower Limb Asymmetries in Unilateral Jump Mechanics as Possible Risk Factor for Injury in Collegiate Wrestlers, by Jacob Armstrong, Tyler Standifird................................................................................ 71

Closely related Enterobacteriaceae species with antibiotic class and subclass resistance, by Coleman Judd, Alexander Beagley......................................................................................................................... 71

Ecogeographic effect on color pigmentation: Assessing the application of Gloger’s Rule in Robber Flies, by Lauryn Dupaix.......................................................................................................................... 71

Comparison of Aposthonia ceylonica genome size to repetitive elements and the analysis of silk-coding sequencing and their proteins, by Lillian Davis, Paul B Frandsen .................................................................................. 72

LAB Diet Preference, by Andrew Call.......................................................................................................................... 72

Elucidating the Neural Mechanisms of Dopamine and Drugs of Abuse on Anxiety Using Dlg1t1 Sensors, VR, and 2-Photon Microscopy in Mice, by Daniel Luke Isengroner, Jacob Cecil, Noah Moffat, Nathaniel Horne, Jordan Yorgason 72
Achievement Goals and Burnout in Pre-Health Profession Undergraduate Students, by Hunter Nelson

Exploring the Role of Dopamine and ATP in Microbial Motility and Morphology, by Christopher Galbraith, Derek Langford, Hillary Wadsworth, Eliza White, Erin Taylor, Lauren Ford

Effect of food depth on microbiome of Drosophila melanogaster, by Rebecca Kreutz

The Effect of Epicatechin and its Microbial Metabolites on Differing Pathways of Beta-Cell Death in Type I and Type II Diabetes, by Aubree Bench, Eden Beazer, Ethan Jones, Jared Carter

The effect of microbiota on Drosophila melanogaster activity at low temperatures, by Cooper Johnson

Investigating the Potential Toxic Dust Pool Generated by the Shrinking of the Great Salt Lake, by Kirsten Sanders... Using a Pricking Method for Inoculating Drosophila melanogaster with Wolbachia, by Naavah Craze, crazen@byu.edu

Causal Brain Networks in Insomnia, by Levi Pouwer, Keaton Helquist

Gene analysis of gut microbiota that improves chill coma recovery rates in Drosophila Melanogaster, by Lauren Heath, John Chaston

Seasonal Coloration in Utah Dragonflies and Damselflies, by Eva Driggs, Megan Cahoon, Seth Bybee

What brings us together: how global identity is influenced by images of success or suffering, by Jaiden Sherratt, Madison Ward, Alexandra Clements, Makenzie Vance, Christopher Furlow

Antihistamines Blunt the Effect of Localized Vibration on Arterial blood Flow, by Dustin Edmonds, Devin Needs, Riley Fisher

The Effects of Latitude and Other Microbiota on the Microbiota of Drosophila Melanogaster, by Connor Hough

ATP and Dopamine Co-Release in the NAc, by Jonathan Dickerson, Christian Ahrens, Zach Valentine, Sara Linderman, Hillary Wadsworth, Lauren Ford, Jordan Jorgason

Seasonal Effects on Drosophila Development Rates, by Peyton Jackson

Designing Inducible DNA Constructs for the Chicken, by Lant Jenkins, Dalyn Davis, Caleb Kratt

Epigenetic Marks of Antiaging Pioglitazone Hydrochloride (PGZ) on Pregeny, by Wesley Hendricks

Natural Transformation in Staphylococcus aureus biofilms, by Julia Gilpin, Lucy Bowden, Sela Harris, Elisa McRae, Jenny Bean, Brooklyn Jones

Do Predators Cause Maternal Effects in Livebearing Tropical Fish?, by Nolan Rodeback, Jerald Johnson

CICNT surfaces block Staphylococcus aureus biofilm formation on implanted devices in mice, by Brooklyn Jones


Fish Tattoos: The Evolutionary Cost of Black Spot Disease, by Eric Morris


Establishing a Common Framework for Triangles, by Jordan Gertino, Bryan Wilson

Chemical Synthesis of Aerogel Fabrics using Standard Lab Conditions, by Antonio Ruiz Ayala, Cristina Kinosian

Differentiation of VOC emissions of heat-stressed Populus trichocarpa with varying levels of mycorrhizal colonization, by Luis Valdez, Mary Alvarez, Jessica Berryman, Ron Valcarce

Comparison of low-cost synthesis methods for pharmaceutical-grade purity of the anticonvulstant Phenytoin using traditional reflux techniques versus Microwave-Assisted Extraction, by Katherine Christensen, Danielle Kemmer

Rearrangement of Indolizines to Quinolizinium Salts, by Alexander Binsacca, Jackson Merriam, Brighton Stringham, Allyssa Platt

Genetic Modification of Cyanobacteria to Break Down Organic Compounds and Inhibit Toxin Production, by Lonnie Ernst

Isolation of Microcystin-producing Cyanobacteria, by Alix Elliston

Determining Ant Species Diversity Through DNA Barcoding at Snow College, by Brynlyn Hastings, Dante Cervantes, Jaime Analuisa

Variation of Grasshopper Species Found in Human Populated and Unpopulated Locations in Sanpete County, by Joshua Thlaman, Brynlei Luke, Emily Pattee

Synthesis of Trans-Stilbene Derivatives by Palladium-Catalyzed Cross-Coupling of trans-2-Phenylvinylboronic Acid Pinacol Ester with Aromatic Chlorides, by Braden Nelson

Spatial visualization versus memorization differences among sexes in organic chemistry, by Derek Baker, Lauren Jensen, Dagney Goodfellow, Seunghwan Shin
The Megasauropods: Using Ecological and Histological Analogues to Predict Maximum Sauropod Body Sizes With Implications for Paleobiology, by Isaac Wilson, Bree Wilson ................................................................. 77
Organic chemistry students’ perceived costs and goal orientations, by Seunghwan Shin, Sydney Coates ......... 77
Microfossils of the McCarty Mountain’s Locality, southwestern Montana, by Cate Bateman, Jose Aurelio De La Rocha Tapia, Ethan Fulwood, Arianna Harrington.......................................................... 77
The Effects of Reptile Handling on the Cardiovascular System, by Ashley Hartwig, Dr. Weeg .......................................................... 77
Isolation and Characterization of Bovine Milk Derived Extracellular Vesicles, by Logan Whitney, Jaren Wilson, Elley Colledge, Jamie Thygerson .................................................................................. 77
MICP-Mediated Biobrick Formation: Evaluating Urease-Active Strains, by Sydney Pruett .......................................................... 77
Synthesis of 1,3-Diphenylpropene from Benzyl Bromide Through a Hydroboration and Palladium-Catalyzed Cross-Coupling Sequence, by Michal Hansen, Nathan Werner .......................................................... 78
Designing a Non-Invasive Molecular Assay to Detect Batrachochytrium dendrobatidis Infection in Invasive Bullfrogs, by Gabriella Proctor, Luke Alder ........................................................................ 78
Assessing Plant Adaptability to Wildfire Impact and Drought, by Clista Galecki .......................................................... 78
Session B1: Art/Education/Humanities Oral Presentations, 10:45 AM in Sorenson Center (SC) Room 213 A 79
NIQUE: Evolution of Contemporary Ballet, by Andy Sefcik .......................................................... 79
Unfinished Portrait Faces on Roman Sarcophagi, by Harmony Newbrough .......................................................... 79
Action Research: Will Direct Phonics Literacy Instruction Help Students Learn and Retain Irregular Words?, by Angela Gomez .......................................................................................... 79
How the Media Portrays Physical Disabilities, by Jessica Anderson .......................................................... 79
Session B2: Social Sciences Oral Presentations, 10:45 AM in Sorenson Center (SC) Room 213 B .................. 80
A Place for the Arts: Creating Spaces for Cross-Community Contact in Belfast, by Addie Ressler .................. 80
Fremont Red-on-Gray Pottery, by Talia Berglund .................................................................................. 80
Foreign Textiles at the Early Christian Fag el-Gamous Cemetery in Egypt, by Jenna Norris .................. 80
Faunal Remains from Hinckley Mounds, by Amber Clayton .......................................................... 80
The Transmission of National Identity: A Case Study of Japan’s Memorialization of the Past, by Ashlyn Clark .... 80
Session B3: Science Oral Presentations, 10:45 AM in Keller Building (KB) Room 362 .......................... 81
The effects of stinging nettle oil on the vascular smooth muscle in frogs, by Tia Dudley, Ty Erickson .......... 81
An Analysis of the Neuroscience of Love and the Physiological Similarities it Holds to Addiction, by Audrey Wells .... 81
Pollen DNA Metabarcoding to Analyze the Effect of Formic Acid Treatment on Foraging Behaviors of Apis mellifera, by Claudia Wiese, Josh Steffen, Heather Briggs, Rodolfo Probst .......................................................... 81
Conserving a keystone predator in the Americas: integrating phylogenomics, biogeography, and species-level taxonomy for a widespread army ant genus, by Megan DuVal, John Longino, Rodolfo da Silva Probst .......................................................... 81
Group Theory for Procedural Content Generation: Towards Generating Objects from Mathematical Description, by Jonas P Knochelmann .......................................................... 81
Session B4: Social Sciences Oral Presentations, 10:45 AM in Sorenson Center (SC) Room 208 .................. 82
Photographic Depictions of Polygamy from 1878-1953, by Holly Biesinger .......................................................... 82
Pandemic Effects on the Work From Home Market, by Eve Christensen, Chase Redd, Bailey Uzzardo .......... 82
The Effect of State Abortion Policy on Birth Control Consumption, by Lauren Howell .................................. 82
The Relationship Between Economic Sector & Job Satisfaction, by Kelsey Grimshaw .................................. 82
Session B5: Education Oral Presentations, 10:45 AM in Keller Building (KB) Room 244 .................. 83
Long-Term Substitutes Effect on Student Scores in California, by Kira Swann, Cody Dirks ................. 83
Pertenece a los Estados Unidos: The Benefits of a Bilingual Education in the United States, by Beckham Trigo ...... 83
Vocabulary Intervention: Supporting English Language Learners in Vocabulary Development, by Allie Baumgartner 83
Struggling Readers: Action to Improve Comprehension, by Cari Richards ........................................ 83
Bloom’s and SOLO: A Comparison of Educational Taxonomies, by Spenser A Clark ........................................... 83
Session B6: Engineering/Science Oral Presentations, 10:45 AM in Keller Building (KB) Room 248 ............... 84
Chronic obstructive pulmonary disorder remote patient monitoring using spirometry: a systematic review, by Joseph Nielson, Ben Schooley .......................................................... 84
Bacterial Separation by poly-Dopamine Coated Magnetic Nanoparticles, by Camille Bryner, Alyson Camacho, Bowen J Houser ................................................................. 84
Preferential Capture of Bacteria Using pDA-coated Magnetic Nanoparticles, by Alyson Camacho, Camille Bryner, Bowen Houser ................................................................. 84
Constant pressure untethered soft robotics: an adaptable solution to the limitations of soft robots, by James Wade, Chris Paul................................................................. 84

Session B7: Humanities Oral Presentations, 10:45 AM in Keller Building (KB) Room 302 .......... 85
Information-Gaining Moves in Game Theory, by Kevin Young ........................................ 85
The Portrayal Of Reality Through The Lens Of The Astonishing World Of Studio Ghibli, by Emma Manley ........ 85
Musical Manipulation: Controlling Memory And Emotions Through Auditory Processing, by Kaelri Ringle .... 85
Digging the Rabbit Hole: Jean Baudrillard and Mike Rothschild's "The Storm is Upon Us", by Ezra Stein .......... 85
Feminine versus Freakish: The Silence of the Lambs and TERF Rhetoric, by Kenna Johnson .......... 85

Session B8: Science Oral Presentations, 10:45 AM in Keller Building (KB) Room 306 ............... 86
De novo genome assembly and annotation of Curculio sp. (Coleoptera: Curculionidae) provides insight into diapause evolution, by Daniel Davis, Paul B Frandsen ......................................................... 86
Updated Third Generation Sequencing: Assembly Insights, by Danyon Gedris, Paul Frandsen ............... 86
Adverse effects of Nr4a3 full body knockouts on adipose tissue, by Jared Carter ........................... 86
Unlocking the Mechanism Behind Depotentiation: A Cellular Model for Forgetting, by Justin Webb ... 86
Diversity and community in macroinvertebrates of Timpanogos Cave, Utah, by Erika Frandsen .......... 86

Session B9: Social Sciences Oral Presentations, 10:45 AM in Keller Building (KB) Room 344 ....... 87
Guiding Souls, Shaping Towns: Clergy’s influence on Population Dynamics, by Seth Cannon .......... 87
Bridging the Gaps: Geo-Coordinated Land Patent Linking for Socioeconomic Analysis, by Zachary Flynn, Britton Davis, Josh Nicholls, Bryson Mumford ........................................ 87
Low Academic Self-Efficacy Predicts Higher Depression and Anxiety in Students of Color, by Nathaniel Call ...... 87
Tin Foil Prophets: The Moral Worlds of Conspiracy and Apocalypse, by Soren Pearce ...................... 87
Agency and Support: A case-study of a mental well-being support group for Latina Immigrants, by Vanessa Lozano 87

Session B10: Rapid-fire Arts & Humanities Oral Presentations, 10:45 AM in Keller Building (KB) Room 346 88
Shaping Futures: The Evolution of Elementary School Architecture, by Samuel Zenteno .................... 88
The Jazz Standard as Archive in Utah Jazz Performance, by Jens Watts ........................................... 88
Breaking Boundaries, by Arawyn Walter ...................................................................................... 88
The Gallery Space as Medium, Curating as Artistic Practice, by Zoe Elwood ................................. 88
Crafting Secure System Messages, by Spencer Thompson ............................................................. 88
What Makes a Legend: Characterization’s Role in Arthurian Universality, by Em Hart ..................... 88

Session B11: Architecture/Business Oral Presentations, 10:45 AM in Keller Building (KB) Room 348 .... 89
Subconscious Comprehension of Structural Forms: An Eye-Tracking Study, by Jared K Bradshaw .......... 89
Income Inequality for Women in the Psychology Field, by Jacob Willoughby .................................. 89
What role does gig work play in bridging or widening the gender pay gap among underrepresented groups?, by Katrina Kim .......................................................................................... 89
The Gender Pay Gap in FinTech: An Analysis of Women’s Compensation in the Industry, by Rachel Bi, Chong Meng 89

Session C: Poster Presentations, 1:45 PM in Keller Building (KB) Rooms 401/403/405 ................. 90
Music and Recall: A study of the impacts of Music on Performance, by Cari Monson, Julie Pynn .............. 90
Understanding the Effect of Printing Parameters and Prewetting on Binder Jetting Continuous Line Formation, by A. Kalani Brubaker ...................................................................... 90
Eating Disorders and ADHD, by Danielle Black .............................................................................. 90
The State of Student Media at HBCUs and HSIs, by Marianna Lopez Luritta, Mckinna Baird ............... 90
Going Green in a General Chemistry Teaching Lab: Assessment of Learning Outcomes, by Cooper Bell-Hunley, Ming Yu, Emily Heider ................................................................. 90
Genetic Mutations in the Genomes of Mother-Offspring Pairs Shows Link Towards Nausea and Vomiting in pregnancy, by Dallin Oyler, Ana Alfaro, Kailee Myxter, Ben Brooks, Amanda Brooks ................. 90
Lighting for Different Land Uses: A Case Study in Cedar City, by Sebastian Partida ....................... 90
The use of ecological niche modeling to characterize the microhabitat of oak hybrids (Quercus undulata) in Utah, by Cate Bateman, Carson Veazie................................................................. 91
Sydney Sandall........................................................................................................ 91
Social Effects of Bed Nucleus of the Stria Terminalis Corticotropin-releasing Hormone and Tachykinin 2 Neuronal Activation Using Optogenetic Stimulation, by Nicholas Poll................................................................. 91
Reconstructing seasonality in African bovids using dental microwear, by Auriana Dunn ................................................................. 91
Evaluating the role of LRRC1 in melanoma growth and metastasis, by Kylee Fernandez .................................................................................. 91
Impact of Inducible Depletion of Sequestosome-1 (p62) From Endothelial Cells On Intrinsic Arterial Stiffness, by G. Colton Gardner, Lynasi Gapelu, Sohom Mookherjee, Sihem Boudina, J. David Symons ........................................................................ 91
Using Past Ecosystems to Understand Modern Climate Change: A Case Study from Utah’s House Mountain Range, by Jane Damstedt, Kasey Cole ................................................................................................. 91
A Metagenomic Analysis the Microbial Composition of Apis mellifera Pollen Preserves throughout the Foraging Season, by Sydney Larsen........................................................................................................ 91
Nonequilibrium Thermodynamics of Voltage-Gated Ion Channels, by Ada Cottam Allen, Mikhael T Semaan................................. 92
Bx42 is Required for Brain Development and is Linked to Microcephaly, by Adriana Bibo, Nicole Losurdo, Nichole Link ......................................................................................................................... 92
Synthesis and testing of hydrophobically-modified pyridyl-aza crown ethers as chelators of rare earth elements, by William Lee, Rishab Nayak, Cecilia Knapp, Camila Soderholm ......................................................................................... 92
A Glance into the Origin of Life through the Lens of the DNA Repair Enzyme MutY from the Lost City Metagenomes, by My Nha Quyen Tran, Cindy Greaves ................................................................................................. 92
Murine Model of Hepatitis Delta Virus-Associated Salivary Gland Impairment, by Alexander Romano, Matthew Hesterman, Rachel Hill, Melodie Weller ........................................................................ 92
In the Depths of the Understory: Costa Rican Associations Between Ants and Coccoidea Unraveled using NGS DNA Barcoding, by Sylvia Lee, Ainsley Parks, Rodolfo S Probst......................................................................................... 92
Nanopore sequencing as a tool supporting pharmacological research in historically neglected marine micromollusks: from traditional knowledge to pharmacological targets, by Libby Heath, Kyle Cink, Thomas Petitjean, Ainsley Parks, Sylvia Lee, Rodolfo S Probst, Matias Giglio, Baldomero Olivera, Macy Olivera ................................................................................................. 92
Information Anatomy Over Partition Space, by Nathan Jackson, Ryan James, James Crutchfield ......................................................................... 93
Quaking Aspen Pathogen Defense in the Presence of Climate Change Related Drought, by Allison Perkins, Aubrey Hawks, Talia Karasov.......................................................................................................... 93
Evolution of TETR/TETO system toward orthogonal transcriptional repression, by Alexa N Gormick, Adam M Zahm, Justin G English................................................................. 93
Lysine Methyltransferase SETD7 Methylates Two Novel Residues on Histone H3, by Braxton Bird................................................................. 93
Investigating Neuronal Networks Behind Learning in Drosophila melanogaster, by Dua Azhar, Alexander MacKenzie, Sophie Caron ......................................................................................................................... 93
Utilizing Genomic and Metabolic Data to Investigate the Evolutionary Ecology of Ant-Farmed Fungi, by America Cox, Kendra Autumn, Bryn Dentinger ......................................................................................... 93
Building the Labyrinth: Evolutionary Algorithms, Behavioral Analysis Generative AI in Information Security Assurance, by Daniel Lentz.......................................................................................................... 94
Using Technician Statistics For Productive Animal Care, by Grace Moore................................................................................................. 94
Eolian Sediment as a Potential Soil Parent Material in Cache Valley, by Kylie Hansen ................................................................................................. 94
Isolation on Plant Growth promoting bacteria from the hybrid buffaloberry Shepherdia x uhatensis ’Torrey’, by Ty Wilson ........................................................................................................................................................................ 94
Hollow hair and how its structure helps big game animals thermoregulate, by Taylor Millett, Wendy Schatzberg, Samuel Tobler .......................................................................................................... 94
Computational analysis of cyclic aminoborane complexes that exhibit potential to act as hydrogen storage molecules, by Amy Richards, Caleb Shelton, Jordan Colmenero, Mason Waresnki ........................................................................................................................................................................ 94
Synthesis and Characterization of Novel Pterostilbene Derivatives for Potential use as Therapeutics, by Ashley Staten ......................................................................................................................... 94
Rock Column Displacement in Zion National Park: A statistical Analysis, by Michael Orr ................................................................................................. 95
University Course Timetabling: From Sticky Notes to Automation, by Alyssa Muller, Russ Ross .................................................. 95
mitochondrial genes of hybrid whiptail parthenogens, by Dante Celani, Erin Bunch, Randy Klabacka ........................................... 95
fr10 Evolution, by Reagan McKee, Vicente Fernández Lara, Jeremy Bakelar, Randy Klabacka, Dustin Kolste ......................... 95
Insane in the Membrane: Amino acid sequence evolution and conservation in vital protein complex in gram-negative bacteria, by Alexander Everett, David Bean, Jeremy W Bakelar, Randy L Klabacka .......................................................... 95
Introduced population of a unisexual lizard species in Southern Utah, by Vicente Fernández Lara, Reagan McKee, Randy Klabacka, Angelina Romero .................................................................................................................. 95
Computational analysis of cyclic aminoborane complexes that exhibit potential to act as hydrogen storage molecules, by Amy Richards, Caleb Shelton, Jordan Colmenero, Mason Wareski ........................................................................................................................................ 95
Cloning of ORC2 and ORC4 from HeLa Cells, by Austin Meyer, Gavin Grimmett, Martina Gaspari ..................................................... 95
Thermochronometry dating of apatite (U-Th/He) of Andes Plate Tectonics from the Sierra de Altohuasi, by Charity Beck, Justin Hawkins ........................................................................................................... 96
Apatite (U-Th)/He dating of Andes Mountains near Sierra de Chango Real, Argentina, by Justin Hawkins, Charley Beck ................................................................................................................................................. 96
Analyzing the relationship between genes and survivability of breast cancer using machine learning, by Erick Gutierrez, Saizib Hasan, Vinodh Chellamuthu, Jie Liu ................................................................................................................................. 96
Utah Tech Caps Temperature Mapping with GIS, by Grace Harang, Avery Hanszen ............................................................................. 96
The Santa Clara River: A Vital Arid Waterway Under Human and Climate Pressures, by Emma Parry, Nikki Trush, Christina Pondell .................................................................................................................................. 96
Complex Responses of Desert Soil Properties to Organic Amendment Applications, by Trevor Ashby, Elizabeth Macleannan ......................................................................................................................................................... 96
Elevation and their relationship with Avalanches, by Savanna Greer ........................................................................................................ 96
Solid Waste Production, City of Saint George, by Allie Pace, Conner Bennett .................................................................................. 96
The nature of the negative relationship between phylogenetic distance and genomic mapping success, by Dante Celani, Laisha Noyes, Candice Johnson, Seun Onilowo, Randy Klabacka ........................................................................... 97
Aquatic plant-associated fungi along an urbanization gradient, by Jacob Mora, Geoff Zahn ................................................................. 97
Bloom-B-Gone: Preventing Utah Lake Toxic Blooms by Phosphorous and Nitrogen Sequestration, by Elise Bennett, Zenos Thoreson, Blaise Bartlett, Jacob McFadden, Melanie Rosa, Nathan Walker, Logan Fenn, Eric Domyan, Colleen Hough ........................................................................................................................................... 97
Safety and Fairness in the Courtroom, by Ella Johnson, Aubria Soto, Andrew Bodily ........................................................................... 97
The Value of Relationship Education for Youth and Teenagers, by Stefan Jezik .................................................................................. 97
Creating a Surname Lexicon for Historical US Records, by Spencer Timmerman ................................................................................. 97
Does talking about Suicidality help all populations? The data points to Yes, by Elizabeth Smith, Melissa Chavez ........................................... 97
The Influence of Problematic Media Use on Language Development, by Allison Weston, Summer Snow, Sophia James ............................ 97
Feelings about Modesty and the Prevalence of Eating Disorders in Latter-Day Saint Men and Women, by Kate Binford, Marissa Roper, Brynn Eyre ............................................................................................................................................... 98
Using Automated Web Scraping to Document Variation in Sodium Content of Common School Meal Entrees, by Aaron Brown, Kimball Jardine, Nathan Schill, Courtnay Webb, Joanne Guthrie ................................................................................................................................. 98
The Relationship Between Social Media and Body Image, by Fiona Fox, Catherine Schumann, Cameron Monson .......................................................... 98
The Physiological Effects of Capitalization in Ambivalent Marriages, by Abigail Williams, Kelsie Minga, Abby Baker, Ella Sieg, Olivia Harris ........................................................................................................................................... 98
Relationship Between Income and Lifespan Using Historical Data, by Joseph Price, Britton Davis, Alexander Jenks... 98
Investigating the Effectiveness of Incentivized Efficient Watering Practices in 5 Western States with Focus on Utah, by Ashley Swensen, Ruth Kerry ................................................................................................................. 98
The Impacts of Distress and Perceived Social Support on Heart Rate Variability, by Mikel Cressman, Jackie Richey, Dantzel Petersen Hancey, Bianka Geraldo, Kayden Barlow, Ainsley Lumsden, Olivia Hubble ................................................................................................. 98
Influence of Childhood Levels of Self Control on Adolescent Sleep Outcomes, by Jacalyn Richey, Hayley Pierce ......................... 99
How Depression Affects “Feeling the Spirit” in College Age Latter-Day Saints, by Nadia Mando, Josh Shaeffer, Jared Nielsen ......................................................................................................................................................... 99
Experience impact and the influence of novelty, social connection, and positive emotions on tourist experiences, by Braden Brinhrust, Michael Ray, Megan Barbier, Ellie Smith ................................................................................................................. 99
The Effects of Anterograde Amnesia on Mnemonic Discrimination: A Single-Subject Case Study, by Sara Knowlton, Sam Chipman, Samantha Stabler, Alex Osmond, Brock Kirwan ......................................................................................... 99
Temporal Decay of Memory Discrimination: Investigating Mnemonic Similarity Task with Extended Delays, by Alexandra Osmond, Samantha Stabler, Sara Knowlton, Sam Chipman, Brock Kirwan ......................................................... 99
Sodium Reduction Policy Response, by Jacob Hutchings, Harrison Li ......................................................... 99
Cross Cultural Privacy and Communication, by Tzu Yu Weng, Isaac Teuscher ......................................................... 99
Prioritizing Kinship Care in Adoption Placements: Research Findings and Policy Solutions, by Gabriela Coca .......... 99
Intrinsic vs. Extrinsic Religiosity: Implications for the Parasympathetic Nervous System, by Parker McKasson, Hannah Hornberger, Sydnee Bond, Olivia Heller, Josh Marchant ......................................................... 100
Social Media Use: Implications for Individuals Experiencing Stress and Neuroticism, by Cole Murphy, Andrew Blazard, Austin Barney .................................................................................. 100
Unraveling the Threads of Confidence: Exploring Influences on Perceptions of Women’s Leadership, by Vanessa Tuttle ........................................................................................................ 100
From Pixels to Passion: How Mindfulness Reshapes the Landscape of Love and Intimacy as Counterbalance to Media Consumption, by Hadley Avila, Chelom Leavitt ......................................................... 100
Counting Crowds: An Analysis of Population 'Top-Outs' in Counties Across the United States, by Maisie Baird, Hugh Kerry, Samuel Otterstrom ........................................................................... 100
From Patron To Partner: Accomplishments of Museum-Armature Archaeology Relationships, by James Hall ........ 100
Examing the Effects of Service on Male-Coded Committees on the Realization of Female Legislators, by Annabelle Crawford ......................................................................................................................... 100
Contrasting Representations of the Berlin Wall in American and German Museums, by Breanne Herrmann .......... 101
Participation of Spanish-English Bilingualism in the US Political System: How Does Spanish Affect Voter Perception?, by Alexa Smith ........................................................................................................ 101
A look at Suicidality Among Various Demographics at Southern Utah University, by Maggie Smith, Bryan L Koenig 101
Do images of gender conformity affect individual comfort and conformity with gender expression, by Alexis Downey, Kylee Navin, Brice Page, Alyssa Franklin, Hannah Cluff, Julie Johnson Pynn ......................................................... 101
Meditation and Survival: Connections Between Humanity and Nature, by Reagan Wexels, Lauren Davis, Mason Peterson, Oliver Swanson, Rebekah Story, Julie Johnson Pynn ......................................................... 101
The Attitudes Towards Religion Scale (ATR): Development and Evaluation, by Samantha Denbow, Katie Finlinson, Carley Grube, Joseph Johnson, Tanner Dougherty ......................................................... 101
Seizures & Stigma, by Kelsey Grimshaw, Julie Pynn, Kirsten Graham .......................................................... 101
Examining Implicit Bias on the Political Spectrum, by Jared Hanks, Kevan LaFrance, Julie Pynn ....................... 101
From Struggles to Strength: Strategies, Identity, and Acceptance with the LGBT Community, by Kirsten Graham, Julie Pynn ......................................................................................................................... 102
Development of the Positive Awe Origin Scale, by Willow Norton, Kaleb Cox, Jaycen Sunderman, Jessalyn Warhurt102
Gambel Oak Acorns as a Food Resource in the Great Basin, Colorado Plateau, and Southwest, by Sophia Dodge .. 102
Genomic Analysis of Male Reproductive Skew in Bornean and Sumatran Orangutans, by Gabriel Hammond, Rebecca Seegрабer, Tim Webster ................................................................................................. 102
"Am I a good student?": Examining Motivation Style Influences on Coping Strategies to Perceived Academic Failure and Self-Efficacy, by Broden Lund, John Jones ........................................................................... 102
From Self-Critique to Self-Care: Examining the Links Between Perfectionism and Self-Compassion, by Peg Bird, Maria Balaceanu, Grace Carsey, Tiffanee Suhaka, Hunter Mitchell, Ives Hong, Tara Caplin, Ed Wu, John T Jones, Dannelle Larsen-Rife ......................................................................................................................... 102
Assessing Risk Authoritarian Parenting and Adult Coping, by Hunter Mitchell, Grace Carsey, Maria Balaceanu, Peg Bird, Bridger Lisonbee, Dannelle Larsen-Rife ......................................................................................... 102
The Relationship Between Sleep, Attachment, and Social Support, by Kendra Johnson ....................................... 102
Examining the Efficacy of the UVU Stronger Families Project, by Derek Wolfram .................................................. 103
Connections between relationship perceptions and well being, by Lauren Hammond, Hailey White, McKayla Pittman ................................................................................................................................. 103
Support for learning and teaching in Utah, by Jennifer Mortensen, Melissa Lee, Jessica C Hill ............................ 103
Quantitative Results of a Pre- and Post-Program Analysis of the Stronger Families Project in Fall 2023, by Taelyn Stinson, Kaicee Postler, Racel Aroch, Julie Nelson ......................................................... 103
An Archival Research Study: Correlation Between Feeling Unloved and Neglected with Eating Disorder Behaviors, by Anna Trollmann .............................................................................................................. 103
Gender differences in performance evaluation anxiety in faculty members on the tenure track, by Tatiana Leroy, Jessica C Hill .............................................................................................................. 103
Functional Near-Infrared Spectroscopy and Dementia, by Natalia Rubio, Madison Farrer ........................................... 103
The Effects of State Anxiety on Face Identification, by Patrick R Davies II ................................................................. 104
Infant Identity Among the Tiwanaku, by Matthew Hovorka ......................................................................................... 104
Do Examples of Unethical Conduct Improve or Undermine Ethics Training in Psychology, by Joshua Parmley, Acacia Overono .................................................................................................................. 104
Drawing on Memory, by Corin Marsh, Acacia Overono ................................................................................................. 104

Session C1: Huntsman Cancer Institute Special Research Session 2, 2:00 PM in Sorenson Center (SC) Center Stage ........................................................................................................................................... 105

Introduction, by Brad Cairns and Donald Ayer ............................................................................................................. 105
Combined Inhibition of RAF, MEK, and FAK Attenuates Melanoma Brain Metastases and Prolongs Survival in Preclinical Models, by Ana Paulina Medellin-Alvarez, Jared Almazan, Tursun Turapov, David A. Kircher, Karly A. Stanley, Genni L. Parkman, MiKaela N. Field, Katie M. Culver, Silvia Coma, Jonathan A. Pachter, Howard Colman, Sheri L. Holmen .................................................................................................................................................. 105
The utility of ChatGPT in subspecialty consultation for patients (pts) with metastatic genitourinary (GU) cancer, by Ayana Srivastava, Glicelda Galazar Fortuna, Beverly Chigariira, Emre Dal, Chadi Hage Chehade, Georges Gebrael, Arshit Narang, Neeraj Agarwal, Umanag Swami, Haoran Li .................................................................................................................................................. 105
Modeling Glioblastoma’s Effect on Neural Networks using Brain Organoids, by Jude Werth ................................................................................................................................. 105
Using Gut Microbiota Derived Metabolites As a Proxy for Gut Permeability and Subsequent Risk of Cachexia, by Ellie P. Evans, Mmadili Ilozumba, Sheetal Hardikar, Neli Ulrich, Jennifer Ose ................................. 105
Association of Cyclooxygenase 1 (COX-1) rs4648298 and Cyclooxygenase 2 (COX-2) rs20417 Polymorphisms and Prostatic diseases Among Lebanese Males, by Brock Sheehan, Bryson Edwards, Ivanna Soto, Justice Vance, Tyler Haywood, Jefferey Goddard, Logan Seegmiller, Mohammed A. El Saidi, Wissam R Zaidan, Asmahan El-Ezzi, Dr. Ruhul Kuddus .................................................................................................................................................. 105
Cancer Research Lightning Poster Presentations .............................................................................................................. 106
Transcriptomics Meta-Analysis Identifies Upregulation of Clotting and Fibrinolysis Cascades in Colorectal Cancer Tumors Containing Hereditary PMS2Mismatch Repair Deficiency, by Trenton M. Gibson, Brett E Pickett ................................................................................................................................. 106
An Efficient Microwave Assisted Ullmann-Type Amination of 3- Bromopyrazolo[1,5-a]pyrimidine: Key Intermediate for Preparing 3,6-Di-Amino-Substituted Anticancer Heterocycles, by Bryce Tolman, Jasper Terungwa Iorkula, Justin Singleton, Matt Peterson .................................................................................................................................................. 106
Synthesis and Optimization of Novel Macrocyclic TRK Inhibitors For Treating Drug-Resistant Cancers, by Matthew Stecher, Terungwa Iorkula, Matt A. Peterson .................................................................................................................................................. 106
Inhibiting CDK9 and Autophagy in Pancreatic Cancer, by Isabella Scalise ........................................................................ 106
Investigating the Role of FBXO21 in Hematopoietic Malignancy, by Danielle Alvarado, Kasidy Weber, Shannon Buckley .................................................................................................................................................. 106
Elucidating the Role of TOX on Melanoma Cell Migration and Invasion, by Allison Stevens, Gennie Parkman ............... 106

Session C2: Science Oral Presentations, 1:45 PM in Sorenson Center (SC) Room 213 A ............................................ 107
Waking up Rubus: germination protocols for thimbleberry, by Grace McFarlane ................................................................. 107
The “fly”-logy of Drosophila Chromosome Evolution, by Audrey French, Carl E Hjelmen .................................................. 107
Using Graph Coloring to Optimize Monitoring Electric Power Networks, by Nathan Klundt, Violeta Vasilevska ............... 107
Interoperability and Artificial Intelligence, by Asher Mitchell, Neil Chilson ......................................................................... 107
The More the Merrier: Building the Surface Brightness Fluctuation Distance Ladder, by Mikaela Cowles, Joseph Jensen .................................................................................................................................................. 107

Session C3: Social Sciences Oral Presentations, 1:45 PM in Keller Building (KB) Room 362 ............................... 108
Peer Tutoring as a High-Impact Practice (HIP) for Tutors, by Lisa Bell, Kelsey Hixon Bowles, Joni Hayward Marcum, Maren Neild, Asmaa Alsharif .................................................................................................................................................. 108
Lithuania’s Quest for Energy Independence from Russia, by Michelle Stanley ........................................................................ 108
The Relationship Among Attachment Styles, Couple Satisfaction, and Perceived Stress, by Noah James, Rebekah Hakala, Todd Spencer ................................................................. 108
Rattle My Bones: A Curation Experience, by Jalynn Lunceford ................................................................. 108
The Relationship Among Attachment Styles and Sexual Satisfaction and Frequency, by Brandie Statham, Rebekah Hakala .......................................................................................................................... 108

Session C4: Engineering Oral Presentations, 1:45 PM in Sorenson Center (SC) Room 208 ......................... 109
A Global Pandemic’s Effect on Mobile Device Security, by Ashton Walden ................................................. 109
Forest Fire Detection Using Deep Learning Techniques, by Mason Davis .................................................. 109
Damage Detection on Wind Turbine Blades Using Deep Learning Algorithms, by Edwin Nazario, Mason Davis, Mohammad Shekaramiz, Mohammad Masoum, Abdennour Seibi .................................................. 109
Autonomous Inspection of Small Wind Turbines using Deep Learning Classification, Object Detection, and Autonomous Drones, by Joshua Zander, Angel Rodriguez, Mason Davis, Edwin Nazario Dejesus, Mohammad Shekaramiz, Mohammad A S Masoum, Abdennour Seibi .................................................. 109
Chemical Herding: Controlling Collective Behavior of Active Brownian Particles, by Rebecca Burton ........ 109

Session C5: Humanities Oral Presentations, 1:45 PM in Keller Building (KB) Room 244 ......................... 110
Hildolf, Son of Odin, by Leif Ravnsen .............................................................................................................. 110
The Lake of Salt: An Interdisciplinary Perspective of the Great Salt Lake, by Leif Ravnsen ......................... 110
The role of communication in managing college student stress, by Kathryn Hales ........................................ 110
Barking Up the Right Tree: Granting Moral Standing to Animals and Ecosystems, by Atra Schulte ............. 110
The Third Thing: Anti-sectarian Frameworks in Northern Ireland Music, by Joshua Booher ....................... 110

Session C6: Science Oral Presentations, 1:45 PM in Keller Building (KB) Room 248 ......................... 111
Climate change effects on plant functional traits in the Alaskan arctic, by Cristina Chirvasa, Tyler Williams, Matteo Petit Bon ........................................................................................................................................ 111
Deciphering Synergy: Pterostilbene and Dabrafenib in Melanoma Treatment, by Reno Blackmore, Jacob Mead, Wyatt Legas, Jennifer Meyer ............................................................................................. 111
The Relationship between Differential Finger Force in a Squeezing Task and Spin Characteristics of a Four-seam Fastball Thrown by Division-I Collegiate Baseball Pitchers, by Sierra Anderson .......................................... 111
Calculating genetic divergence between groups with underlying population structure using combinatorics and a permutation test, by Baylee Christensen, Reagan Mckee, Dante Celani, Candice Johnson, Randy Klabacka ...................................................................................... 111
Modernizing data collection methods for animal population estimates by using unmanned aerial vehicles (UAVs), by Hunter Gordon, Jace Riley, McCade Larsen .................................................................................. 111
Exploring the relationship between scalation and aridity in Uta stansburiana using modern and historical populations of the desert Southwest, by Hunter Gordon ........................................................................ 111

Session C7: Social Sciences Oral Presentations, 1:45 PM in Keller Building (KB) Room 302 ................ 112
Does increase usage in pornography by males decrease marriage rates in women, by Tyler Randall .......... 112
Soundscapes & Their Effect on Anxiety, by Grace Collier, Sadee Ball, Shelby Shepherd, Madi Kotter, Sierra Jeppesen, Tanner Wilson ........................................................................................................ 112
Loneliness and Parasocial Relationships at SUU, by Haley LeFevre, Julie Pynn ........................................... 112
The Hard Life Of A Porn Star, by Kennley Cook ........................................................................................... 112
Impact of Athletics United, by Alyssa Taylor ................................................................................................. 112
Exploring Food Insecurity among Utah Tech University Students: Insights from the National College Health Assessment Survey, by Ben Martinez, Virginia Merrill .......................................................... 112

Session C8: Science Oral Presentations, 1:45 PM in Keller Building (KB) Room 306 ......................... 113
An Individual Based Model of Japanese Beetle Control Methods, by Heather Smith ................................ 113
Application of the Generalized Pareto Distribution to Extreme Stock Trading Volumes, by Rachel Krupnek ................................................................. 113
Improving Protein-Ligand Docking Predictions Using Molecular Dynamics Simulations and K-means Clustering, by Matthew Williams ................................................................. 113
The Impact of Inducible Depletion of Sequestosome-1 (p62) from Endothelial Cells on Mesenteric and Cerebral Artery Reactivity in Mice, by G. Colton Gardner, J David Symons, Sohom Mookherjee, Michael Judge, Lynasi Gapelu, Sihem Boudina ................................................................. 113
Seasonal Variation in Essential Oil Composition and Yield of Rhus aromatica Aiton (Fragrant Sumac), by Tanner Beck, Prabodh Satyal, William N Setzer, Ambika Poudel, Joseph Hilton, Michael C Rotter .................................................. 113
Numerical analysis of crowding effects in symbiotic species when delta=2, by Chance Witt, Devan Hill ................. 113

Session C9: Social Sciences Oral Presentations, 1:45 PM in Keller Building (KB) Room 344 ......................... 114
Roe v Wade Overturned: Unpacking layers of systemic oppression, by Madison Webster, Kristina Oldroyd, Jennifer Shubert ........................................................................................................ 114
Exploring the Complex Dynamics Between Anxiety and Academic Performance in College Students, by Megan Ritter Martin, Alley Fausett, Kristin Davenport, Malisa Brooks, Kent Hinkson .................................................. 114
Waiting to Act: A Study of the Impact of Mandatory Firearms Purchase Delays on Suicide Rates, by Ian Macapagal .............................................................................................................. 114
"Woke" what does it really mean?, by Benjamin VanDreew ........................................................................ 114
A Qualitative Review of the Stronger Families Project at Utah Valley University, by Sage Wettstein, Kaicee Postler, Rachel Arocho, Julie Nelson ................................................................. 114
Does Consumerism Have an Effect on Relationships? The Influence of Consumerist Tendencies and Empathy on Relationship Satisfaction, by Gregory Skinner ................................................. 114

Session C10: Social Science Oral Presentations, 1:45 PM in Keller Building (KB) Room 346 ......................... 115
The Newborn Behavioral Observation (NBO) and Its Impact on Early Relationships, Postpartum Depression, and Infant Outcomes, by Tara Caplin, Tiffanee Suhaka, Maria Balaceanu, Peg Bird, Dannelle Larsen-Rife ................................................................. 115
When One is Loved: Attachment Security and Relationship Quality, by Maria Balaceanu, Dannelle Larsen-Rife, Tara Caplin, Peg Bird, Grace Carsey, Tiffanee Suhaka................................................................. 115
Social Pains: Attachment, ACEs, Loneliness, and Social Support, by Ives Hong, Grace Carsey, Tara Caplin, Hunter Mitchell, Peg Bird, Bridger Lisonbee, Maria Balaceanu, Dannelle Larsen-Rife ................................................................................................. 115
Reclaiming Identity: A Journey of Chicana Empowerment, by Frankie Medina ............................................. 115
Addressing the Cause and Effects of Childhood Sexual Abuse, by Lilliana Rogers ............................................. 115
Unveiling the Challenges Faced by Deaf and Disabled Undocumented Immigrants, by Reagan Bartholomew ....... 115

Session C11: Rapid-fire Engineering & Social Science Oral Presentations, 1:45 PM in Keller Building (KB)
Room 348 ..................................................................... 116
Diagonal Translation Involving Human-Robot Co-Manipulation, by Avary Fielding ........................................ 116
Calibration and Validation for Flipper, by Kenneth Smith, Douglas Cook, Carter Noh, Kirsten Steele, Jordan Porter. 116
Finite Element Simulation of Microfluidic Chips, by Robert Macdonald ...................................................... 116

Daily Emotional Regulation Use: Predicting mood in autistic and socially anxious adults through various emotional regulation strategies, by Tavish King, Elizabeth Smith ................................................................. 116
Visualizing the impact of the Arab Spring on Women Empowerment in the Middle East region, by Mary Harris .... 116
Does an Insecure Attachment (Anxious and/or Avoidant) to God and the Contextual Perception of God (Belief that God's Character is Consistent with what the Bible says about God's Character) Affect Levels of Distress?, by Elyia Rodrigues ............................................................................................................ 116
IBD Support: Mental Health Matters, by Kacey Rowe, Rachel Arocho, Allison Ensign .................................... 117
Transcriptome analysis to study the effects of drought in tomato, by Aubrilin Johnson ...................................... 117
Does God care about Premarital Sex? Diving into the sacred bed phenomenon, by Ivelynn Noel .................. 117

Session D: Poster Presentations, 3:30 PM in Keller Building (KB) Rooms 401/403/405 ......................... 118
Towards Low-cost Diagnostics for Cancer Treatment Monitoring with a Cell-free Glutamine Biosensor, by Cate Miller, Tyler Free, Brad Bundy ................................................................. 118
Towards the Development of at-home cell-free diagnostics to personalize treatment and improve the survival rates of Acute Lymphoblastic Leukemia, by Garrett Johnson, Tyler Free, Brad Bundy ................................. 118
Impacts of an Intercultural Teaching Experience in the Navajo Nation on Preservice Teachers, by Arahi Perdomo, Brooklyn Moore, Erin Kerr, Hula Santiago, Kylie Kay, Sarahi Joyner .................................................. 118
How substrate type influences the germination of Ocimum basilicum, by Emily Cherrington, Sam S Ingram, Chloe E Loveland, Ryanne Welch ................................................................. 118

Impact of the Removal of CD6 on T Cell Metabolism, by Alexa Bailey, Sophie Daines, Joshua Bennett, Carlos Moreno, Scott Weber ........................................................................................................................................................................... 118

Comparative Analysis of Native and Non-Native Rose Prickle Microbiomes and Associated Microbes, by Riley B. Jackson, Iris Cepeda ...................................................................................................................................................... 118

When does a granite become granitic? A record of major and accessory mineral re-equilibration from super- to subsolidus within the Half Dome Granodiorite, Sierra Nevada, CA, by Emmaleen M Saunders, Michael A Stearns, Ami Ward .............................................................................................................................................................................................................................................. 118

Identification of an aphid-transmitted DNA virus in Brassica oleracea in Utah, by Travis Christensen, Geoff Zahn, Alma Laney ............................................................................................................................................................................................. 119

Novel compounds produced by endophytes extracted from Cercocarpus ledifolius, by Ezra Wylie, Merrill Halling . 119

Spatial Dynamics of Foliar Fungal Community Structure in the Pando Aspen Clone, by Austen Miller, Josh Leon, Geoffrey Zahn ........................................................................................................................................... 119

Remote sensing mineral identification: an intercomparison of Hyperspectral and multispectral imagery using open-source applications in the Marysvale Volcanic Field, by Noah Christensen, Matt Olson .............................................................................................................................................................................................................................. 119

Do the differences in size between heteromorphic sex chromosomes influence organism longevity?, by Olivia Frary, Carl Hjelmen ........................................................................................................................................................................................................................................................................ 119

The Effects of an Antioxidant Supplemented Diet (Acai and Curcumin) on Learning and Memory of Drosophila melanogaster in a Model of Fetal Alcohol Spectrum Disorder (FASD), by Jacob M Russell, Sujeong Hwang, Jake A Harward, Emily R Morden, Danielle T Taylor, Devlin H Taylor .............................................................. 119

Adapting a radiative forcing algorithm of dust on snow using higher resolution data, by Andrew Knowlton, Matt Olson ........................................................................................................................................................................................................................................................................ 119

What if WASP-39b was Twice as Hot?, by Brian Seamons ................................................................................................................................. 120

The Field Manual of the Utah Valley Flora: An example from the the genus Veronica, by Danielle Keysaw, Michael C Rotter ........................................................................................................................................................................................................................................ 120

Identification of Novel Viruses Infecting Utah Oil-Bearing Plants Hyssopus officinalis and Lavandula angustifolia, by Megan Frisby, Alma Laney, Geoff Zahn ........................................................................................................................................................................................................................................................................ 120

Analysis of Myoglobin as pseudo-peroxidase via macromolecular rate theory, by Grant Barron, Collin Tuttle, Daniel Scott ........................................................................................................................................................................................................................................................................ 120

Atmospheric Modeling of Brown Dwarfs With PICASO, SONORA, and JWST, by Brayden Roberts, Joshua Lothringer, Denise Stephens ........................................................................................................................................................................................................................................................................ 120

Utah Valley Flora Asteraceae Treatment, by Annika Wood ........................................................................................................................................................................................................................................................................ 120

Host range testing and pathogenicity confirmation of potentially new blueberry fungus, by Kayla Knaperek, Megan Frisby, Geoffrey Zahn, Alma Laney ........................................................................................................................................................................................................................................................................ 120

Establishing and Monitoring New Populations of an Endangered Plant (Phacelia argillacea) Over Several Years, by Tyler R Shaver, Lainey S Smith, Michael T Stevens ........................................................................................................................................................................................................................................................................ 120

Production of Antibiotics in Soil Bacteria against ESKAPE Pathogens, by Cori Bailie, Arlene Majers, Katherine Judge ........................................................................................................................................................................................................................................................................ 121

Using Carbon and Nitrogen Stable Isotopes to Determine the Diet Composition of Ground Beetles (Coleoptera: Carabidae) in Provo Canyon, Utah, by Hayley Karns, Dylan Bryant, Noah Christensen, David Kirby, Sarah Marchant, Sarah Nicholas, Emmaleen Saunders, Hannan Thomas, Nathan Smith, Dan Cavan, Daniele Ghiretti ......................................................... 121

Your Tooth's Appetite for Hydroxyapatite, by Megan Wesenberg, Britain Jeppesen, Brianna McDaniel ......................... 121

Detecting Antibiotic Resistance Genes in The Environment, by Natalie Walsh, Lauren Brooks, Skyler Belka ............... 121

Creating a universal framework for reconstructing phyla: trees at your fingertips using R, by Barbara Jetton, Carl E Hjelmen ........................................................................................................................................................................................................................................................................ 121

Survey of Blow Fly (Diptera: Calliphoridae) Species Across Utah and Salt Lake Counties, by Haylee Beck, Lauren Weidner, Carl E Hjelmen ........................................................................................................................................................................................................................................................................ 121

Detection of Beet curly top virus in Utah plants, by Elise Bennett, Megan Frisby, Rob Hess, Max Taylor, Erin Riggs, Alma Laney ........................................................................................................................................................................................................................................................................ 121

Analysis of Graphene Samples Using a 785nm Raman Spectrometer and Construction of a Carbon Spectral Library, by Seth Stringham, Audrey Elison, Kevin Shurtleff, Dustin Shipp ........................................................................................................................................................................................................................................................................ 121

Leveraging Machine Learning in Face Mask Formulation, by Alexander Goslin, Hazel Ticas, Morgan Covarrubias .... 122

Monarch Butterflies - What's in their Color?, by Kyri Forman, Craig Thulin, Heath Ogden ........................................................................................................................................................................................................................................................................ 122

Antimicrobial Activity of Cetaphil, by Lillian Gee, Makaylie Moore ........................................................................................................................................................................................................................................................................ 122
Evaluation of Microplastic Pollution in Subterranean Systems and the Impact of Human Visitation, by Stone Smith, Ben Belt ................................................................. 122
Monte Carlo Raman Spectroscopy Simulation: Unlocking Computational Speed with GPU Acceleration, by Thomas Caldwell .................................................................................................................. 122
The Primary and Secondary Metabolites of Tomato as a Response to Herbivory and Simulated Herbivory, by Iris Cepeda, Tabitha Weir, Jonathan Cook, Honey Ordonez .................................................................................................................. 122
Green Hydrogen Production from Wastes by High Temperature Plasma Pyrolysis, by Veronica Gunyan, Minh Nguyen .................................................................................................................. 123
Geminivirus Resistance in Mustard Plants, by Laureana Lazarte, Adam Hales .................................................................................................................. 123
Investigating the impact of artificial urine on the interaction between biomarker proteins and quantum dots, by Minh Nguyen, Eugene Leung .................................................................................................................. 123
Creation of a 3D fluorescent image using holographic and fluorescent imaging techniques, by Vince Rossi, Spencer Brown .................................................................................................................. 123
Examination of Self-Efficacy, Effort Control, and Teacher Immediacy in Women and Minorities Participating in STEM Undergraduate Research Experiences, by Sadie Jensen, Nellie Bowman, Nick Jeffery, Heather Wilson Ashworth .......................... 123
Can Practice Alter the Stress Response to a Stressor?, by Grant Cole, Vitaliy Walker, Daniel Adams, Nathan Twitchell, Melissa Lee, Jennifer Mortensen, Britney Stockholm, Tatiana LeRoy .................................................................................................................. 123
Carbapenem Resistance on UVU Campus, by Zadie Carlson .................................................................................................................. 123
Thermoacoustic Heat Engine, by Euiyoung Kim, Bonnie Anderson .................................................................................................................. 123
Improved low-cost, solar water purifier to reduce clean water scarcity, by Fatoumana N’diaye, Kevin Shurtleff .................................................................................................................. 124
DMS-MapSeq analysis of 3’ UTR in Human Genome, by Silvi Rouskin, Matthew Allan, Draguil Salazar .................................................................................................................. 124
Detection of a DNA Virus in Ornamental Plants at Utah Valley University, by Jaylee Montague, Skylar Belka, Gabe Espinoza, Geoff Zahn, Alma Laney .................................................................................................................. 124
Analysis of Super-Black Coatings versus Black Paints, by Tyler O’Loughlin, Tyler Daynes, Erik Prazak .................................................................................................................. 124
Does Greater Phylogenetic Distance Affect Competition Outcomes in Fungal Communities?, by Joshua Stubbs, Annette Lewis, Kendall Holcomb, Barbara Suassuna Schincariol .................................................................................................................. 124
Groundwater and Surface Water Interactions in the Provo River Watershed, by Feyan Hoffman, Roshan Abraham, Christine Fowles, Abi Conger, Scott Jenson .................................................................................................................. 124
Groundwater and Surface Water Interactions on the Hobble Creek Watershed, by Roshan Abraham, Parker Jorgenson .................................................................................................................. 124
"Cognitive Insights into Madagascar Hissing Cockroaches: Memory, Learning, and Motivated Behavior", by Brandon Barlow, Ethan Reese, Victoria Vazquez, Abbi Stark, Alex Wilson, Rain Evans, Josef Becker, Monica Sanchez, Amy Chevrier, James Taylor .................................................................................................................. 125
Investigating the relationship between natural environment and drosophilid genome size, by Samantha Curnow, Carl Hjelmen .................................................................................................................. 125
Interior Environments influence on Mental Health, by Camille Sorenson Bown .................................................................................................................. 125
Assessing Genomic Diversity Via whole genome resequencing in bean cultivars (Phaseolus L. spp.) from Brazil, a putative secondary center of diversity, by Kaycie A Melville, Ashley N Egan, Yu Ya Liang .................................................................................................................. 125
Identifying and Monitoring Groundwater and Surface Water Interactions Utilizing UAVs and Remote Sensing Applications in Wetlands in Utah Lake, Utah, by Anna Wilkinson, Feyan Hoffman, Roshan Abraham .................................................................................................................. 125
The Ethnobotanical link between Tropane Alkaloids and Datura, by Cole Statham, Katelyn Thomas .................................................................................................................. 125
Variability in mechanical seizure induction methods using Drosophila melanogaster (fruit flies) as a model organism, by Vy Dao, Devin Taylor, Danielle Taylor .................................................................................................................. 125
Mechanical to Electrical Energy Conversion of a Door Swing, by Spencer Brown, Shawn Pepper, Carson Draughon, Ulises Thorncut, Dustin Shipp .................................................................................................................. 126
Sound Levels on the UVU Pedestrian Bridge, by Jacob Sampson, Joshua Goates, Brian Patchett, Abolfazl Amin, Bonnie Andersen .................................................................................................................. 126
Quantification of Microplastics in Utah Snow and How It’s Affected by Skiing, Snowboarding, and Artificial Snow, by Sarah Adams, Bailey Bennion, Sara S Rocks .................................................................................................................. 126
Correcting Surface Brightness Fluctuation Distances for Stellar Populations, by Sydney Holt, Mikaela Cowles .................................................................................................................. 126
Study of mode transitions with an artificially-blown clarinet, by Isaac Settle, Easton Gray, Bonnie Anderson .................................................................................................................. 126
Evaluating Presence of Antibiotic Resistance Gene vatA on UVU Campus, by Dallin Zollinger, Lauren Brooks .................................................................................................................. 126
Meta-analysis of Eddy Current Braking Systems, by John Walton, Mason Astill, Jarrett Nelson .................................................................................................................. 127
Religion, Evolution and Vaccinations: Perceptions from a GE Student Population, by N. Kanon Black, T. Heath Ogden, Britt Wyatt, Josh Premo, Jessica A Cusick ................................................................. 127
Kynurenine Deamination and Synthesis of Xanthommatin, by Stephen Chamberland, Craig D. Thulin, Katherine Solorzano, Cassandra Beddes, Nathan Twitchell, Abram Caruso ................................................................. 127
Identifying and photographing the instars of a parthenogenetic mayfly (Centroptilum triangulifer; Ephemeroptera), by Heidi Kipp, Annika Jones, ........................................................................ 127
T. Heath Ogden ........................................................................................................ 127
Pubertal Development and Estrous Cycling in POMC-deficient Mice, by Jacob Prescott ........................................................................................................ 127
Mayfly Wing Wonders: Uncovering Genetic Threads in Parthenogenic Individuals using RNA, by Melissa Rangel, Avery Larsen, Heath Ogden ................................................................. 127
Deciphering the Impact of Pomp Mutation on Mouse Reproductive Behavior: A Comprehensive Data Analysis Approach, by Lauren Silvatti ........................................................................ 127
CRISPR Deletion of Viral Receptor Genes in Human Cells, by Rylan Schmanski, Mason Masters, Emilee Snow, Alexandria Offringa, Paola Robles, Spencer Perry, Joshua Mackley, Alexander Beagley, Rainey Hughes ................................................................. 128
Brain-eating amoeba rescue-of-infection model using drug combinations, by Karissa Bauer, Kennedy Lewis, James Belnap, Andrew Torena, Braden Freestone, Luis Montenegro Calla ........................................................................ 128
Microbiome of PCB Contaminated Sediments, by Jerzee Findlay, Gina Fuller ........................................................................................................ 128
Cultivation of bacteria from PCB-contaminated sediments PCB Degradation, by Akir Rowe, Hali Hutchinson, Kingdom Wanjoku ........................................................................................................ 128
Methods for assessing Ephydra gracilis populations across Great Salt Lake, by Cora Rasmussen, Carly Biedul, David Herbst ........................................................................................................ 128
Cultural humility impacts on premature termination in psychotherapy, by Logan Walker, Kate Coneys, Nick Tops, Russ Bailey ........................................................................................................ 128
UTAH'S HERITAGE: A LITTLE KNOWN STORY OF MORMONISM AND EUGENICS, by Lindsay Beekman ........................................................................ 128
Change Over Time: Cultural Humility and Microaggressions in Therapy, by Kate Coneys, Nick Top, Russ Bailey, Logan Walker, Julia Toomey ........................................................................................................ 129
Relationship with soul: a short excursion in psychology and religion, by Genna Howard, Cameron John ........................................................................................................ 129
The Influence of Political Affiliation on Academic Performance: An Examination on How Familial Political Beliefs May Impact a Child's Educational Outcomes, by Ellery White ........................................................................................................ 129
We Are Not Alone: Examining the Impact of a Tween-Teen Diabetes Day Camp, by Heidi Blaylock, Carter Leuba, Eddie Hill, Christina Aguilar, Carla Cox, Aiden Hill ........................................................................................................ 129
Investigating the Utility of Avatars and Actors in Undergraduate Psychology Role-Play Exercises, by Kennedy Parker ........................................................................................................ 129
Mountain Haven - Senior Capstone, by Brandon Rojas ........................................................................................................ 129
Defect Detection in 3D Printing from Thermal Imaging, by Seth Leavitt ........................................................................................................ 129
Increasing student capability to confront difficult topics through structured conversations, by Parker R. Carquist, Lexi Brady, Seth Dotson, Jeff Glenn ........................................................................................................ 129
E-Cigarettes and Negative Impacts on Oral Health, by Nykitha chomina, Emallee Dias, Mary Roberts ........................................................................................................ 130
Addressing Teenage Pregnancy and Related Public Health Issues in Rhino Camp Refugee Settlements in Uganda, by Karina Geranios, Madison Mathews, Connor Baird ........................................................................................................ 130
Cognition in Brachyrhaphis rhabdophora, by Elizabeth Jenkins ........................................................................................................ 130
Bioluminescent E. coli, by Liv Harris ........................................................................................................ 130
Generation and Characterization of a zebrafish 4H Leukodystrophy model, by Avery Zentner ........................................................................................................ 130
Inexpensive Optical Power Meter, by John Walton, Dallin Durfee ........................................................................................................ 130
Who Split the Cheese? Search for Paucilactobacillus wasatchensis in a Local Creamery, by Brooklyn Matthews, Andrew Rowley, Michael Salas, Shaun Kader ........................................................................................................ 130
Ecological Dynamics of the Hypersaline Great Salt Lake North Arm, by Amanda Lee, Alex Phillips, Bonnie Baxter, Amy Schmid ........................................................................................................ 130
Family quality of life partially predicts parenting stress differences between parents with and without children with autism, by Megara Jensen, Matthew Hatch, Brock Hughes, Madeline Gillies, Spencer Myres, Maddie Blackham, Autumn Gould, Kate Leigh, Nate Lieshsman ........................................................................................................ 131

Session D1: Science Oral Presentations, 3:30 PM in Sorenson Center (SC) Room 213 A................................................................. 132
Accelerated Rates of Evolution in hymenopteran DSCAM genes, by Remington R Motte .................. 132
Documenting the Flora of Utah Valley Using Student-written Treatments, by Gideon Bowes .............. 132
Altered Estrus Cycles in POMC-deficient Mice, by Nathan Anderson ........................................... 132
Another Look at Underlying Mortality Model Used in Life Insurance Industry, by Benjamin Furniss, Britton Borget, John Sanders .......................................................... 132
Construction Techniques in Ancient Fremont Pithouses, by Ellie Martin ....................................... 132
"Cognitive Insights into Madagascar Hissing Cockroaches: Memory, Learning, and Motivated Behavior", by Brandon Barlow, Ethan Reese, Victoria Vazquez, Abbi Stark, Monica Sanchez, Alex Wilson, Rain Evans, Josef Becker, Amy Chevrier, James Taylor .................................................. 132

Session D2: Science Oral Presentations, 3:30 PM in Sorenson Center (SC) Room 213 B ................. 133
Development of the midwestern blot technique for elucidation of pigment-binding proteins, by Tessa C Black, Craig D Thulin ....................................................................................................... 133
Asexual Aviators: Transcriptome Profile of the Life Stages of a Parthenogenic Mayfly, by Avery Larsen, Heath Ogden .................................................................................................................. 133
Trace Metal Concentrations of Various Land Use Types Surrounding Utah Lake, by Alex Montgomery, Mason Gordon ..................................................................................................................... 133
HEIGHTS IN THE abc CONJECTURE. AN UNDERGRADUATE APPROACH, by Brantson Yeaman ......................... 133
Power Scaling a Nd:YVO4 Laser for Use as the Optical Drive of a Long Wave Infrared Optical Parametric Oscillator, by Alexander Gibb ................................................................. 133
A Gyroscopic System for Magnified Coherent Diffraction Imaging, by Tyler Daynes, Jair Gonzalez, Jeremy Tait, Josh Jumper, Ellie Purcell, Tyler O'Loughlin, Vern Hart ................................................. 133

Session D3: Social Sciences Oral Presentations, 3:30 PM in Keller Building (KB) Room 362 ........... 134
Exploring the Differences Among Attachment Styles with Cognitive Appraisal and Emotional Suppression, by Rebekah Hakala, Moroni Black .................................................................... 134
Exploring Perfectionism: Growth, Suffering and Resolution, by Ethan Reese ..................................... 134
Social Desirability, the Aim of Politics, and Neurodivergent Identity, by Adam Smith, adam@tallsmith.com .......................................................................................................................... 134
Duverger's Law and Polarization in a Ranked Choice Citizen-Candidate Model, by Bryan Jay Frandsen .......................................................... 134
Political Violence and Place: The Role of Locality on American Attitudes Towards Politically Motivated Aggression, by David Schloesser ........................................................................... 134
"Open Carry for All?": How Support for Open Carry Varies Based on Who is Carrying, by Matthew Drachman, Caden Weaver, Nicholas Martin ................................................................. 134

Session D4: Science Oral Presentations, 3:30 PM in Sorenson Center (SC) Room 208 ............... 135
Analysis of gravitational fields inside of a cavity throughout different dimensions, by Tate Thomas .......... 135
Artificial black holes: are they a threat to humanity?, by Tate Thomas ................................................ 135
Efficiently and Accurately Simulating Coupled Nonlinear Schrödinger Equations with Exponential Time Differencing and Fourier Spectral Methods, by Nate Lovett .................................................................. 135
Effect of a supernova explosion on the mechaincal and thermal stability of orbiting planets, by Alexander Panin, Benjamin Miera .................................................................................................... 135
Using Ecological Niche Modeling to better understand Pediomelum aromaticum, a threatened Utah plant, by Ian Eggleston, Ashley N Egan ........................................................................... 135
MRSA induced biofilm clearance by bacteriophage and antibiotic, by Rainey Hughes, Avalon Marker, Elizabeth Bouwhuis, Yeshaswini Dudde, Bryan Dopp, Scot Carington, Jared Nelson .................................................. 135

Session D5: Engineering Oral Presentations, 3:30 PM in Keller Building (KB) Room 244 ........... 136
Subtle Force Communication for Intuitive-Human-Robot Co-manipulation, by Samuel Charles ................ 136
Transdermal antiseptic products as a method to decrease skin bioburden prior to surgery, by Kiersten Gardner, Hannah Duffy, Abbey Blair, Nathan Ashston, Porter Stulce, Dustin Williams .................................................. 136
Rotational Dynamics of Thrown Food Items and Their Impact on Canine Catching Success, by Caleb Slade, Evelyn Davis, Michael Orr, Brevin Bell ..................................................................................... 136
Effect of Print Parameters on tensile and flexure strength of 3D printed plastic, by Baylee Schumacher, Ryley Horrocks, Divya Singh ...................................................................................... 136
Ransomware Resilience and Ethical Dilemmas: A Comprehensive Review of Threat Landscape, Impact, and Mitigation Strategies, by Asmaa Alsharif................................................................. 136

24
Quantifying Approximation Errors in the Flash Thermal Diffusivity Measurement Technique Using High Fidelity Simulations, by Tage T Burnett, Jakob G Bates, Christopher R Dillon, Matthew R Jones .......................................................... 136

Session D6: Humanities Oral Presentations, 3:30 PM in Keller Building (KB) Room 248 ......................... 137
Re-Membering and the Role of Community In Exorcism In Toni Morrison’s Beloved, by Jen Hansen ............. 137
Ethical Analysis of Web3 and Decentralized Internet, by Karli Kallas ....................................................... 137
Is this you? Foucauldian ethics in multifactor authentication, by Maren Archibald ...................................... 137
The Impact of Augustine’s Theory of Evil on Latter-Day Saint Teachings, by Miranda Judson ..................... 137
The Folklore of the Ghastly Menace, by Matilda Gibb ........................................................................ 137
More Than Accommodating, by Natalya Misener, John Wolfe.............................................................. 137

Session D7: Science Oral Presentations, 3:30 PM in Keller Building (KB) Room 302 ......................... 138
Unlocking the Mysteries of Glacial Watersheds: Tracing the Path of Water Chemistry Over Time and Space, by Mija Coombs, Greg Carling ................................................................................ 138
Lake Bonneville’s Legacy: Unraveling Genetic Drift and Diversity Loss in West Desert Bonneville Cutthroat Trout, by Tanner Van Orden, Dennis Shiozawa, Peter Searle, Ana Kokkonen, Paul Evans ................................................................. 138
A novel method of predictive thermodynamic property mining using AIMD simulations of molten salts for use in molten salt nuclear reactors, by Maggie Wu, Ashley Littlefield, Bryant Jones ................................................................................ 138
Photo-induced Reactivity of a Model Dipyrrrole, by Jaren Meikle, Samuel Archer ..................................... 138
The Stability of the steady state solutions of a Gray-Scott model, by Samuel Andersen ............................... 138
Efficiently and Accurately Simulating Coupled Nonlinear Schrodinger Equations with Exponential Time Differentiating and Fourier Spectral Methods, by Nathaniel Lovett ......................................................................................... 138

Session D8: Humanities Oral Presentations, 3:30 PM in Keller Building (KB) Room 306 ................... 139
Practical Considerations for Creating Audio for Listening Tests, by Rafael Deo ........................................ 139
The Many Names of Limahong: Remembering a Chinese Pirate in the Philippines, by William Martindale .......... 139
Ancestral Pueblosan Ceramics Technology and Vessel Properties at Alkali Ridge Site 13, by Carolina Corrales ...... 139
Victor LaValle’s Destroyer: Comic as a New Medium for Black Narratives, by Shauri Thacker ..................... 139
Theology and Prosperity of Women Within the Latter-Day Saint Church: Exploring Utah’s Religiosity Effects On Feminism, by Alexis West Salinas .................................................................................. 139

Session D9: Science/Engineering Oral Presentations, 3:30 PM in Keller Building (KB) Room 344 ........... 140
Quantifying Approximation Errors in the Flash Thermal Diffusivity Measurement Technique Using High Fidelity Simulations, by Tage T Burnett, Jakob G Bates, Christopher R Dillon, Matthew R Jones .......................................................... 140
Measuring shear wave speed in tendons using low-cost accelerometers on a flexible PCB with an Arduino microcontroller, by Eli F Smith, Christopher Dillon, Matthew S Allen ................................................................. 140
Reducing the Cytotoxicity of Polyethylene Glycol Diacrylate Microfluidic Devices Using an Isopropyl Alcohol Washing Method, by Parker Johns, Chandler Warr, Gregory P Nordin, William G Pitt ................................................................. 140
Understanding the Microbiome, Chemistry and Physical Characteristics of the Coal Creek Drainage Basin, by Nathan Winters, Reed Schweighardt, Calton Millward .................................................................................. 140
Arm Modeling in Preparation for Wearable Mobility-Enhancing Elbow Brace, by Samuel Stearman ............ 140
Self-Deployable and Self-Stabilizing Satellite Array, by Aliya Bascom .................................................... 140

Session D10: Oral Presentations, 3:30 PM in Keller Building (KB) Room 346 ........................................ 141
The Repeated Use of Slurs In Class, by Zoë Beacham, Onon Harris, Mathias Amaya ........................................ 141
Unlocking Well-Being, Workplace Morale, and Employee Retention: A Tech Company’s Success Story, by Michaela Thackeray, Cicilee Petersen, Scott Wiltbank, Emma Newman, Enoch Thackeray ................................................................. 141
The ABC conjecture and Mason’s Theorem, by Juan Palencia, Tanner Probst, Clair Yeaman .......................... 141
Spatial visualization versus memorization differences among sexes in organic chemistry, by Derek Baker, Lauren Jensen, Dagney Goodfellow, Seunghwan Shin .................................................................................. 141
Organic chemistry students’ perceived costs and goal orientations, by Seunghwan Shin, Sydney Coates .......... 141

Appendix: Accepted abstracts whose authors were unable to attend UCUR 2024 ............................................. 142
Survey

The Intermountain Digital Educational Research Consortium (IDERC) is conducting an assessment of the availability of resources supporting RECR at different institutions across the Intermountain West, and of how researchers from different types of institutions implement specific practices in their research and mentoring. This survey is open to faculty members, staff members who either conduct or administer research, and undergraduate and graduate students. Participation in this survey is entirely voluntary and we will not collect personally identifying information. The survey should take less than 15 minutes, and your answers will help us understand the current strengths and needs for research training in our region. You can access the survey at: https://usu.co1.qualtrics.com/jfe/form/SV_5pYWPZBaNd8lg5w
Sponsors
Welcome Message: Gary R. Herbert

8:00 AM – Keller Building (KB), Vallejo Auditorium

Gary R. Herbert was Utah’s 17th governor from 2009 to 2021. During his tenure, his relentless focus on economic development resulted in Utah being recognized as the number one economy in America. Herbert currently dedicates his time establishing the Gary R. Herbert Institute for Public Policy at Utah Valley University. The Institute works to develop future policy leaders. Herbert and his wife, Jeanette, are the proud parents of six children and seventeen grandchildren.
Morning Keynote: Brent Baum

8:15 – 8:45 AM – Keller Building (KB), Vallejo Auditorium

Mr. Baum is a veteran entertainment executive and film producer whose creative, financial and film production career spans thirty years and encompasses the development, production, financing, distribution and sale of dozens of movies, some of which include: *The Wedding Planner* (Jennifer Lopez and Matthew McConaughey); *Eye of the Beholder* (Ashley Judd and Ewan McGregor); *Drowning Mona* (Danny DeVito, Bette Midler, Neve Campbell); *Thomas and the Magic Railroad* (Alec Baldwin); *Beautiful* (Sally Field, Minnie Driver); and *Buying the Cow* (Jerry O’Connell, Alyssa Milano). He also directed and produced the award-winning feature documentary film *Finding Noah*. Mr. Baum has helped to raise over $2 billion dollars of financing for entertainment production and distribution over his career.

Mr. Baum is currently the CEO of FanX Studios, a Utah-based film production and distribution entity. He started his entertainment career at DreamWorks as Vice President, corporate strategic planning. He was a member of the five-person initial start-up team responsible for creating and implementing DreamWorks’ ten-year strategic plan to build a competitive movie studio. In addition, Mr. Baum was President and co-founder of indie distributor Destination Films and a co-founder and COO of Resurgent Film Group, a leading film finance company. In 2008, he established Brent Baum Productions as a consulting and production vehicle through which he continues to produce films as well as advise companies on their investment and creative activities in the entertainment sector. He was a Senior Advisor to Torridon Films in their slate financing with Warner Bros. which included the films *Blade Runner 2049* and *12 Strong*. He is actively producing a number of high-profile film and television properties some of which include: the action thriller *Valet* written by Academy Award nominee Jason Hall; the action-comedy *Hard Drive* written and directed by Walt Becker; *November Man 2* starring Pierce Brosnan and the sci-fi TV show *Holoscape* in conjunction with Roddenberry Entertainment.

Mr. Baum earned his MBA from the Wharton School at the University of Pennsylvania; a Master of Arts, International Studies, from the University of Pennsylvania; and a Bachelor of Arts, Cum Laude, from Brigham Young University with dual majors in Political Science and Asian Studies.
Tammy’s path to serve as the Associate Provost of Academic Innovation at Utah Valley University was driven by her love of creating things of value and desire to impact the lives of students. Upon earning her Ph.D, Tammy started her career as a medicinal chemist at GlaxoSmithKilne Pharmaceuticals where she contributed to the development of Promacta, a drug that increases platelet levels in chemotherapy patients. She also designed a molecule that was originally slated for clinical trials but was ultimately commercialized as a tool compound for cancer biologists instead. As a professor she enjoyed the opportunity to collaborate with a rich variety of disciplines to create new courses, programming and experiences that helped students realize their potential and pursue their dreams.
Huntsman Cancer Institute Welcome Message:
Brad Cairns

9:00 AM and again at 2:00 PM – Sorensen Center (SC), Center Stage

Brad Cairns received his B.S. (Honors) in Chemistry from Lewis and Clark College, his PhD in Cell Biology from Stanford University, and conducted his postdoctoral training at Harvard Medical School (Genetics). He is now Professor and Chair of the Department of Oncological Sciences, an Investigator with HHMI, Chief Academic Officer at Huntsman Cancer Institute and is the Jon M. Huntsman Presidential Endowed Chair in Cancer Research (given by the 2018 Utah Legislature). He was elected to the American Academy of Arts and Sciences in 2017 and the Royal Society (London/UK) in 2023.

Dr. Cairns’ lab strives to understand how chromosome and chromatin structure/remodeling regulates gene expression, development and cancer. Dr. Cairns was the first to purify a chromatin remodeling complex (SWI/SNF complex), which unpackages and opens genes within chromosomes to enable their expression – revealing their detailed mechanisms and their dysregulation in cancer. His studies of germline/sperm chromatin revealed the poising of developmental genes for future expression in the embryo, and his single-cell analysis of human spermatogonial stem cells revealed how chromatin and gene expression mechanisms promote spermatogenesis and proper embryo development. He is committed to training and education, having trained over 28 graduate students and 10 undergraduates, and is the former Director of the University of Utah Molecular Biology graduate program.
Huntsman Cancer Institute Welcome Message: Donald Ayer

9:00 AM and again at 2:00 PM – Sorensen Center (SC), Center Stage

Dr. Donald Ayer, PhD is a Professor in the Department of Oncological Sciences and an Investigator at Huntsman Cancer Institute (HCI). His lab is interested in cancer metabolism and how cells sense and respond transcriptionally to the abundant nutrient glucose. He is actively engaged in training the next generation of cancer researchers, having served as the Director of the University of Utah’s PhD program in Molecular Biology and as the Senior Director of Cancer Training and Career Enhancement. In this latter role, he has oversight of HCI’s training programs that serve learners from high school students all the way up to junior faculty. He is particularly proud of the various summer internship programs that provide hands on research experiences for young learners.
Huntsman Cancer Institute Special UCUR Sessions

Sorensen Center (SC) - Center Stage

**Morning Session Schedule**

9:00 – 9:10 AM – Introduction ................................................................. Brad Cairns and Donald Ayer

Oral Presentations

9:15 – 9:30 AM ..................................................................................... Chad Hyer
“Optimization of Cell-free Protein Synthesis of RNAse Inhibitors for Inexpensive, At-home Glutamine Biosensor Tests for Cancer Treatment Monitoring”

9:30 – 9:45 AM ..................................................................................... Eliza Ballantyne
“Raman spectroscopic analysis of fixed lung cancer sections”

9:45 – 10:00 AM .................................................................................. Caroline Torgersen
“Detecting microbeads in a dynamic fluid system”

10:00 – 10:05 AM .................................................................................. Break

10:05 – 10:20 AM ................................................................................ Richard Ji
“Comparative effectiveness of ChatGPT 4.0 and medical oncologists in telemedicine-based management of metastatic prostate carcinoma (mPC).”

10:20 – 10:35 AM ................................................................................ Diya Garg
“Trends in NGS Testing”

10:35 – 10:50 AM ................................................................................ Poster Lightning Presentations

Sophie Daines: “Removing CD6 to enhance CAR T cell therapies.”


Drew Allred: “Using Transfection as a Annotation-free Ground Truth for Training Noninvasive Metastatic Cancer Mapping Methods”

Tayler Fearn: “Generative AI and Image Manipulation”

Ishmael Elliot Molina-Zepeda: “Transcriptome-Based Risk Score Predicts Time to First Treatment for Multiple Myeloma Patients”

Thomas Caldwell: “GPU-Accelerated Monte Carlo Raman Spectroscopy Simulation: Unlocking Computational Speed for Cancer Detection”

10:50 – 11:00 AM ................................................................................ Poster Session

Lunch and Fairs

12:00 -1:00 PM ..................................................................................... Keynote Lunch - Ballroom

1:00 – 2:00 pm ..................................................................................... Grad/Career Fair – Hall of Flags

**Afternoon Schedule**

2:00 – 2:10 pm – Introduction ................................................................. Brad Cairns and Donald Ayer

Oral Presentations

2:15 – 2:30 PM ..................................................................................... Ana Paulina Medellin-Alvarez
“Combined Inhibition of RAF, MEK, and FAK Attenuates Melanoma Brain Metastases and Prolongs Survival in Preclinical Models”
2:30 – 2:45 PM ................................................................. Jared Barrot
“Cryopreservation: The Chilly Future of Biobanking”

2:45 – 3:00 PM ................................................................. Ayana Srivastava
“The utility of ChatGPT in subspecialty consultation for patients (pts) with metastatic genitourinary (GU) cancer.”

2:00 – 3:05 PM ................................................................. Break

3:05 – 3:20 PM ................................................................. Jude Werth
“Modeling Glioblastoma’s Effect on Neural Networks using Brain Organoids”

3:20 – 3:35 PM ................................................................. Ellie Evans
“Using Gut Microbiota Derived Metabolites As a Proxy for Gut Permeability and Subsequent Risk of Cachexia”

3:35 – 3:50 PM ................................................................. Brock Sheehan
“Association of Cyclooxygenase 1 (COX-1) rs4648298 and Cyclooxygenase 2 (COX-2) rs20417 Polymorphisms and Prostatic diseases Among Lebanese Males”

3:50 – 4:00 PM ................................................................. Poster Lightning Presentations
Trenton Gibson: Transcriptomics Meta-Analysis Identifies Upregulation of Clotting and Fibrinolysis Cascades in Colorectal Cancer Tumors Containing Hereditary PMS2 Mismatch Repair Deficiency
Bryce Tolman: An Efficient Microwave Assisted Ullmann-Type Amination of 3- Bromopyrazolo[1,5-a]pyrimidine: Key Intermediate for Preparing 3,6-Di-Amino-Substituted Anticancer Heterocycles
Matthew (Eli) Stecher: Synthesis and Optimization of Novel Macroyclic TRK Inhibitors For Treating Drug-Resistant Cancers
Isabella Scalise: Inhibiting CDK9 and Autophagy in Pancreatic Cancer
Danielle Alvarado: Investigating the Role of FBXO21 in Hematopoietic Malignancy
Allison Stevens: Elucidating the Role of TOX on Melanoma Cell Migration and Invasion

4:00 – 5:00 PM ................................................................. Poster Session
Session A: Art Display, 9:00 AM in Science Building (SB) Atrium

Sculpting Dichotomies to Evoke Reflective Emotions, by Brittany Cowley
Mentor: Meaghan Gates
Utah Tech University
Installation Number: 1

DID, by McKayla Ridenour
Mentor: Alex Giannell
Utah Valley University
Installation Number: 2

Oneness in diversity, by Nawres Al Saud
Mentor: Alexandra Giannell
Utah Valley University
Installation Number: 3

Nuestra Virgen Tonantzin, by Kessley Durrant
Mentor: Alexandra Giannell
Utah Valley University
Installation Number: 4

Understanding Panic, by Rebekah Victoria Still
Mentor: Alexandra Giannell
Utah Valley University
Installation Number: 5

Unlocking Your Creativity: The Power of Painting for Fun and Purpose, by Rayne Beau Vanderpool
Mentor: Alexandra Giannell
Utah Valley University
Installation Number: 6

Playing Games, by Silvia Medina
Mentor: Alexandra Giannell
Utah Valley University
Installation Number: 7

The Process of Trying and Failing, by Jessica DeWeese
Mentor: Alexandra Giannell
Utah Valley University
Installation Number: 8
Spatiotemporal Continuity Capture through Cyanotyping, by Brittney Weiland
Mentor: Alexandra Giannell
Utah Valley University
Installation Number: 9

Revealing the Unknown, by Emily Barber
Mentor: ALEXANDRA GIANNELL
Utah Valley University
Installation Number: 10

Contrasting elements in visual art, by Ripjaw lemus
Mentor: Alexandra Giannell
Utah Valley University
Installation Number: 11

The Human-Nature Connection: Exploring Metaphorical and Physical Landscapes, by Jessica Downs
Mentor: Alexandra Giannell
Utah Valley University
Installation Number: 12

Female Allegory, by Olivia Mard Oquist
Mentor: Alexandra Giannell
Utah Valley University
Installation Number: 13

Desert Water, by Maddalena Willis
Mentor: Alexandra Giannell
Utah Valley University
Installation Number: 14

Visual Linguistics, by Brianna Bastian
Mentor: Alexandra Giannell
Utah Valley University
Installation Number: 15

Breaking Boundaries, by Arawyn Walter
Mentor: Alexandra Giannell
Utah Valley University
Installation Number: 16
**Session A: Artist Performance, 9:00 AM in Science Building (SB) doTERRA Auditorium (Room 134)**

**Music and Emotion: Using Music as an Apparatus for Connection**, by Kimberly Lewin  
**Mentor:** Anne Francis Bayless  
Utah State University  
Presentation Time: 9:00 AM

**Sonata in G Minor for Piano**, by George Wells  
**Mentor:** Timothy Francis  
Utah Tech University  
Presentation Time: Following Kimberly Lewin

**Carnegie Hall Performance**, by Annalicia Loveridge, Maren Daynes, Noah Guzman  
**Mentor:** Donna Fairbanks  
Utah Valley University  
Presentation Time: Following George Wells
Session A: Poster Presentations, 9:00 AM in Keller Building (KB) Rooms 401/403/405

Venetian Elegance: Harmonizing Heritage and Innovation on the Grand Canal, by Samuel Weisler, Colton Korpi, Josh Lythgoe
Mentor: Aliki Milioti
Utah Valley University
Poster Number: 1

A Natural Advantage: An Eye-Tracking Analysis of Indoor and Outdoor Spaces, by Samuel Weisler
Mentor: Brandon Ro
Utah Valley University
Poster Number: 2

Sacred Space Design and Spiritual Experience: A Study of Latter-Day Saint Temples, by Colton Korpi
Mentor: Brandon Ro
Utah Valley University
Poster Number: 3

Investigating Homeowner Contentment: Exploring areas for improvement in home design and construction, by Josh Lythgoe
Mentor: Brandon Ro
Utah Valley University
Poster Number: 4

The Pagoda at Memory Grove Park Analytique, by Sadie Stutz
Mentor: Ben Felix
Utah Valley University
Poster Number: 5

AI Impact on Form and Shape of Architectural Design, by Yan ho Ng
Mentor: Brandon Ro
Utah Valley University
Poster Number: 6

Mosques Through Different Lenses: Perceptions Across Cultures and Religions, by Barrett Blake
Mentor: Brandon Ro
Utah Valley University
Poster Number: 7

Traditional Urban Resurgence: A Blueprint for Mental Wellness in Modern Cities, by Jacob M Wendt
Mentor: Brandon Ro
Utah Valley University
Poster Number: 8
Understanding the Value of Function Following Form, by Eric Burton
Mentor: Brandon Ro
Utah Valley University
Poster Number: 9

What's That Building? Exploring Public Perceptions of Architectural Functionality Based on Form, by Sean Donner
Mentor: Brandon Ro
Utah Valley University
Poster Number: 10

Mentor: Brandon Ro
Utah Valley University
Poster Number: 11

Architectural Contextualism: How Context Shapes Building Perception, by Kevin Hart
Mentor: Brandon Ro
Utah Valley University
Poster Number: 12

Neurological Links to Home Design Preferences: A Comparative Study using Eye-Emulation Software, by Thomas Cryer, Brandon Ro
Mentor: Brandon Ro
Utah Valley University
Poster Number: 13

Finding Harmony in Design: Exploring the Connection of Music and Architecture Through Proportion, by Desiree Ritchie
Mentor: Brandon Ro
Utah Valley University
Poster Number: 14

Re-Examining Architectural Design: The Balance Between Simplicity and Complexity, by Joseph Laudie
Mentor: Brandon Ro
Utah Valley University
Poster Number: 15

Visual Perception of the Classical Orders: Eye-tracking Simulations on the Orders, by Alexia Trapier
Mentor: Brandon Ro
Utah Valley University
Poster Number: 16
Thomas S. Monson Center Building Analytique, by Bronwyn Brown  
**Mentor:** Ben Felix  
Utah Valley University  
Poster Number: 17

Pixels to Pillars: AI’s Role in Architectural Design, by Nathaniel Stucki  
**Mentor:** Brandon Ro  
Utah Valley University  
Poster Number: 18

Interior Design Senior Capstone: The Grove, by Abby Hoyal  
**Mentor:** Kristen Arnold  
Weber State University  
Poster Number: 19

ARTshare Project, by Andrea Tyler  
**Mentor:** Kristen Arnold  
Weber State University  
Poster Number: 20

Senior capstone, by Roya Adham  
**Mentor:** Kristen Arnold  
Weber State University  
Poster Number: 21

Capstone Project, by Roya Adham  
**Mentor:** Kristen Arnold  
Weber State University  
Poster Number: 22

The McCune Mansion Hope Center, by Morgan Watson  
**Mentor:** Kristen Arnold  
Weber State University  
Poster Number: 23

Senior Capstone - Haven Adaptive Reuse Project, by Mikayla Buckway  
**Mentor:** Kristen Arnold  
Weber State University  
Poster Number: 24

Design of an Inexpensive Combined Loading Spinal Disc Replacement Wear Testing Machine, by Tyler Peterson, Anna Jensen, Daniel Orr, Anton E Bowden  
**Mentor:** Anton E Bowden  
Brigham Young University  
Poster Number: 25
3D Printable Thickness Accommodated Origami Flasher Patterns, by Davis Wing
**Mentor:** Larry Howell  
Brigham Young University  
Poster Number: 26

Deployment Technique Optimization for Satellites, by Lais Oliveira, Corinne Jackson  
**Mentor:** Spencer Magleby  
Brigham Young University  
Poster Number: 27

Tracking UAS Flight Paths with Multiple Radar Ground Stations, by Gabe Snow, Joseph Ward  
**Mentor:** Cammy Peterson  
Brigham Young University  
Poster Number: 28

Investigation of the impact of heat treatment on Nitinol wires, by Joseph Moore  
**Mentor:** Jeff Hill  
Brigham Young University  
Poster Number: 29

An Apparatus for Fetal Descent Simulation, by Benjamin Merrell  
**Mentor:** Preston Manwaring  
Brigham Young University  
Poster Number: 30

Novel Method of Tensegrity Construction via Acoustic String Tuning, by Harrison Denning, Ammon Bullinger  
**Mentor:** Jeff Hill  
Brigham Young University  
Poster Number: 31

Exploration of Bi-Stable Tensegrity Models with Differing Stiffness Modes, by Harrison Denning, Spencer Thompson  
**Mentor:** Jeff Hill  
Brigham Young University  
Poster Number: 32

Facilitating Public Engagement with Academic Research Through Deliberate Outreach Methods, by Lydia Beazer, Trevor Carter, Audrey Christiansen  
**Mentor:** Larry Howell  
Brigham Young University  
Poster Number: 33
Investigating Porosity Defects in Printed Zones of Binder Jet 3D Printing, by Madi Hancock  
**Mentor:** Nathan Crane  
Brigham Young University  
Poster Number: 34

Acoustic calipers to measure human tissue properties, by Jakob G Bates, Matthew B Snyder, Porter Adelman  
**Mentor:** Christopher R Dillon  
Brigham Young University  
Poster Number: 35

Exploring MSR Salt Thermal Conductivities for Advanced Clean Energy, by Tyler Hamm, Jake Numbers, Ryan Ruth, Hunter Pitchford, David Allred, Troy Munro  
**Mentor:** David Allred  
Brigham Young University  
Poster Number: 36

GAMERS: General Arm Mechatronic Exoskeleton Robot System, by Michael Olson  
**Mentor:** Nathan Usevitch  
Brigham Young University  
Poster Number: 37

Rapid Data Collection Device for Neural Network in Agriculture, by Nathan Jones, Carter Noh, Douglas Cook  
**Mentor:** Douglas Cook  
Brigham Young University  
Poster Number: 38

**Mentor:** Douglas Cook  
Brigham Young University  
Poster Number: 39

Surrogate Folds in Gossamer Satellites, by Carolina Wright  
**Mentor:** Spencer Magleby  
Brigham Young University  
Poster Number: 40

Inertial Energy Storage for Jumping Robots, by Caleb McDougal  
**Mentor:** Nathan Usevitch  
Brigham Young University  
Poster Number: 41
Peltier Element creation using microfluidics, by Caleb Fears
Mentor: Troy Munro
Brigham Young University
Poster Number: 42

The Effect of the Position of Manually Extruded Nanocomposite Strain Gauges on their Physical Properties, by Jordan Penfold, Cera Gowans, David T Fullwood, Anton E Bowden
Mentor: David T Fullwood
Brigham Young University
Poster Number: 43

Manufacturing compliant carbon fiber origami using powdered resin, by Jacob Winters
Mentor: Nathan Crane
Brigham Young University
Poster Number: 44

Application of Statistical Approaches in Non-Linear Normal Mode Calculations, by Davis Wing
Mentor: Matt Allen
Brigham Young University
Poster Number: 45

Use of data processing and statistical models to understand large sets of experimental chemistry data, by Isaac Sudweeks, Bradley Adams
Mentor: Bradley Adams
Brigham Young University
Poster Number: 46

A portable device for measuring Achilles tendon stresses in dancers, by Joey McConkie, Jackson Wilcox, Eli Smith, David Phair
Mentor: Christopher Dillon, Matthew S Allen
Brigham Young University
Poster Number: 47

Improving convective cooling during focused ultrasound thalamotomy, by Chris Paul, Alex Edwards
Mentor: Christopher Dillon
Brigham Young University
Poster Number: 48

Image segmentation for breast cancer focused ultrasound therapies, by Taylor Forbes, Rachel Harris, Benjamin Jackson, Nicole Peterson, Sydney Tanner, Chloe Nelson
Mentor: Christopher Dillon
Brigham Young University
Poster Number: 49
Tissue-Mimicking Phantoms with Tunable Acoustic and Mechanical Properties for Visualizing MRgFUS Cavitation Lesions, by Elizabeth M J Allen, Steven P Allen, Henrik C A Odeen

Mentor: Steven P Allen
Brigham Young University
Poster Number: 50

Multi-Material Metallurgical Additive Manufacturing, by Joshua Lim

Mentor: Nathan Crane
Brigham Young University
Poster Number: 51

Magnetic Field Spatial Gradient Delivery Optimization For Visualization of Ultrasound Waves During Neuromodulation, by Davi Cavinatto

Mentor: Steven Allen
Brigham Young University
Poster Number: 52

Investigating the feasibility of focused ultrasound actuation of shape memory alloy, by Aldo Chipana, Sarah G Sanderson, Joseph Moore, Jeffery R Hill, Christopher R Dillon

Mentor: Chris Dillon
Brigham Young University
Poster Number: 53

Pressure Sensor Resistance Changes in Varying Biocompatible Metals, by Kasielynn Bussard, Dakota Stringham

Mentor: Matthias Pleil
Salt Lake Community College
Poster Number: 54

Five-Dimensional Assessment Model for Operation and Maintenance of Stormwater Control Measures - Cedar City Case Study, by Mohamed Askar, Matthew Roberts, Jeremy Matney, Andrew Larsen, Edwin Cansaya Sanchez

Mentor: Mohamed Askar, Matthew Roberts
Southern Utah University
Poster Number: 55

Tailoring the Electrical Conductivity of Carbon Nanotube-based Polymer Composite through Computational Approach, by Brandon Clark, Hayden Allen, Zixuan Wang, Rajagopalan Thiruvengadathan

Mentor: Rajagopalan Thiruvengadathan
Southern Utah University
Poster Number: 56
**Microscale Robots**, by Alberto Miranda, Samannoy Ghosh, Yong Lin Kong  
**Mentor:** Yong Lin Kong  
University of Utah  
Poster Number: 57

**Down Sampling Electromyography for Low-Power Wearables**, by Josh D Gubler, Connor D Olsen, Fredi R Mino, Mingchuan Cheng, Jacob A George  
**Mentor:** Connor Olsen  
University of Utah  
Poster Number: 58

**Analyzing Fine EMG Control of Hemiparetic Stroke Patients Using a Virtual-Reality Variant of the Box and Blocks Task**, by Cassandra L Burdick, Caleb J Thomson, Troy N Tully, Jacob A George  
**Mentor:** Caleb Thomson  
University of Utah  
Poster Number: 59

**Signal Processor for Electrogram and Electroanatomic Data (SPEED)**, by Rui Jin, Lindsay C Rupp, Anna Busatto, Rob S MacLeod  
**Mentor:** Rob S. MacLeod  
University of Utah  
Poster Number: 60

**Investigation of the Representative Volume Element in Fibrous Porous Systems**, by James Walker  
**Mentor:** Pania Newell  
University of Utah  
Poster Number: 61

**Targeted Treatment of Cytomegalovirus**, by Alisa Dabb, David Britt, Elizabeth Vargis  
**Mentor:** David Britt  
Utah State University  
Poster Number: 62

**Using Machine Learning to Control Soft Robotics**, by Jacob Adams, Larry Catalasan  
**Mentor:** Tianyi He  
Utah State University  
Poster Number: 63

**Exploring the Quasi-Static Compression Characteristics of Origami-inspired Foldcore Sandwich Composite**, by Chase Mortensen, Juhyeong Lee  
**Mentor:** Juhyeong Lee  
Utah State University  
Poster Number: 64
Computational Modeling of Curcumin Production in E. coli with Metabolic Engineering, by Lukas Keller, Jixun Zhan, Zhen Zhang
Mentor: Jixun Zhan
Utah State University
Poster Number: 65

An Integrated Microfluidic Model of Subretinal Tissue to Study Age-Related Macular Degeneration, by Sophia Hessami
Mentor: Elizabeth Vargis
Utah State University
Poster Number: 66

Implementing Quality Control for the Fluorescent Coating of Intravenous Catheters, by Melissa Wiggins, Aaron Bigelow, Porter Ellis
Mentor: Ronald Sims
Utah State University
Poster Number: 67

Random-walk model of retina neovessel growth, by Cassandra DuBose Corry
Mentor: Elizabeth Vargis
Utah State University
Poster Number: 68

Impact Resistance of 3D-Printed Architectured Sandwich Composite Panels for Future Mobility Solutions, by Ethan Layne, Tareq Hassan
Mentor: Juhyeong Lee
Utah State University
Poster Number: 69

Innovating Disaster Response: Solar-Powered Water Purification, by Evelyn Fuentes, Thomas Keate, Christian Riordan
Mentor: Aaron Davis
Utah Tech University
Poster Number: 70

Arm Modeling in Preparation for Wearable Mobility-Enhancing Elbow Brace, by Samuel Stearman, Benjamin Crapo, Antonio Trujillo
Mentor: Jeff Hill
Brigham Young University
Poster Number: 71
The effects of invasive competition on the phytochemistry of cottonwoods, by Jessica Crook, Brooke Parker, Michael C Rotter
Mentor: Michael C Rotter
Utah Valley University
Poster Number: 72

Prescribing Passion: How Medical Experiences Shape STEM Enthusiasm, by Porter Bischoff, Kody Garrett, Clayton Rawson
Mentor: Britt Wyatt, Josh Premo
Utah Valley University
Poster Number: 73

Analytical method development and quantification of chlorinated pesticides in Utah Lake, by Rob Patterson, Nate Graham
Mentor: Sally Rocks
Utah Valley University
Poster Number: 74

Preliminary Studies Towards the Development of a Rapid, Point-of-Care Diagnostic Assay for the Detection of Mycobacterium tuberculosis, by Aubrey Russell, Ben Paepke, Nathan Goldfarb
Mentor: Nathan Goldfarb
Utah Valley University
Poster Number: 75

Estrous cycle-dependent modulation of psychostimulant effects on striatal neurotransmitter release, by Lauren Ford, Joel Woolley, Ryan Powers, Paulina Medellin, Hillary Wadsworth, Jordan Yorgason
Mentor: Jordan Yorgason
Brigham Young University
Poster Number: 76

Phylogeny of Hetaerina (Odonata: Calopterygidae): Settling taxonomic issues, by Reganne Leigh Hales, Laura Sutherland, Melissa Sanchez Herrera, Samantha Standring
Mentor: Seth Bybee
Brigham Young University
Poster Number: 77

Advancing Mycotoxin Detection: Multivariate Rapid Analysis on Corn Using Surface Enhanced Raman Spectroscopy (SERS), by Allison Gabbitas, Kaitlyn Allen, Gene Ahlborn, Shintaro Pang
Mentor: Shintaro Pang
Brigham Young University
Poster Number: 78
The effect of grass species and soil types on early successional forb species, by Raechel Hunsaker, Matthew Madsen, Mallory Hinton, Derek Tilley, April Hulet

**Mentor:** April Hulet
Brigham Young University
Poster Number: 79

Exploring soil-plant relationships to inform seed selection for rangeland restoration, by Mallory Hinton, Matthew Madsen, Raechel Hunsaker, April Hulet

**Mentor:** April Hulet
Brigham Young University
Poster Number: 80

Cattle Resource Selection on Late Fall Sagebrush Steppe Habitat in Idaho, United States, by Cole Kempton, Jim Sprinkle, Randy Larsen, Jameson Brennan, Dan Lauritzen, Sawyer Fonnesbeck, Justin Hatch, April Hulet

**Mentor:** April Hulet
Brigham Young University
Poster Number: 81

Salt-Water Acclimation in Atlantic Salmon sheds light on claudin shifting and tight junction membrane proteins composition, by Joshua Hutchins, Kevin Wong

**Mentor:** Dario Mizrachi
Brigham Young University
Poster Number: 82

Meta-Analysis Of 58 Human RNA-seq Datasets To Predict Mechanisms and Markers for Resistance in ER+ Breast Cancer Treated with Letrozole (an aromatase inhibitor), by Brett Pickett, Lincoln Sutherland, Jacob Lang

**Mentor:** Brett Pickett
Brigham Young University
Poster Number: 83

Neural Networks associated with Gait Apraxia, by Zach Fiore

**Mentor:** Jared Nielsen
Brigham Young University
Poster Number: 84

Exploring the bioactivity of flavonoid metabolites on beta cell function under GLT conditions, by Eden Beazer, Aubree Bench, Ethan Jones, Jared Carter

**Mentor:** Jeffrey Tessem
Brigham Young University
Poster Number: 85
The overexpression of Stx1A and its effects on glucose stimulated insulin secretion in pancreatic beta cells, by Jakob Lenker, Trevor Kendrick

**Mentor:** Jeff Tessem
Brigham Young University
Poster Number: 86

Effects of Methamphetamine on Microglia through Reactive Oxygen Species, by James Blood, Nathan Sheets, Chase Seiter, Lydia Hawley, Erin Taylor, Eliza White, Hillary Wadsworth, Jason Hansen, Jordan Yorgason

**Mentor:** Jordan Yorgason
Brigham Young University
Poster Number: 87

Determining the binding partners of orphan nuclear receptor Nr4a3 and their effect on proliferation and insulin secretion in the beta cells, by Owen Damitz

**Mentor:** Jeffrey Tessem
Brigham Young University
Poster Number: 88

The Relationship Between Thiamine and Drosophila Melanogaster Preference for Dietary Yeast, by Dean Peterson

**Mentor:** John Chaston
Brigham Young University
Poster Number: 89

Glutamine as an Acetyl-lysine Mimic in Nucleosome Positioning Studies, by Michael Mann, David Bates, Steven Johnson

**Mentor:** Steven Johnson
Brigham Young University
Poster Number: 90

The Role of Sirt7 in Beta Cell Function and Insulin Secretion, by Trevor Kendrick, Jakob Lenker

**Mentor:** Jeff Tessem
Brigham Young University
Poster Number: 91

Does Sonographically Measured Articular Cartilage Thickness Correlate With Knee Pain in Senior Athletes?, by Noah Bezzant, Mikayla Kimball, Ashley Allan

**Mentor:** Brent Feland
Brigham Young University
Poster Number: 92
Panic Disorder Lesion Network Mapping Abstract, by Zach Moore, Owen Benzley, Austin Flitton, Frederic Schaper, Jared Nielsen
Mentor: Jared Nielsen
Brigham Young University
Poster Number: 93

Ultrasonic analysis of patellar tendon thickness in active older athletes, by Mikayla Kimball, Noah Bezzant, Ashley Allan, Josh Sponbeck
Mentor: Brent Feland
Brigham Young University
Poster Number: 94

Demonstration of Chloride Induced Spreading Depolarizations Using Halorhodopsin, by Hunter Morrill, Ryley Parrish
Mentor: Ryley Parrish
Brigham Young University
Poster Number: 95

Role Models v. Knowledge: Should we Use Different Evolution Teaching Strategies for Students with Varying Levels of Scientific Reasoning Skills?, by Grant Rousseau, Kenneth Harrington, Jamie Jensen
Mentor: Jamie Jensen
Brigham Young University
Poster Number: 96

Hyperglycemic Conditions Impair Essential Nkx6.1 Expression in Beta Cells, by Jared Wieland, Jacob Herring
Mentor: Jeffery Tessem
Brigham Young University
Poster Number: 97

Understanding Refractory Status Epilepticus with Novel HD-MEA Technology, by Isaac Stubbs, Skyler Russell, Melissa Blotter, Maxwell Holmes
Mentor: Ryley Parrish
Brigham Young University
Poster Number: 98

Thioredoxin-1 is essential for osteogenesis in vitro and in utero, by Caroline Cowley, Megan Jewell, Brenda Mendoza, Aubrey Cluff, Ryan Summerhays, Jason Hansen
Mentor: Jason Hansen
Brigham Young University
Poster Number: 99
**Identifying the Interactomes of Disease-Causing CryAB Variants**, by Joshua Evans, Allison Voyles, McKenzie Bellon, Julianne Grose  
**Mentor:** Julianne Grose  
Brigham Young University  
Poster Number: 100

**Building Books: The Evolution of Early English Block Prints**, by Lucy Peterson  
**Mentor:** Alexa Sand  
Utah State University  
Poster Number: 101

‘I Want to Destroy Public Education’: A Critical Case Study of School Choice in Utah, by Ann Day, Shawn Coon  
**Mentor:** Shawn Coon  
Westminster College  
Poster Number: 102
Session A1: Huntsman Cancer Institute Special Research Session 1, 9:00 AM in Sorenson Center (SC) Center Stage

Introduction, by Brad Cairns and Don Ayer
Presentation Time: 9:00 AM

Optimization of Cell-free Protein Synthesis of RNase Inhibitors for Inexpensive, At-home Glutamine Biosensor Tests for Cancer Treatment Monitoring, by Chad Hyer, Bradley Bundy, Tyler Free
Mentor: Bradley Bundy
Brigham Young University
Presentation Time: 9:15 AM

Raman spectroscopic analysis of fixed lung cancer sections, by Eliza Ballantyne, Maria Lizio, Anshuman Chaturvedi
Mentor: Dustin Shipp
Utah Valley University
Presentation Time: 9:30 AM

Detecting microbeads in a dynamic fluid system, by Caroline Torgersen, Tyler O’Loughlin, Ellie Evans, Vern Hart, Clint Flinders
Mentor: Vern Hart
Utah Valley University
Presentation Time: 9:45 AM

Comparative effectiveness of ChatGPT 4.0 and medical oncologists in telemedicine-based management of metastatic prostate carcinoma (mPC), by Richard Ji, Emre Dal, Ayana Srivastava, Beverly Chigarira, Chadi Hage Chehade, Arshit Narang, Georges Gebrael, Neeraj Agarwal, Umang Swami, Haoran Li
Mentor: Neeraj Agarwal
University of Utah
Presentation Time: 10:05 AM

Mentor: Neeraj Agarwal
University of Utah
Presentation Time: 10:20 AM
Cancer Research Lightning Poster Presentations

Removing CD6 to enhance CAR T cell therapies, by Sophie Daines, Carlos Moreno, Alka Gour, K Scott Weber
Mentor: Scott Weber
Brigham Young University
Presentation Time: 10:35 AM

The Caregiving Experience for Children Diagnosed with Cancer: A Secondary Analysis, by Sofia Denise Flowers
Mentor: Lauri Linder
University of Utah
Presentation Time: 10:35 AM

Using Transfection as a Annotation-free Ground Truth for Training Noninvasive Metastatic Cancer Mapping Methods, by Drew Allred, Vern Hart
Mentor: Vern Hart
Utah Valley University
Presentation Time: 10:35 AM

Generative AI and Image Manipulation, by Tayler Fearn, Caroline Torgensen, Vern Hart
Mentor: Vern Hart
Utah Valley University
Presentation Time: 10:35 AM

Transcriptome-Based Risk Score Predicts Time to First Treatment for Multiple Myeloma Patients, by Ishmael Elliott Molina-Zepeda, Brandt Jones, Myke Madsen, Douglas Sborov, Brian Avery, Nicola J. Camp
Mentor: Nicola J. Camp
University of Utah
Presentation Time: 10:35 AM

GPU-Accelerated Monte Carlo Raman Spectroscopy Simulation: Unlocking Computational Speed for Cancer Detection, by Thomas Caldwell
Mentor: Dustin Shipp
Utah Valley University
Presentation Time: 10:35 AM
Session A2: Science Oral Presentations, 9:00 AM in Sorenson Center (SC) Room 213 B

Crest Factor Analyses for Launch Vehicle Noise, by Zach Hendry, Carson Cunningham
Mentor: Micah Shepherd, Kent Gee
Brigham Young University
Presentation Time: 9:00 AM

Glucose concentration’s effect on binding interactions beta cell transcription factors Nkx6.1 and Pdx1 and subsequent transcriptional regulation of downstream targets, by Nathan Vaughan
Mentor: Jeffery Tessem
Brigham Young University
Presentation Time: 9:15 AM

Genomic Characterization and Mass Spectrometry Analysis of Gordonia Phage Summit Academy, by Sierra M Mellor, Madilyn Brandt, Nathaniel Eberhart, Samuel Flor, Julianne H Grose
Mentor: Julianne Grose
Brigham Young University
Presentation Time: 9:30 AM

Eigenvalue Finders using Complete Equitable Partitions, by Peter Seely, Joseph Henderson, Benjamin Webb
Mentor: Benjamin Webb
Brigham Young University
Presentation Time: 9:45 AM

Exploring Methods to Characterize Seizure-like Activity in Mouse Brains, by Benjamin D Kearsley, Jacob H Norby, Micah R Shepherd, R Ryley Parrish
Mentor: Micah R Shepherd
Brigham Young University
Presentation Time: 10:00 AM

Complete Equitable Partitions, by Joseph Henderson, Peter Seely, Benjamin Webb
Mentor: Benjamin Webb
Brigham Young University
Presentation Time: 10:15 AM
Implementation of Culturally Relevant Teaching in Private Studios, by Aullora Fekete
Mentor: Karen Jensen
Brigham Young University
Presentation Time: 9:00 AM

Asian Representation Within Theatre: Journey Through the Past and the Representation of the Present, by Joseph Stahle
Mentor: Jeb Branin
Southern Utah University
Presentation Time: 9:15 AM

The Grieving Process, by Becca Fabis
Mentor: Alexandra Giannell
Utah Valley University
Presentation Time: 9:30 AM

Ballet, Film, and Mythology: A Focus on Persephone, by Samantha Marx, Jessa Wright, Nathan Dobbin
Mentor: Christa St John
Utah Valley University
Presentation Time: 9:45 AM

Dance and Music: Pathways for Success, by McKayla Pehrson, Emily Hyde
Mentor: Lyndsey Vader
Utah Valley University
Presentation Time: 10:00 AM
Session A4: Education Oral Presentations, 9:00 AM in Sorenson Center (SC) Room 208

Mentor: Elizabeth A Cutrer
Brigham Young University
Presentation Time: 9:00 AM

Exploring the Use of Virtual Reality to Teach Academic, Behavioral, Independent Living and Social Skills to individuals with Disabilities, by Megan Sorensen, Lianna Olsen, Maleah Bowen
Mentor: Ryan Kellems, Cade Charlton
Brigham Young University
Presentation Time: 9:15 AM

ROSflight: A Lean Research Autopilot, by Jacob Moore, Ian Reid, Brandon Sutherland
Mentor: Tim McLain
Brigham Young University
Presentation Time: 9:30 AM

Navigating Neurodiversity Online: Inclusive Educational Materials for Autistic Learners, by Sara Peel, Addisyn Bushman, Adam Rice
Mentor: Xinru Page
Brigham Young University
Presentation Time: 9:45 AM

Design insights for extended reality technical training, by Ezra Bradley, Sam Wald, Steve Francis, Derek Hansen, Jason McDonald, Jon Balzotti
Brigham Young University
Presentation Time: 10:00 AM

Virtual Reality: The Next Step in Technology-Based Education, by Payton Jones
Mentor: Jamie Spinney
Southern Utah University
Presentation Time: 10:15 AM
Session A5: Engineering Oral Presentations, 9:00 AM in Keller Building (KB) Room 244

**Rotational Robotic Trigger**, by Mitch McEntire  
**Mentor:** Marc Killpack, John Salmon  
Brigham Young University  
Presentation Time: 9:00 AM

**Fault Injection Testing FPGA Structural Comparison Tools**, by Keenan Faulkner  
**Mentor:** Jeff Goeders  
Brigham Young University  
Presentation Time: 9:15 AM

**Optimizing wafer placement in an origami-based LIDAR array**, by Brooklyn Clark  
**Mentor:** Larry Howell  
Brigham Young University  
Presentation Time: 9:30 AM

**Guidelines for Manufacturing Compliant Mechanisms using 3D Printing**, by Austin Martel, Bethany Parkinson, Spencer Magleby  
**Mentor:** Spencer Magleby  
Brigham Young University  
Presentation Time: 9:45 AM

**Building the Groundwork for the Equitable Integration of Wireless Power Technology**, by Josie Allred  
**Mentor:** John Salmon  
Brigham Young University  
Presentation Time: 10:00 AM

**First Measurements of the Longitudinal Shear Modulus of Corn Stalk Tissues**, by Braxton Fjeldsted, Joseph Carter, Grant Ogilvie, Josh Hoffman  
**Mentor:** Douglas Cook  
Brigham Young University  
Presentation Time: 10:15 AM
**Session A6: Health & Medicine Oral Presentations, 9:00 AM in Keller Building (KB) Room 248**

**Recommendations for Adapting Religious Materials for People with Aphasia**, by Allison Dahl  
**Mentor:** Dallin Bailey  
Brigham Young University  
Presentation Time: 9:00 AM

**Neural Gene Expression: An Insight into Opioid Addiction**, by Addison Smartt, Timothy Smartt  
**Mentor:** Jeff Edwards  
Brigham Young University  
Presentation Time: 9:15 AM

**The effects of access to healthcare in varying levels of urbanization on mortality**, by Jaren Wilson  
**Mentor:** Joshua Price  
Southern Utah University  
Presentation Time: 9:30 AM

**Intact endothelial cell autophagy attenuates outcomes of acute ischemic stroke in mice**, by Milo E Light, Sohom Mookherjee, J. David Symons, Megan Tandar, Nathan Hill  
**Mentor:** John David Symons  
University of Utah  
Presentation Time: 9:45 AM

**Autism Friendly Healthcare: Improving Patient Care for Individuals with Autism through an Evidence-Based Educational Video**, by Gaby Sutton Clark, Emily Santillán, Katreena Merrill  
**Mentor:** Katreena Merrill  
Brigham Young University  
Presentation Time: 10:00 AM

**“Utah Women in Medicine,” pioneering physicians**, by Maddie Reese, Meg Boren, Emma Sellers, Sheri Tesseyman  
**Mentor:** Sheri Tesseyman  
Brigham Young University  
Presentation Time: 10:15 AM
Session A7: Humanities Oral Presentations, 9:00 AM in Keller Building (KB) Room 302

A Passion for Regression: The Psychology of Hume’s Skepticism at THN 1.4.1, by Brandon Ascione
Mentor: Katie Paxman
Brigham Young University
Presentation Time: 9:00 AM

Integrating Longitudinal Peer-tutoring in University Composition Classes for Multilingual Students, by Luke Beckstrand
Mentor: Tyler Gardner
Brigham Young University
Presentation Time: 9:15 AM

Divine Encounters and Phenomenological Christology: A Comparative Analysis of Theophanies in Ether 3 and Exodus 3, by Lincoln Whitney
Mentor: Jordan Watkins
Brigham Young University
Presentation Time: 9:30 AM

中文的名词动词化: The Denominal Verbalization of Chinese Nouns, by Anna Hutchinson, Sean Cameron
Mentor: Shupei Wang
Brigham Young University
Presentation Time: 9:45 AM

How English verbs are borrowed into Jordanian Arabic: morphological integration and social perception, by Hannah Smith
Mentor: Jeff Parker
Brigham Young University
Presentation Time: 10:00 AM

Maria Firmina dos Reis: A Voice from the Past that Echoes in the Present, by Joshua Cook Wright
Mentor: Jordan Jones
Brigham Young University
Presentation Time: 10:15 AM
Session A8: Science Oral Presentations, 9:00 AM in Keller Building (KB) Room 306

Investigating Knot Invariants Arising from Petal Diagram, by Adam Call, Parker Myers
Mentor: Mark Hughes
Brigham Young University
Presentation Time: 9:00 AM

Using reinforcement learning to study problems in braiding, by Abraham Harris, Juliana Corbridge
Mentor: Mark Hughes
Brigham Young University
Presentation Time: 9:15 AM

Using reinforcement learning to model topoisomerase action during cell division, by Samantha Richardson, Sam Simmons
Mentor: Mark Hughes
Brigham Young University
Presentation Time: 9:30 AM

Leveraging Deep Reinforcement Learning and Braid Representations to Explore Knot Theory, by Dylan Skinner
Mentor: Mark Hughes
Brigham Young University
Presentation Time: 9:45 AM

Protein-Protein Binding Between the Beta Cell Transcription Factor Nkx6.1 and PACS1 in Rat Beta Cells, by Spencer Paulsen
Mentor: Jeffery Tessem
Brigham Young University
Presentation Time: 10:00 AM

Estimating the Prevalence of Images in Biology Literature that are Problematic for People with a Color-Vision Deficiency, by Harlan Stevens, Arwen Oakley
Mentor: Stephen Piccolo
Brigham Young University
Presentation Time: 10:15 AM

60
Session A9: Social Science Oral Presentations, 9:00 AM in Keller Building (KB) Room 344

Detecting Fake People in the United States Census, by Allen Otterstrom
Mentor: Joe Price
Brigham Young University
Presentation Time: 9:00 AM

Counsellor Knockolds and Captain Swing: Urban-Rural Relations and Social Protest in Early 19th-Century East Anglia, by Hyrum Veach
Mentor: Amy Harris
Brigham Young University
Presentation Time: 9:15 AM

Broken Heart Syndrome: Understanding the Spousal Correlation in Mortality Using Kin-Linked Data, by Sven Wilson, Joseph Price, Hannah Hammond, Katharine Wilson
Mentor: Joe Price
Brigham Young University
Presentation Time: 9:30 AM

Legal Representation and Fairness in the Provo City Justice Court, by Macaulay Gould, Chelsea Romney, Andrew Moss
Mentor: Chelsea Romney
Brigham Young University
Presentation Time: 9:45 AM

Perceptions of National Identity Among Brazilian Americans Living in Northern Utah, by Elisabeth Morris
Mentor: Desiree Oliveira
Brigham Young University
Presentation Time: 10:00 AM

The Hyrum Smith Papers Project: Uncovering 19th Century History, by Liberty Rausch
Mentor: Kenneth L Alford
Brigham Young University
Presentation Time: 10:15 AM
Session A10: Nursing Oral Presentation, 9:00 AM in Keller Building (KB) Room 346

Perceived Risks for Maternal Mortality Among Utah Women, by Marie Gibb
Mentor: Francine Jensen
Utah Valley University
Presentation Time: 9:00 AM

Session A10: Health & Medicine Rapid-fire Oral Presentations, 9:00 AM in Keller Building (KB) Room 346

Meta-Analysis of Success Determining Factors of Healthcare Innovations, by Barry Gyman
Mentor: Cody Reeves
Brigham Young University
Presentation Time: 9:15 AM

Health Insurance Literacy Among UVU Students, by Emmalie Parker
Mentor: Heather Thiesset
Utah Valley University
Presentation Time: 9:23 AM

The Inseparable Connection Between Body and Mouth, by Maddy Howard, Brooke Dension, Shanna Groesbeck
Mentor: Sandy Wilson
Utah Valley University
Presentation Time: 9:31 AM

Actitudes, Barreras, y Cambios: Adapting Prehabilitation for Latino Patient Populations, by Quinn Gerber, Lucas Carpenter, Jacob Clemons, Cindy Kin
Mentor: Cindy Kin
Brigham Young University
Presentation Time: 9:39 AM

Geminivirus Resistance in Mustard Plants, by Adam K Hales
Mentor: Yu Ya Liang
Utah Valley University
Presentation Time: 9:47 AM

Assessment of the Use of Phragmites australis as a Biomarker for Trace Metal Pollution, by Aljexi Olsen, Hali Lukacs
Mentor: Eddy Cadet
Utah Valley University
Presentation Time: 9:55 AM
Analysis of Estrous Cycle in POMC-deficient mice, by Isaac Gillins, Zoe Thompson
**Mentor:**
Utah Valley University
Presentation Time: 10:03 AM

Investigating Intraspecific Temporal Behavior in Mule Deer (Odocoileus hemionus) across Life Stages: Fawning and Non-Fawning, by Danielle Terry, Seth Helton, Michael Creer
**Mentor:** Austin M Green
University of Utah
Presentation Time: 10:11 AM

Using Snapshot Camera Trap data to evaluate the extent of the “weekend effect” across varying climatic regions of the contiguous United States, by Austin Green, Gaby Karakcheyeva
University of Utah
Presentation Time: 10:19 AM
Session B: Poster Presentations, 10:45 AM in Keller Building (KB) Rooms 401/403/405

**Implicit Bias: Impacts of a Transformative DEIB Business Course**, by Ramon Zabriskie, Erica Miller, Felicia Korth, Anna Taylor
*Mentor:* Ramon Zabriskie
Brigham Young University
Poster Number: 1

**Social Connection in Shared Experiences**, by Lizzie Stewart, Hayden Underwood, Dallas Goolsby, Spencer Sears
*Mentor:* Camilla Hodge
Brigham Young University
Poster Number: 2

**Face it! How reliable is emotional facial expression coding within and across raters?**, by Anna Norman, Chloe Houghton, Macall Walker, Audrey Saunders
*Mentor:* Tyson Harmon
Brigham Young University
Poster Number: 3

**A gamified app that educates autistic population on social media safety**, by Changxi Xing, Kirsten Chapman
*Mentor:* Xinru Page
Brigham Young University
Poster Number: 4

**Art Beyond the Bars: The Value of Arts Programming in Correctional Settings**, by Brenda Payan Medina
*Mentor:* Andy Eisen
University of Utah
Poster Number: 5

**Automating the Analysis of Language Samples Obtained from the Frog Story Series: Step 1**, by Tessa Sabin, Derek Bagley, Kylie Olsen, Alexis Klein, Haven Broadhurst
*Mentor:* Sandi Gillam
Utah State University
Poster Number: 6

**Examination of Effort Belief and Self-Competence in Classrooms Using Mastery-Based Grading and Active Learning**, by Grant Hendrickson, Christian Moody, Nellie Bowman, Nick Jeffery, Cairo Ziebarth, Joel Davis, Melissa Reeves, Heather Wilson Ashworth
*Mentor:* Heather Wilson Ashworth
Utah Valley University
Poster Number: 7
Gender disparities in the pursuit of biology at UVU, by Eden Backman, Britt Wyatt, Kandace Flanary, Jessica Cusick, T Heath Ogden, Joshua Premo
Mentor: Joshua Premo
Utah Valley University
Poster Number: 8

How different students' groups perceive learning in out-of-class collaborative environment?, by Sophia Kramer, Violeta Vasilevska
Mentor: Violeta Vasilevska
Utah Valley University
Poster Number: 9

Sodium to Potassium Ratio Is Associated with Increased Blood Pressure in Males but Not in Females, by Karen Hoggan, Adia Migliori, Jonathan Harr, David Aguilar Alvarez
Mentor: David Aguilar Alvarez
Weber State University
Poster Number: 10

Mentor: Janette Abramowitz
Brigham Young University
Poster Number: 11

Cell Death, Inflammation, and Extracellular Vpr in the R77Q Mutation of Vpr in HIV-1, by Amanda Carlson
Mentor: Bradford Berges
Brigham Young University
Poster Number: 12

Changes in receptor sensitivity in the ventral regimental area after morphine conditioning, by Calista Greenwood, Ciera Sanders, Pacen Williams, Kaleb Gardner, Caylor Hafen, Hillary Wadsworth
Mentor: Jordan Yorgason
Brigham Young University
Poster Number: 13

Staying Hydrated - A Comparative Analysis of Humectants in Human Cadaveric Tissue, by Rachel Prince, Joseph Monsen
Mentor: Jason Adams
Brigham Young University
Poster Number: 14
Investigating Gender Differences in Facial Expressiveness during Personal Narratives Using a Modified FACES Protocol, by Leila Moore, Marin Farnsworth

**Mentor:** Tyson Harmon  
Brigham Young University  
Poster Number: 15

Assessing Eccentric Hamstring Strength in football Players: Muscle-Specific contributions, by Logan McMaster, Joshua Sponbeck, Malorie Wilwand, A. Wayne Johnson

**Mentor:** A Wayne Johnson  
Brigham Young University  
Poster Number: 16

Lesion Network Mapping of Anosognosia for Hemiplegia, by Joseph Holmes

**Mentor:** Jared Nielsen  
Brigham Young University  
Poster Number: 17

No Difference Found in Hamstring Strength Across Division I Football Positions, by Spencer Jezek, Malorie Wilwand, Joshua Sponbeck, Hunter Jack, Kaden Kennard, A Wayne Johnson

**Mentor:** A Wayne Johnson  
Brigham Young University  
Poster Number: 18

The effects of terminating a 24-hr fast with a low versus a high carbohydrate shake on hunger and appetite, by Katelynn Hales, Katya Hulse, Spencer Hawes

**Mentor:** Bruce Bailey Jr.  
Brigham Young University  
Poster Number: 19

The Effects of a High Carbohydrate vs. High Fat Pre-Fast Meal on Incretin Hormone Secretion: A Randomized Crossover Study, by Parker Graves, Landon Deru, Bruce Bailey

**Mentor:** Bruce Bailey  
Brigham Young University  
Poster Number: 20

The Effects of Dual-Task Activities on Language Fluency: Language Production While Driving, by Alex Jarvis, Brooklyn Flowers, June Oaks, Sadie North

**Mentor:** Tyson Harmon  
Brigham Young University  
Poster Number: 21
The Cold, Hard Truth: Cryopreserved Tissue is Superior to FFPE Tissue in Molecular Analysis, by Ken Dixon, Jack Davis, DeLayney Anderson, Mackenzie Burr, Peyton Worley, Isaac Packer, Bridger Kearns, Jeffrey Okojie
**Mentor:** Jared Barrott
Brigham Young University
Poster Number: 22

Differences in Ultrasound Elastography Measurements Of The Patellar Tendon Using Pad vs No Pad and Of Dominant vs Non Dominant Legs, by Ashley Allan, Mikayla Kimball, Noah Bezzant, Brent Feland, Josh Sponbeck
**Mentor:** Brent Feland
Brigham Young University
Poster Number: 23

The Effects of Initiating a 24-hour Fast with a Low Versus a High Carbohydrate Shake on pancreatic hormones in the Elderly: A Randomized Crossover Study, by Spencer Hawes, Katya Hulse, McKay Knowlton, Landon Deru, Bruce Bailey
**Mentor:** Bruce Bailey
Brigham Young University
Poster Number: 24

Transcriptomic Analysis of B cell RNA-seq Data Reveals Novel Targets for Lupus Treatment, by Sehi Kim, Naomi Rapier-Sharman, Michael Told
**Mentor:** Brett Pickett
Brigham Young University
Poster Number: 25

Addressing Health Care Access Disparities: Bridging the Gap for a Healthier Society, by Jayden Peacock
**Mentor:** Jodi Corser
Southern Utah University
Poster Number: 26

Concurrent Validity of Heart Rate Measurements by Bicep Worn Polar Verity Sense and OH1 Devices During Moderately Heavy Resistance Training, by Marcus M Lawrence, Merrill Funk, Jeffrey C Cowley, Amanda Hawkes, Aaron McKenzie, Alexandra Routsis, Wesley Ziegler, Talon Thornton, Spencer Maxwell, Korina Ziegler, James Navalta
**Mentor:** Marcus Lawrence
Southern Utah University
Poster Number: 27
Differences in Absolute and Relative Upper and Lower Body Strength Measures in Intermediate and Advanced Climbers, by ANNA EDLER, RYAN KUNKLER, CASEY WEBB, JACOB MANNING, MARCUS M LAWRENCE
Mentor: Marcus Lawrence
Southern Utah University
Poster Number: 28

Repetition Count Concurrent Validity of Various Garmin Wrist Watches During Light Circuit Resistance Training, by Wesley Ziegler, Spencer Maxwell, Aaron McKenzie, Talon Thornton, Alexandra Routsis, Korina Ziegler, Jae Bovell, Devin Green, Bryson Carrier, James Navalta, Setareh Star Zarei, Kaye Lavin, Jeffrey C Cowley, Amanda Hawkes, Merrill Funk, Marcus M Lawrence, Charli Aguilar
Mentor: Marcus Lawrence
Southern Utah University
Poster Number: 29

Perceived Fatigue and Physical Activity Enjoyment Following Indoor and Outdoor Moderately Heavy Superset Resistance Training, by Korina Ziegler, Aaron McKenzie, Wesley Ziegler, Spencer Maxwell, Bryson Carrier, Charli Aguilar, Alexandra Routsis, Talon Thornton, Jae Bovell, Setareh Star Zarei, Devin Green, Amanda Hawkes, Jeffrey C Cowley, Merrill Funk, James Navalta, Marcus M Lawrence
Mentor: Marcus Lawrence
Southern Utah University
Poster Number: 30

Relationships Between Dominant and Non-Dominant Finger Rate of Force Development (RFD) and Finger Strength, Shoulder Strength, and Lower-Body Strength in Recreational to Advanced Climbers, by Ryan Kunkler, Marcus Lawrence, Anna Edler, Casey Webb, Jacob Manning
Mentor: Marcus Lawrence
Southern Utah University
Poster Number: 31

Nutrient Release of Tumor Stroma is Controlled by Glucocorticoids, by Libby Brooks
Mentor: Natasha Pavlova
University of Utah
Poster Number: 32

Behavioral Effects of Trauma Recruit Separate Populations of Ventral Hippocampal Neurons, by Addison Hedges, Kevin Sattler
Mentor: Moriel Zelikowsky
University of Utah
Poster Number: 33
EFFECTS OF DOCOSAHEXAENOIC ACID ON NEURONAL OUTCOMES IN A RAT MODEL OF PEDIATRIC TRAUMATIC BRAIN INJURY, by Amber Brooks
Mentor: Michelle Schober
University of Utah
Poster Number: 34

Advanced Alkaline Amine Fuel Cell Development, by Jackson Rose, Kevin Shurtleff
Mentor: Kevin Shurtleff
Utah Valley University
Poster Number: 35

Investigating the Role of Concurrent NF1 and BRAF Mutations in Melanoma, by Lorelei Sole, Riley Elmer, Gennie Parkman, David Kircher, Katie Culver, Tursun Turapov, David Viskochil, Sheri Holmen
Mentor: Sheri Holmen
University of Utah
Poster Number: 36

Three-Dimensional Construction of Coronary Vasculature Geometries, by Aksel Anderson, Lindsay Rupp, Anna Busatto, Rob MacLeod
Mentor: Rob MacLeod
University of Utah
Poster Number: 37

Internalized HIV stigma among women giving birth in Tanzania: A mixed-methods study, by Anya Weglarz
Mentor: Melissa Watt
University of Utah
Poster Number: 38

Ovarian Exosomal Therapy for Nuerological Health in mice, by Nathan McCoy
Mentor: Jeff Mason
Utah State University
Poster Number: 39

Antioxidant Combinatory Cytomegalovirus Treatment, by Kade Robison, David Britt, Elizabeth Vargis
Mentor: David Britt
Utah State University
Poster Number: 40
An Investigation into the Effect of Access to Dental Radiology Skill Practice in Virtual Reality on Undergraduate Dental Hygiene Student Competency and Learning Compared with Access to Traditional Study and Practice Methods, by Michaela Lovejoy, Rylee Udom, Lindsey Fry, Hailey Roubidoux, Makayla Dunbar, Kali Hunt, Mandy Gibbs, Lisa Welch

**Mentor:** Lisa Welch
Utah Tech University
Poster Number: 41

The Effects of Pterostilbene on NADH Oxidase in Endothelial Cells Exposed To Hyperglycemic Conditions, by Gabe Matthews, Easton Eddie

**Mentor:** Jennifer Meyer
Utah Tech University
Poster Number: 42

Revolutionary goniometric knee attachment, by Syrus Miner, Ryland Day, Justin LeClair, Adam Dimaio

**Mentor:** Randy Klabacka
Utah Tech University
Poster Number: 43

Opioid Use Disorders Treatment Related Disparities in Patients with Psychiatric Illness, by Caroline Nielson, Connor Baird

**Mentor:** Robert Kagabo
Utah Tech University
Poster Number: 44

Velocity-based training instruments compared to 3D motion capture analysis, by Anthony Cornwall, Jake Rhea, Travis Ficklin

**Mentor:** Travis Ficklin
Utah Tech University
Poster Number: 45

Experimentally determined moments of inertia for a regulation baseball vs. a baseball with redistributed mass, by Dylan Snook, Anthony Cornwall, Travis Ficklin

**Mentor:** Travis Ficklin
Utah Tech University
Poster Number: 46

The relationship between differential finger force in a squeezing task and spin characteristics of a four-seam fastball thrown by division-I collegiate baseball pitchers, by Anthony Cornwall, Dylan Snook, Travis Ficklin

**Mentor:** Travis Ficklin
Utah Tech University
Poster Number: 47
Plants, oral health, and microbes: Properties of North American chewing sticks, by Kevin Kuehne, Jake Hess
Mentor: Michael C Rotter
Utah Valley University
Poster Number: 48

The Impact of Population Density on COVID-19 Case Numbers during the Omicron Surge: A Comparative Analysis of US Counties and Sweden, by Hazel Ticas, Daniel Scott
Mentor: Daniel Scott
Utah Valley University
Poster Number: 49

Whiter than a Toilet Bowl, by Tiba Hasan, Elise Larsen, McKell Gillins
Mentor: Jodie Lopez
Utah Valley University
Poster Number: 50

Intersectionality in Science, by Britt Wyatt, Alyssa Habel, Jess Cusick, Heath Ogden, Josh Premo
Mentor: Dr. Britt Wyatt
Utah Valley University
Poster Number: 51

Lower Limb Asymmetries in Unilateral Jump Mechanics as Possible Risk Factor for Injury in Collegiate Wrestlers, by Jacob Armstrong, Tyler Standifird
Mentor: Tyler Standifird
Utah Valley University
Poster Number: 52

Closely related Enterobacteriaceae species with antibiotic class and subclass resistance, by Coleman Judd, Alexander Beagley
Mentor: Michelle Culumber
Weber State University
Poster Number: 53

Ecogeographic effect on color pigmentation: Assessing the application of Gloger's Rule in Robber Flies, by Lauryn Dupaix
Mentor: Riley Nelson
Brigham Young University
Poster Number: 54
Comparison of Aposthonia ceylonica genome size to repetitive elements and the analysis of silk-coding sequencing and their proteins, by Lillian Davis, Paul B Frandsen

Mentor: Paul B. Frandsen
Brigham Young University
Poster Number: 55

LAB Diet Preference, by Andrew Call
Mentor: John Chaston
Brigham Young University
Poster Number: 56

Elucidating the Neural Mechanisms of Dopamine and Drugs of Abuse on Anxiety Using Dlight1 Sensors, VR, and 2-Photon Microscopy in Mice, by Daniel Luke Isemonger, Jacob Cecil, Noah Moffat, Nathaniel Horne, Jordan Yorgason
Mentor: Jordan Yorgason
Brigham Young University
Poster Number: 57

Achievement Goals and Burnout in Pre-Health Profession Undergraduate Students, by Hunter Nelson
Mentor: Jamie Jensen
Brigham Young University
Poster Number: 58

Exploring the Role of Dopamine and ATP in Microglial Motility and Morphology, by Christopher Galbraith, Derek Langford, Hillary Wadsworth, Eliza White, Erin Taylor, Lauren Ford
Mentor: Jordan Yorgason
Brigham Young University
Poster Number: 59

Effect of food depth on microbiome of Drosophila melanogaster, by Rebecca Kreutz
Mentor: John Chaston
Brigham Young University
Poster Number: 60

The Effect of Epicatechin and its Microbial Metabolites on Differing Pathways of Beta-Cell Death in Type I and Type II Diabetes, by Aubree Bench, Eden Beazer, Ethan Jones, Jared Carter
Mentor: Jeff Tessem
Brigham Young University
Poster Number: 61

The effect of microbiota on Drosophila melanogaster activity at low temperatures, by Cooper Johnson
Mentor: John Chaston
Brigham Young University
Poster Number: 62
Investigating the Potential Toxic Dust Pool Generated by the Shrinking of the Great Salt Lake, by Kirsten Sanders  
**Mentor:** Ruth Kerry  
Brigham Young University  
Poster Number: 63

Using Chimeric autoantigen receptor (CAAR) T cells to eliminate autoreactive B cells in autoimmune diseases, by Abigail Cheever, Chloe Kang, Hunter Lindsay, Mackenzie Hansen, Kim O’Neill, K Scott Weber  
**Mentor:** K Scott Weber, Kim O’Neill  
Brigham Young University  
Poster Number: 64

Using a Pricking Method for Inoculating Drosophila melanogaster with Wolbachia, by Naavah Craze, crazen@byu.edu  
**Mentor:** John Chaston  
Brigham Young University  
Poster Number: 65

Causal Brain Networks in Insomnia, by Levi Pouwer, Keaton Helquist  
**Mentor:** Jared Nielsen  
Brigham Young University  
Poster Number: 66

Gene analysis of gut microbiota that improves chill coma recovery rates in Drosophila Melanogaster, by Lauren Heath, John Chaston  
**Mentor:** John Chaston  
Brigham Young University  
Poster Number: 67

Seasonal Coloration in Utah Dragonflies and Damselflies, by Eva Driggs, Megan Cahoon, Seth Bybee  
**Mentor:** Seth Bybee  
Brigham Young University  
Poster Number: 68

What brings us together: how global identity is influenced by images of success or suffering, by Jaiden Sherratt, Madison Ward, Alexandra Clements, Makenzie Vance, Christopher Furlow  
**Mentor:** Julie Johnson Pynn  
Southern Utah University  
Poster Number: 69
**Antihistamines Blunt the Effect of Localized Vibration on Arterial blood Flow**, by Dustin Edmonds, Devin Needs, Riley Fisher  
**Mentor:** Brent Feland  
Brigham Young University  
Poster Number: 70

**The Effects of Latitude and Other Microbiota on the Microbiota of Drosophila Melanogaster**, by Connor Hough  
**Mentor:** Johnny Chaston  
Brigham Young University  
Poster Number: 71

**ATP and Dopamine Co-Release in the NAc**, by Jonathan Dickerson, Christian Ahrens, Zach Valentine, Sara Linderman, Hillary Wadsworth, Lauren Ford, Jordan Yorgason  
**Mentor:** Jordan Yorgason  
Brigham Young University  
Poster Number: 72

**Seasonal Effects on Drosophila Development Rates**, by Peyton Jackson  
**Mentor:** John Chaston  
Brigham Young University  
Poster Number: 73

**Designing Inducible DNA Constructs for the Chicken**, by Lant Jenkins, Dalyn Davis, Caleb Kratt  
**Mentor:** Jeffery Barrow  
Brigham Young University  
Poster Number: 74

**Epigenetic Marks of Antiaging Pioglitazone Hydrochloride (PGZ) on Progeny**, by Wesley Hendricks  
**Mentor:** Steve Johnson  
Brigham Young University  
Poster Number: 75

**Natural Transformation in Staphylococcus aureus biofilms**, by Julia Gilpin, Lucy Bowden, Sela Harris, Elisa McRae, Jenny Bean, Brooklyn Jones  
**Mentor:** Bradford Berges  
Brigham Young University  
Poster Number: 76

**Do Predators Cause Maternal Effects in Livebearing Tropical Fish?**, by Nolan Rodeback, Jerald Johnson  
**Mentor:** Jerald Johnson  
Brigham Young University  
Poster Number: 77
CICNT surfaces block Staphylococcus aureus biofilm formation on implanted devices in mice, by
Brooklyn Jones
Mentor: Bradford Berges
Brigham Young University
Poster Number: 78

Mentor: Byron Adams
Brigham Young University
Poster Number: 79

Fish Tattoos: The Evolutionary Cost of Black Spot Disease, by Eric Morris
Mentor: Jerry Johnson
Brigham Young University
Poster Number: 80

Mentor: Mary Alvarez
Salt Lake Community College
Poster Number: 81

Establishing a Common Framework for Triangles, by Jordan Gertino, Bryan Wilson
Mentor: Bryan Wilson
Salt Lake Community College
Poster Number: 82

Chemical Synthesis of Aerogel Fabrics using Standard Lab Conditions, by Antonio Ruiz Ayala, Cristina Kinosian
Mentor: John Flood
Salt Lake Community College
Poster Number: 83

Differentiation of VOC emissions of heat-stressed Populus trichocarpa with varying levels of mycorrhizal colonization, by Luis Valdez, Mary Alvarez, Jessica Berryman, Ron Valcarce
Mentor: Jessica Berryman
Salt Lake Community College
Poster Number: 84
Comparison of low-cost synthesis methods for pharmaceutical-grade purity of the anticonvulsant Phenytoin using traditional reflux techniques verses Microwave-Assisted Extraction, by Katherine Christensen, Danielle Kemmer
Mentor: Ron Valcarce
Salt Lake Community College
Poster Number: 85

Rearrangement of Indolizines to Quinolizinium Salts, by Alexander Binsacca, Jackson Merriam, Brighton Stringham, Allyssa Platt
Mentor: Rajan Kochambilli
Salt Lake Community College
Poster Number: 86

Genetic Modification of Cyanobacteria to Break Down Organic Compounds and Inhibit Toxin Production, by Lonnie Ernst
Mentor: Lane Law
Salt Lake Community College
Poster Number: 87

Isolation of Microcystin-producing Cyanobacteria, by Alix Elliston
Mentor: Lane Law
Salt Lake Community College
Poster Number: 88

Determining Ant Species Diversity Through DNA Barcoding at Snow College, by Brynlyn Hastings, Dante Cervantes, Jaime Analuisa
Mentor: Lindsay Chaney
Snow College
Poster Number: 89

Variation of Grasshopper Species Found in Human Populated and Unpopulated Locations in Sanpete County, by Joshua Thlaman, Brynlei Luke, Emily Pattee
Mentor: Lindsay Chaney
Snow College
Poster Number: 90

Synthesis of Trans-Stilbene Derivatives by Palladium-Catalyzed Cross-Coupling of trans-2-Phenylvinylboronic Acid Pinacol Ester with Aromatic Chlorides, by Braden Nelson
Mentor: Nathan S Werner
Southern Utah University
Poster Number: 91
Spatial visualization versus memorization differences among sexes in organic chemistry, by Derek Baker, Lauren Jensen, Dagney Goodfellow, Seunghwan Shin
Mentor: Guizella Rocabado
Southern Utah University
Poster Number: 92

The Megasauropods: Using Ecological and Histological Analogues to Predict Maximum Sauropod Body Sizes With Implications for Paleobiology, by Isaac Wilson, Bree Wilson
Mentor: Arianna Harrington
Southern Utah University
Poster Number: 93

Organic chemistry students’ perceived costs and goal orientations, by Seunghwan Shin, Sydney Coates
Mentor: Guizella Rocabado
Southern Utah University
Poster Number: 94

Mentor: Mackay B Steffensen
Southern Utah University
Poster Number: 95

Microfossils of the McCarty Mountain’s Locality, southwestern Montana, by Cate Bateman, Jose Aurelio De La Rocha Tapia, Ethan Fulwood, Arianna Harrington
Mentor: Arianna Harrington
Southern Utah University
Poster Number: 96

The Effects of Reptile Handling on the Cardiovascular System, by Ashley Hartwig, Dr. Weeg
Mentor: Matthew Weeg
Southern Utah University
Poster Number: 97

Isolation and Characterization of Bovine Milk Derived Extracellular Vesicles, by Logan Whitney, Jaren Wilson, Elley Colledge, Jamie Thygerson
Mentor: Jessica Pullan
Southern Utah University
Poster Number: 98

MICP-Mediated Biobrick Formation: Evaluating Urease-Active Strains, by Sydney Pruett
Mentor: Roger Gold
Southern Utah University
Poster Number: 99
Synthesis of 1,3-Diphenylpropene from Benzyl Bromide Through a Hydroboration and Palladium-Catalyzed Cross-Coupling Sequence, by Michal Hansen, Nathan Werner

**Mentor:** Nathan Werner
Southern Utah University
Poster Number: 100

Designing a Non-Invasive Molecular Assay to Detect Batrachochytrium dendrobatidis Infection in Invasive Bullfrogs, by Gabriella Proctor, Luke Alder

**Mentor:** Marcos Corchando Sonera
Southern Utah University
Poster Number: 101

Assessing Plant Adaptability to Wildfire Impact and Drought, by Clista Galecki

**Mentor:** William Anderegg
University of Utah
Poster Number: 102
Session B1: Art/Education/Humanities Oral Presentations, 10:45 AM in Sorenson Center (SC) Room 213 A

NIQUE: Evolution of Contemporary Ballet, by Andy Sefcik
Mentor: Jamie Johnson
Utah Valley University
Presentation Time: 10:45 AM

Unfinished Portrait Faces on Roman Sarcophagi, by Harmony Newbrough
Utah Valley University
Presentation Time: 11:00 AM

Action Research: Will Direct Phonics Literacy Instruction Help Students Learn and Retain Irregular Words?, by Angela Gomez
Mentor: Chizu Matsubara
Utah Tech University
Presentation Time: 11:15 AM

How the Media Portrays Physical Disabilities, by Jessica Anderson
Mentor: Jennifer Kohler
Utah Tech University
Presentation Time: 11:30 AM
Session B2: Social Sciences Oral Presentations, 10:45 AM in Sorenson Center (SC) Room 213 B

**A Place for the Arts: Creating Spaces for Cross-Community Contact in Belfast**, by Addie Ressler
**Mentor:** Jacob R. Hickman  
Brigham Young University  
Presentation Time: 10:45 AM

**Fremont Red-on-Gray Pottery**, by Talia Berglund  
**Mentor:** Michael T. Searcy  
Brigham Young University  
Presentation Time: 11:00 AM

**Foreign Textiles at the Early Christian Fag el-Gamous Cemetery in Egypt**, by Jenna Norris  
**Mentor:** Kerry Muhlestein  
Brigham Young University  
Presentation Time: 11:15 AM

**Faunal Remains from Hinckley Mounds**, by Amber Clayton  
**Mentor:** Michael Searcy  
Brigham Young University  
Presentation Time: 11:30 AM

**The Transmission of National Identity: A Case Study of Japan’s Memorialization of the Past**, by Ashlyn Clark  
**Mentor:** Lynnette Finau  
Brigham Young University  
Presentation Time: 11:45 AM
Session B3: Science Oral Presentations, 10:45 AM in Keller Building (KB) Room 362

The effects of stinging nettle oil on the vascular smooth muscle in frogs, by Tia Dudley, Ty Erickson
Mentor: Matthew Weeg, Mary Jo Tufte
Southern Utah University
Presentation Time: 10:45 AM

An Analysis of the Neuroscience of Love and the Physiological Similarities it Holds to Addiction, by Audrey Wells
Mentor: Fredric Govedich
Southern Utah University
Presentation Time: 11:00 AM

Pollen DNA Metabarcoding to Analyze the Effect of Formic Acid Treatment on Foraging Behaviors of Apis mellifera, by Claudia Wiese, Josh Steffen, Heather Briggs, Rodolfo Probst
Mentor: Josh Steffen
University of Utah
Presentation Time: 11:15 AM

Conserving a keystone predator in the Americas: integrating phylogenomics, biogeography, and species-level taxonomy for a widespread army ant genus, by Megan DuVal, John Longino, Rodolfo da Silva Probst
Mentor: John Longino
University of Utah
Presentation Time: 11:30 AM

Group Theory for Procedural Content Generation: Towards Generating Objects from Mathematical Description, by Jonas P Knochelmann
Mentor: Rogelio E. Cardona-Rivera
University of Utah
Presentation Time: 11:45 AM
Photographic Depictions of Polygamy from 1878-1953, by Holly Biesinger
Mentor: Ran Qi
Southern Utah University
Presentation Time: 10:45 AM

Pandemic Effects on the Work From Home Market, by Eve Christensen, Chase Redd, Bailey Uzzardo
Mentor: Elijah Neilson
Southern Utah University
Presentation Time: 11:00 AM

The Effect of State Abortion Policy on Birth Control Consumption, by Lauren Howell
Mentor: Joshua Price
Southern Utah University
Presentation Time: 11:15 AM

The Relationship Between Economic Sector & Job Satisfaction, by Kelsey Grimshaw
Mentor: Joshua Price
Southern Utah University
Presentation Time: 11:30 AM
Session B5: Education Oral Presentations, 10:45 AM in Keller Building (KB) Room 244

Long-Term Substitutes Effect on Student Scores in California, by Kira Swann, Cody Dirks
**Mentor:** Joshua Price
Southern Utah University
Presentation Time: 10:45 AM

Pertenecce a los Estados Unidos: The Benefits of a Bilingual Education in the United States, by Beckham Trigo
**Mentor:** Johnathan Chidester
Southern Utah University
Presentation Time: 11:00 AM

Vocabulary Intervention: Supporting English Language Learners in Vocabulary Development, by Allie Baumgartner
**Mentor:** Chizu Matsubara
Utah Tech University
Presentation Time: 11:15 AM

Struggling Readers: Action to Improve Comprehension, by Cari Richards
**Mentor:** Chizu Matsubara
Utah Tech University
Presentation Time: 11:30 AM

Bloom’s and SOLO: A Comparison of Educational Taxonomies, by Spenser A Clark
**Mentor:** Acacia Overono
Utah Valley University
Presentation Time: 11:45 AM
Session B6: Engineering/Science Oral Presentations, 10:45 AM in Keller Building (KB) Room 248

Chronic obstructive pulmonary disorder remote patient monitoring using spirometry: a systematic review, by Joseph Nielson, Ben Schooley
**Mentor:** Ben Schooley  
Brigham Young University  
**Presentation Time:** 10:45 AM

Bacterial Separation by poly-Dopamine Coated Magnetic Nanoparticles, by Camille Bryner, Alyson Camacho, Bowen J Houser  
**Mentor:** William G Pitt  
Brigham Young University  
**Presentation Time:** 11:00 AM

Preferential Capture of Bacteria Using pDA-coated Magnetic Nanoparticles, by Alyson Camacho, Camille Bryner, Bowen Houser  
**Mentor:** William Pitt  
Brigham Young University  
**Presentation Time:** 11:15 AM

Constant pressure untethered soft robotics: an adaptable solution to the limitations of soft robots, by James Wade, Chris Paul  
**Mentor:** Nathan Usevitch  
Brigham Young University  
**Presentation Time:** 11:30 AM
Session B7: Humanities Oral Presentations, 10:45 AM in Keller Building (KB) Room 302

Information-Gaining Moves in Game Theory, by Kevin Young
Mentor: Gretchen Ellefson
Southern Utah University
Presentation Time: 10:45 AM

The Portrayal Of Reality Through The Lens Of The Astonishing World Of Studio Ghibli, by Emma Manley
Mentor: Johnathan Chidester
Southern Utah University
Presentation Time: 11:00 AM

Musical Manipulation: Controlling Memory And Emotions Through Auditory Processing, by Kaerli Ringle
Mentor: Johnathan Chidester
Southern Utah University
Presentation Time: 11:15 AM

Digging the Rabbit Hole: Jean Baudrillard and Mike Rothschild’s "The Storm is Upon Us", by Ezra Stein
Mentor: Nicole Dib
Southern Utah University
Presentation Time: 11:30 AM

Feminine versus Freakish: The Silence of the Lambs and TERF Rhetoric, by Kenna Johnson
Mentor: Nicole Dib
Southern Utah University
Presentation Time: 11:45 AM
De novo genome assembly and annotation of Curculio sp. (Coleoptera: Curculionidae) provides insight into diapause evolution, by Daniel Davis, Paul B Frandsen
Mentor: Paul B. Frandsen
Brigham Young University
Presentation Time: 10:45 AM

Updated Third Generation Sequencing: Assembly Insights, by Danyon Gedris, Paul Frandsen
Mentor: Paul Frandsen
Brigham Young University
Presentation Time: 11:00 AM

Adverse effects of Nr4a3 full body knockouts on adipose tissue, by Jared Carter
Mentor: Jeff Tessem
Brigham Young University
Presentation Time: 11:15 AM

Unlocking the Mechanism Behind Depotentiation: A Cellular Model for Forgetting, by Justin Webb
Mentor: Jeffrey Edwards
Brigham Young University
Presentation Time: 11:30 AM

Diversity and community in macroinvertebrates of Timpanogos Cave, Utah, by Erika Frandsen
Mentor: C. Riley Nelson
Brigham Young University
Presentation Time: 11:45 AM
Session B9: Social Sciences Oral Presentations, 10:45 AM in Keller Building (KB) Room 344

Guiding Souls, Shaping Towns: Clergy's influence on Population Dynamics, by Seth Cannon  
**Mentor:** Joe Price  
Brigham Young University  
Presentation Time: 10:45 AM

Bridging the Gaps: Geo-Coordinated Land Patent Linking for Socioeconomic Analysis, by Zachary Flynn, Britton Davis, Josh Nicholls, Bryson Mumford  
**Mentor:** Joseph Price  
Brigham Young University  
Presentation Time: 11:00 AM

Low Academic Self-Efficacy Predicts Higher Depression and Anxiety in Students of Color, by Nathaniel Call  
**Mentor:** Chelsea Romney  
Brigham Young University  
Presentation Time: 11:15 AM

Tin Foil Prophets: The Moral Worlds of Conspiracy and Apocalypse, by Soren Pearce  
**Mentor:** Jacob Hickman  
Brigham Young University  
Presentation Time: 11:30 AM

Agency and Support: A case-study of a mental well-being support group for Latina Immigrants, by Vanessa Lozano  
**Mentor:** April Reber  
Brigham Young University  
Presentation Time: 11:45 AM
Session B10: Rapid-fire Arts & Humanities Oral Presentations, 10:45 AM in Keller Building (KB) Room 346

**Shaping Futures: The Evolution of Elementary School Architecture**, by Samuel Zenteno  
**Mentor:** Brandon Ro  
Utah Valley University  
**Presentation Time:** 10:45 AM

**The Jazz Standard as Archive in Utah Jazz Performance**, by Jens Watts  
**Mentor:** Brian Harker  
Brigham Young University  
**Presentation Time:** 10:53 AM

**Breaking Boundaries**, by Arawyn Walter  
**Mentor:** Alexandra Giannell  
Utah Valley University  
**Presentation Time:** 11:01 AM

**The Gallery Space as Medium, Curating as Artistic Practice**, by Zoe Elwood  
**Mentor:** Jason Lanegan  
Utah Valley University  
**Presentation Time:** 11:09 AM

**Crafting Secure System Messages**, by Spencer Thompson  
**Mentor:** Sayeed Sajal  
Utah Valley University  
**Presentation Time:** 11:17 AM

**What Makes a Legend: Characterization’s Role in Arthurian Universality**, by Em Hart  
**Mentor:** Nicole Dib  
Southern Utah University  
**Presentation Time:** 11:24 AM
Session B11: Architecture/Business Oral Presentations, 10:45 AM in Keller Building (KB) Room 348

Subconscious Comprehension of Structural Forms: An Eye-Tracking Study, by Jared K Bradshaw
Mentor: Brandon Ro
Utah Valley University
Presentation Time: 10:45 AM

Income Inequality for Women in the Psychology Field, by Jacob Willoughby
Mentor: Joshua Price
Southern Utah University
Presentation Time: 11:00 AM

What role does gig work play in bridging or widening the gender pay gap among underrepresented groups?, by Katrina Kim
Mentor: Joshua Price
Southern Utah University
Presentation Time: 11:15 AM

The Gender Pay Gap in FinTech: An Analysis of Women's Compensation in the Industry, by Rachel Bi, Chong Meng
Mentor: Rachel Bi
Utah Valley University
Presentation Time: 11:30 AM
Music and Recall: A study of the impacts of Music on Performance, by Cari Monson, Julie Pynn
Mentor: Julie Pynn
Southern Utah University
Poster Number: 1

Understanding the Effect of Printing Parameters and Prewetting on Binder Jetting Continuous Line Formation, by A. Kalani Brubaker
Mentor: Nathan Crane
Brigham Young University
Poster Number: 2

Eating Disorders and ADHD, by Danielle Black
Mentor: Chris Anderson
Utah Valley University
Poster Number: 3

The State of Student Media at HBCUs and HSIs, by Marianna Lopez LuriQa, Mckinna Baird
Mentor: Jean Norman
Weber State University
Poster Number: 4

Going Green in a General Chemistry Teaching Lab: Assessment of Learning Outcomes, by Cooper Bell-Hunley, Ming Yu, Emily Heider
Mentor: Emily Heider
Utah Valley University
Poster Number: 5

Genetic Mutations in the Genomes of Mother-Offspring Pairs Shows Link Towards Nausea and Vomiting in pregnancy, by Dallin Oyler, Ana Alfaro, Kailee Myxter, Ben Brooks, Amanda Brooks
Mentor: Jessica Pullan
Southern Utah University
Poster Number: 6

Lighting for Different Land Uses: A Case Study in Cedar City, by Sebastian Partida
Mentor: Jamie Spinney
Southern Utah University
Poster Number: 7
The use of ecological niche modeling to characterize the microhabitat of oak hybrids (Quercus undulata) in Utah, by Cate Bateman, Carson Veazie, Sydney Sandall

Mentor: Matt Ogburn
Southern Utah University
Poster Number: 8

Social Effects of Bed Nucleus of the Stria Terminalis Corticotropin-releasing Hormone and Tachykinin 2 Neuronal Activation Using Optogenetic Stimulation, by Nicholas Poll

Mentor: Moriel Zelikowsky
University of Utah
Poster Number: 9

Reconstructing seasonality in African bovids using dental microwear, by Auriana Dunn

Mentor: Kathryn Sokolowski
University of Utah
Poster Number: 10

Evaluating the role of LRRC1 in melanoma growth and metastasis, by Kylee Fernandez

Mentor: Gennie L Parkman
University of Utah
Poster Number: 11


Mentor: J. David Symons
University of Utah
Poster Number: 12

Using Past Ecosystems to Understand Modern Climate Change: A Case Study from Utah’s House Mountain Range, by Jane Damstedt, Kasey Cole

Mentor: Kasey Cole
University of Utah
Poster Number: 13

A Metagenomic Analysis the Microbial Composition of Apis mellifera Pollen Preserves throughout the Foraging Season, by Sydney Larsen

Mentor: Joshua Steffen
University of Utah
Poster Number: 14
Nonequilibrium Thermodynamics of Voltage-Gated Ion Channels, by Ada Cottam Allen, Mikhael T Semaan
Mentor: Mikhael T Semaan
University of Utah
Poster Number: 15

Bx42 is Required for Brain Development and is Linked to Microcephaly, by Adriana Bibo, Nicole Losurdo, Nichole Link
Mentor: Nichole Link, Cindy Greaves
University of Utah
Poster Number: 16

Synthesis and testing of hydrophobicly-modified pyridyl-aza crown ethers as chelators of rare earth elements, by William Lee, Rishab Nayak, Cecilia Knapp, Camila Soderholm
Mentor: Ryan Stolley
University of Utah
Poster Number: 17

A Glance into the Origin of Life through the Lens of the DNA Repair Enzyme MutY from the Lost City Metagenomes, by My Nha Quyen Tran, Cindy Greaves
Mentor: Martin Horvath, Cindy Greaves
University of Utah
Poster Number: 19

Murine Model of Hepatitis Delta Virus-Associated Salivary Gland Impairment, by Alexander Romano, Matthew Hesterman, Rachel Hill, Melodie Weller
Mentor: Melodie Weller
University of Utah
Poster Number: 20

In the Depths of the Understory: Costa Rican Associations Between Ants and Coccoidea Unraveled using NGS DNA Barcoding, by Sylvia Lee, Ainsley Parkins, Rodolfo S Probst
Mentor: Rodolfo S Probst
University of Utah
Poster Number: 21

Nanopore sequencing as a tool supporting pharmacological research in historically neglected marine micromollusks: from traditional knowledge to pharmacological targets, by Libby Heath, Kyle Cink, Thomas Petitjean, Ainsley Parkins, Sylvia Lee, Rodolfo S Probst, Matias Giglio, Baldomero Olivera, Macy Olivera
Mentor: Rodolfo S Probst
University of Utah
Poster Number: 22
Information Anatomy Over Partition Space, by Nathan Jackson, Ryan James, James Crutchfield
Mentor: Mikhael Semaan
University of Utah
Poster Number: 23

Mentor: Rodolfo S Probst
University of Utah
Poster Number: 24

Quaking Aspen Pathogen Defense in the Presence of Climate Change Related Drought, by Allison Perkins, Aubrey Hawks, Talia Karasov
Mentor: Talia Karasov
University of Utah
Poster Number: 25

Evolution of TETR/TETO system toward orthogonal transcriptional repression, by Alexa N Gormick, Adam M Zahm, Justin G English
Mentor: Justin G English
University of Utah
Poster Number: 26

Lysine Methyltransferase SETD7 Methylates Two Novel Residues on Histone H3, by Braxton Bird
Mentor: Sarah Franklin
University of Utah
Poster Number: 27

Investigating Neuronal Networks Behind Learning in Drosophila melanogaster, by Dua Azhar, Alexander MacKenzie, Sophie Caron
Mentor: Sophie Caron
University of Utah
Poster Number: 28

Utilizing Genomic and Metabolic Data to Investigate the Evolutionary Ecology of Ant-Farmed Fungi, by America Cox, Kendra Autumn, Bryn Dentinger
Mentor: Bryn Dentinger
University of Utah
Poster Number: 29
Building the Labyrinth: Evolutionary Algorithms, Behavioral Analysis Generative AI in Information Security Assurance, by Daniel Lentz
Mentor: Dave Norwood
University of Utah
Poster Number: 30

Using Technician Statistics For Productive Animal Care, by Grace Moore
Mentor: Aaron Olsen
Utah State University
Poster Number: 31

Mentor: Ronald Sims
Utah State University
Poster Number: 32

Eolian Sediment as a Potential Soil Parent Material in Cache Valley, by Kylie Hansen
Mentor: Janis Boettenger
Utah State University
Poster Number: 33

Isolation on Plant Growth promoting bacteria from the hybrid buffaloberry Shepherdia x utahensis ‘Torrey’, by Ty Wilson
Mentor: Amita Kaundal
Utah State University
Poster Number: 34

Hollow hair and how its structure helps big game animals thermoregulate, by Taylor Millett, Wendy Schatzberg, Samuel Tobler
Mentor: Wendy Schatzberg
Utah Tech University
Poster Number: 35

Computational analysis of cyclic aminoborane complexes that exhibit potential to act as hydrogen storage molecules, by Amy Richards, Caleb Shelton, Jordan Colmenero, Mason Warenski
Mentor: Diana Reese
Utah Tech University
Poster Number: 36

Synthesis and Characterization of Novel Pterostilbene Derivatives for Potential use as Therapeutics, by Ashley Staten
Mentor: Jennifer Meyer
Utah Tech University
Poster Number: 37
Rock Column Displacement in Zion National Park: A statistical Analysis, by Michael Orr  
**Mentor:** Md Sazib Hasan, Alex Tye  
Utah Tech University  
Poster Number: 38

University Course Timetabling: From Sticky Notes to Automation, by Alyssa Muller, Russ Ross  
**Mentor:** Russ Ross  
Utah Tech University  
Poster Number: 39

mitochondrial genes of hybrid whiptail parthenogens, by Dante Celani, Erin Bunch, Randy Klabacka  
**Mentor:** Randy Klabacka  
Utah Tech University  
Poster Number: 40

fr10 Evolution, by Reagan McKee, Vicente Fernández Lara, Jeremy Bakelar, Randy Klabacka, Dustin Kolste  
**Mentor:** Randy Klabacka  
Utah Tech University  
Poster Number: 41

Insane in the Membrane: Amino acid sequence evolution and conservation in vital protein complex in gram-negative bacteria, by Alexander Everett, David Bean, Jeremy W Bakelar, Randy L Klabacka  
**Mentor:** Randy L Klabacka  
Utah Tech University  
Poster Number: 42

Introduced population of a unisexual lizard species in Southern Utah, by Vicente Fernández Lara, Reagan McKee, Randy Klabacka, Angelina Romero  
**Mentor:** Randy Klabacka  
Utah Tech University  
Poster Number: 43

Computational analysis of cyclic aminoborane complexes that exhibit potential to act as hydrogen storage molecules, by Amy Richards, Caleb Shelton, Jordan Colmenero, Mason Warenski  
**Mentor:** Diana Reese  
Utah Tech University  
Poster Number: 44

Cloning of ORC2 and ORC4 from HeLa Cells, by Austin Meyer, Gavin Grimmett, Martina Gaspari  
**Mentor:** Martina Gaspari  
Utah Tech University  
Poster Number: 45
Thermochronometry dating of apatite (U-Th/He) of Andes Plate Tectonics from the Sierra de Altohuasi, by Charley Beck, Justin Hawkins
Mentor: Alex Tye
Utah Tech University
Poster Number: 46

Apatite (U-Th)/He dating of Andes Mountains near Sierra de Chango Real, Argentina, by Justin Hawkins, Charley Beck
Mentor: Alex Tye
Utah Tech University
Poster Number: 47

Analyzing the relationship between genes and survivability of breast cancer using machine learning, by Erick Gutierrez, Sazib Hasan, Vinodh Chellamuthu, Jie Liu
Mentor: Sazib Hasan
Utah Tech University
Poster Number: 48

Utah Tech Campus Temperature Mapping with GIS, by Grace Harang, Avery Hansgen
Mentor: Zhenyu Jin
Utah Tech University
Poster Number: 49

The Santa Clara River: A Vital Arid Waterway Under Human and Climate Pressures, by Emma Parry, Nikki Trush, Christina Pondell
Mentor: Christina Pondell
Utah Tech University
Poster Number: 50

Complex Responses of Desert Soil Properties to Organic Amendment Applications, by Trevor Ashby, Elizabeth Maclellan
Mentor: Gabriela Chilom
Utah Tech University
Poster Number: 51

Elevation and their relationship with Avalanches, by Savanna Greer
Mentor: Zhenyu Jin
Utah Tech University
Poster Number: 52

Solid Waste Production, City of Saint George, by Allie Pace, Conner Bennett
Mentor: Marzieh Ghasemi
Utah Tech University
Poster Number: 53
The nature of the negative relationship between phylogenetic distance and genomic mapping success, by Dante Celani, Laisha Noyes, Candice Johnson, Seun Onileowo, Randy Klabacka
Mentor: Randy Klabacka
Utah Tech University
Poster Number: 54

Aquatic plant-associated fungi along an urbanization gradient, by Jacob Mora, Geoff Zahn
Mentor: Geoff Zahn
Utah Valley University
Poster Number: 55

Bloom-B-Gone: Preventing Utah Lake Toxic Blooms by Phosphorous and Nitrogen Sequestration, by Elise Bennett, Zenos Thoreson, Blaise Bartlett, Jacob McFadden, Melanie Rosa, Nathan Walker, Logan Fenn, Eric Domyan, Colleen Hough
Mentor: Eric Domyan, Colleen Hough
Utah Valley University
Poster Number: 56

Safety and Fairness in the Courtroom, by Ella Johnson, Aubria Soto, Andrew Bodily
Mentor: Chelsea Romney
Brigham Young University
Poster Number: 57

The Value of Relationship Education for Youth and Teenagers, by Stefan Jezik
Mentor: Jocelyn Wikle
Brigham Young University
Poster Number: 58

Creating a Surname Lexicon for Historical US Records, by Spencer Timmerman
Mentor: Joseph Price
Brigham Young University
Poster Number: 59

Does talking about Suicidality help all populations? The data points to Yes, by Elizabeth Smith, Melissa Chavez
Mentor: Jared Neilsen
Brigham Young University
Poster Number: 60

The Influence of Problematic Media Use on Language Development, by Allison Weston, Summer Snow, Sophia James
Mentor: Sarah Coyne
Brigham Young University
Poster Number: 61
Feelings about Modesty and the Prevalence of Eating Disorders in Latter-Day Saint Men and Women, by Kate Binford, Marissa Roper, Brynn Eyre

Mentor: Sarah Coyne
Brigham Young University
Poster Number: 62

Using Automated Web Scraping to Document Variation in Sodium Content of Common School Meal Entrees, by Aaron Brown, Kimball Jardine, Nathan Schill, Courtney Webb, Joanne Guthrie

Mentor: Joseph Price
Brigham Young University
Poster Number: 63

The Relationship Between Social Media and Body Image, by Fiona Fox, Catherine Schumann, Cameron Monson

Mentor: Sarah Coyne
Brigham Young University
Poster Number: 64

The Physiological Effects of Capitalization in Ambivalent Marriages, by Abigail Williams, Kelsie Minga, Abby Baker, Ella Sieg, Olivia Harris

Mentor: Wendy Birmingham
Brigham Young University
Poster Number: 65

Relationship Between Income and Lifespan Using Historical Data, by Joseph Price, Britton Davis, Alexander Jenks

Mentor: Joseph Price
Brigham Young University
Poster Number: 66

Investigating the Effectiveness of Incentivized Efficient Watering Practices in 5 Western States with Focus on Utah, by Ashley Swensen, Ruth Kerry

Mentor: Ruth Kerry
Brigham Young University
Poster Number: 67

The Impacts of Distress and Perceived Social Support on Heart Rate Variability, by Mikel Cressman, Jackie Richey, Dantzel Petersen Hancey, Bianka Geraldo, Kayden Barlow, Ainsley Lumsden, Olivia Hubble

Mentor: Patrick Steffen
Brigham Young University
Poster Number: 68
Influence of Childhood Levels of Self Control on Adolescent Sleep Outcomes, by Jacalyn Richey, Hayley Pierce

**Mentor:** Hayley Pierce
Brigham Young University
Poster Number: 69

How Depression Affects “Feeling the Spirit” in College Age Latter-Day Saints, by Nadia Mando, Josh Shaeffer, Jared Nielsen

**Mentor:** Jared Nielsen
Brigham Young University
Poster Number: 70

Experience impact and the influence of novelty, social connection, and positive emotions on tourist experiences, by Braden Bringhurst, Michael Ray, Megan Barbier, Ellie Smith

**Mentor:** Peter Ward
Brigham Young University
Poster Number: 71

The Effects of Anterograde Amnesia on Mnemonic Discrimination: A Single-Subject Case Study, by Sara Knowlton, Sam Chipman, Samantha Stabler, Alex Osmond, Brock Kirwan

**Mentor:** Brock Kirwan
Brigham Young University
Poster Number: 72

Temporal Decay of Memory Discrimination: Investigating Mnemonic Similarity Task with Extended Delays, by Alexandra Osmond, Samantha Stabler, Sara Knowlton, Sam Chipman, Brock Kirwan

**Mentor:** Brock Kirwan
Brigham Young University
Poster Number: 73

Sodium Reduction Policy Response, by Jacob Hutchings, Harrison Li

**Mentor:** Joe Price
Brigham Young University
Poster Number: 74

Cross Cultural Privacy and Communication, by Tzu Yu Weng, Isaac Teuscher

**Mentor:** Xinru Page
Brigham Young University
Poster Number: 75

Prioritizing Kinship Care in Adoption Placements: Research Findings and Policy Solutions, by Gabriela Coca

**Mentor:** Jocelyn Wikle
Brigham Young University
Poster Number: 76
Intrinsic vs. Extrinsic Religiosity: Implications for the Parasympathetic Nervous System, by Parker McKasson, Hannah Hornberger, Sydnee Bond, Olivia Heller, Josh Marchant

**Mentor:** Patrick Steffen
Brigham Young University
Poster Number: 77

Social Media Use: Implications for Individuals Experiencing Stress and Neuroticism, by Cole Murphy, Andrew Blazzard, Austin Barney

**Mentor:** Patrick Steffen
Brigham Young University
Poster Number: 78

Unraveling the Threads of Confidence: Exploring Influences on Perceptions of Women’s Leadership, by Vanessa Tuttle

**Mentor:** Liz McGuire
Brigham Young University
Poster Number: 79

From Pixels to Passion: How Mindfulness Reshapes the Landscape of Love and Intimacy as Counterbalance to Media Consumption, by Hadley Avila, Chelom Leavitt

**Mentor:** Chelom Leavitt
Brigham Young University
Poster Number: 80


**Mentor:** Samuel Otterstrom
Brigham Young University
Poster Number: 81

From Patron To Partner: Accomplishments of Museum-Armature Archaeology Relationships, by James Hall

**Mentor:** Paul Stavast
Brigham Young University
Poster Number: 82

Examining the Effects of Service on Male-Coded Committees on the Reelection of Female Legislators, by Annabelle Crawford

**Mentor:** Celeste Beesley
Brigham Young University
Poster Number: 83
Contrasting Representations of the Berlin Wall in American and German Museums, by Breanne Herrmann
**Mentor:** Paul Stavast
Brigham Young University
Poster Number: 84

Participation of Spanish-English Bilingualism in the US Political System: How Does Spanish Affect Voter Perception?, by Alexa Smith
**Mentor:** Iliana Portaro
Southern Utah University
Poster Number: 85

A look at Suicidality Among Various Demographics at Southern Utah University, by Maggie Smith, Bryan L Koenig
**Mentor:** Bryan L Koenig
Southern Utah University
Poster Number: 86

Do images of gender conformity affect individual comfort and conformity with gender expression, by Alexis Downey, Kylene Navin, Brice Page, Alyssa Franklin, Hannah Cluff, Julie Johnson Pynn
**Mentor:** Julie Johnson Pynn
Southern Utah University
Poster Number: 87

Meditation and Survival: Connections Between Humanity and Nature, by Reagan Wexels, Lauren Davis, Mason Peterson, Oliver Swanson, Rebekah Story, Julie Johnson Pynn
**Mentor:** Julie Johnson Pynn
Southern Utah University
Poster Number: 88

The Attitudes Towards Religion Scale (ATR): Development and Evaluation, by Samantha Denbow, Katie Finlinson, Carley Grube, Joseph Johnson, Tanner Dougherty
**Mentor:** Kirsten L Graham
Southern Utah University
Poster Number: 89

Seizures & Stigma, by Kelsey Grimshaw, Julie Pynn, Kirsten Graham
**Mentor:** Kirsten Graham
Southern Utah University
Poster Number: 90

Examining Implicit Bias on the Political Spectrum, by Jared Hanks, Kevan LaFrance, Julie Pynn
**Mentor:** Kevan LaFrance
Southern Utah University
Poster Number: 91
**From Struggles to Strength: Strategies, Identity, and Acceptance with the LGBT Community**, by Kirsten Graham, Julie Pynn  
*Mentor*: Kirsten Graham  
Southern Utah University  
Poster Number: 92

**Development of the Positive Awe Origin Scale**, by Willow Norton, Kaleb Cox, Jaycen Sunderman, Jessalyn Warhurt  
*Mentor*: Kirsten L. Graham  
Southern Utah University  
Poster Number: 93

**Gambel Oak Acorns as a Food Resource in the Great Basin, Colorado Plateau, and Southwest**, by Sophia Dodge  
*Mentor*: Alex Greenwald  
University of Utah  
Poster Number: 94

**Genomic Analysis of Male Reproductive Skew in Bornean and Sumatran Orangutans**, by Gabriel Hammond, Rebecca Seegraber, Tim Webster  
*Mentor*: Tim Webster  
University of Utah  
Poster Number: 95

"Am I a good student?": Examining Motivation Style Influences on Coping Strategies to Perceived Academic Failure and Self-Efficacy, by Broden Lund, John Jones  
*Mentor*: John Jones  
Utah Tech University  
Poster Number: 96

**From Self-Critique to Self-Care: Examining the Links Between Perfectionism and Self-Compassion**, by Peg Bird, Maria Balaceanu, Grace Carsey, Tiffanee Suhaka, Hunter Mitchell, Ives Hong, Tara Caplin, Ed Wu, John T Jones, Dannelle Larsen-Rife  
*Mentor*: John T Jones  
Utah Tech University  
Poster Number: 97

**Assessing Risk Authoritarian Parenting and Adult Coping**, by Hunter Mitchell, Grace Carsey, Maria Balaceanu, Peg Bird, Bridger Lisonbee, Dannelle Larsen-Rife  
*Mentor*: John Jones  
Utah Tech University  
Poster Number: 98
The Relationship Between Sleep, Attachment, and Social Support, by Kendra Johnson
Mentor: Dannelle Larsen-Rife
Utah Tech University
Poster Number: 99

Examining the Efficacy of the UVU Stronger Families Project, by Derek Wolfgramm
Mentor: Kaicee Postler
Utah Valley University
Poster Number: 100

Connections between relationship perceptions and well being, by Lauren Hammond, Hailey White, McKayla Pittman
Mentor: Brandon Burr
Utah Valley University
Poster Number: 101

Support for learning and teaching in Utah, by Jennifer Mortensen, Melissa Lee, Jessica C. Hill
Mentor: Jessica C. Hill
Utah Valley University
Poster Number: 102

Quantitative Results of a Pre- and Post-Program Analysis of the Stronger Families Project in Fall 2023, by Taelyn Stinson, Kaicee Postler, Racel Arocho, Julie Nelson
Mentor: Kaicee Postler
Utah Valley University
Poster Number: 103

An Archival Research Study: Correlation Between Feeling Unloved and Neglected with Eating Disorder Behaviors, by Anna Trollmann
Mentor: Chris Anderson
Utah Valley University
Poster Number: 104

Gender differences in performance evaluation anxiety in faculty members on the tenure track, by Tatiana Leroy, Jessica C. Hill
Mentor: Jessica C. Hill
Utah Valley University
Poster Number: 105

Functional Near-Infrared Spectroscopy and Dementia, by Natalia Rubio, Madison Farrer
Mentor: Christopher Anderson
Utah Valley University
Poster Number: 106
The Effects of State Anxiety on Face Identification, by Patrick R Davies II
Mentor: Acacia Overono
Utah Valley University
Poster Number: 107

Infant Identity Among the Tiwanaku, by Matthew Hovorka
Mentor: Connie Ericksen
Utah Valley University
Poster Number: 108

Do Examples of Unethical Conduct Improve or Undermine Ethics Training in Psychology, by Joshua Parmley, Acacia Overono
Mentor: Acacia Overono
Utah Valley University
Poster Number: 109

Drawing on Memory, by Corin Marsh, Acacia Overono
Mentor: Acacia Overono
Utah Valley University
Poster Number: 110
Session C1: Huntsman Cancer Institute Special Research Session 2, 2:00 PM in Sorenson Center (SC) Center Stage

Introduction, by Brad Cairns and Donald Ayer
Presentation Time: 2:00 PM

Combined Inhibition of RAF, MEK, and FAK Attenuates Melanoma Brain Metastases and Prolongs Survival in Preclinical Models, by Ana Paulina Medellin-Alvarez, Jared Almazan, Tursun Turapov, David A. Kircher, Karly A. Stanley, Gennie L. Parkman, MiKaela N. Field, Katie M. Culver, Silvia Coma, Jonathan A. Pachter, Howard Colman, Sheri L. Holmen
Mentor: Sheri Holmen
University of Utah
Presentation Time: 2:15 PM

Mentor: Jared Barrot
Brigham Young University
Presentation Time: 2:30 PM

The utility of ChatGPT in subspecialty consultation for patients (pts) with metastatic genitourinary (GU) cancer, by Ayana Srivastava, Gliceida Galarza Fortuna, Beverly Chigari, Emre Dal, Chadi Hage Chehade, Georges Gebrael, Arshit Narang, Neeraj Agarwal, Umang Swami, Haoran Li
Mentor: Neeraj Agarwal
University of Utah
Presentation Time: 2:45 PM

Modeling Glioblastoma's Effect on Neural Networks using Brain Organoids, by Jude Werth
Mentor: Alex Shcheglovitov
University of Utah
Presentation Time: 3:05 PM

Using Gut Microbiota Derived Metabolites As a Proxy for Gut Permeability and Subsequent Risk of Cachexia, by Ellie P. Evans, Mmadili Ilozumba, Sheetal Hardikar, Neli Ulrich, Jennifer Ose
Mentor: Mmadili Ilozumba
Utah Valley University
Presentation Time: 3:20 PM

Association of Cyclooxygenase 1 (COX-1) rs4648298 and Cyclooxygenase 2 (COX-2) rs20417 Polymorphisms and Prostatic diseases Among Lebanese Males, by Brock Sheehan, Bryson Edwards, Ivanna Soto, Justice Vance, Tyler Haywood, Jefferey Goddard, Logan Seegmiller, Mohammed A. El Saidi, Wissam R Zaidan, Asmahan El-Ezzi, Dr. Ruhul Kuddus
Mentor: Dr. Ruhul Kuddus
Utah Valley University
Presentation Time: 3:35 PM
Cancer Research Lightning Poster Presentations

Transcriptomics Meta-Analysis Identifies Upregulation of Clotting and Fibrinolysis Cascades in Colorectal Cancer Tumors Containing Hereditary PMS2 Mismatch Repair Deficiency, by Trenton M. Gibson, Brett E Pickett
Mentor: Brett E Pickett
Brigham Young University
Presentation Time: 3:50 PM

An Efficient Microwave Assisted Ullmann-Type Amination of 3-Bromopyrazolo[1,5-a]pyrimidine: Key Intermediate for Preparing 3,6-Di-Amino-Substituted Anticancer Heterocycles, by Bryce Tolman, Jasper Terungwa Iorkula, Justin Singleton, Matt Peterson
Mentor: Matt Peterson
Brigham Young University
Presentation Time: 3:50 PM

Synthesis and Optimization of Novel Macroyclic TRK Inhibitors For Treating Drug-Resistant Cancers, by Matthew Stecher, Terungwa Iorkula, Matt A. Peterson
Mentor: Matt A. Peterson
Brigham Young University
Presentation Time: 3:50 PM

Inhibiting CDK9 and Autophagy in Pancreatic Cancer, by Isabella Scalise
Mentor: Conan Kinsey
University of Utah
Presentation Time: 3:50 PM

Investigating the Role of FBXO21 in Hematopoietic Malignancy, by Danielle Alvarado, Kasidy Weber, Shannon Buckley
Mentor: Shannon Buckley
University of Utah
Presentation Time: 3:50 PM

Elucidating the Role of TOX on Melanoma Cell Migration and Invasion, by Allison Stevens, Gennie Parkman
Mentor: Gennie Parkman
Weber State University
Presentation Time: 3:50 PM
Session C2: Science Oral Presentations, 1:45 PM in Sorenson Center (SC) Room 213 A

**Waking up Rubus: germination protocols for thimbleberry**, by Grace McFarlane  
**Mentor:** Michael Roter  
Utah Valley University  
Presentation Time: 1:45 PM

**The "fly"-logeny of Drosophila Chromosome Evolution**, by Audrey French, Carl E Hjelmen  
**Mentor:** Carl E Hjelmen  
Utah Valley University  
Presentation Time: 2:00 PM

**Using Graph Coloring to Optimize Monitoring Electric Power Networks**, by Nathan Klundt, Violeta Vasilevska  
**Mentor:** Violeta Vasilevska  
Utah Valley University  
Presentation Time: 2:15 PM

**Interoperability and Artificial Intelligence**, by Asher Mitchell, Neil Chilson  
**Mentor:** Neil Chilson  
Utah State University  
Presentation Time: 2:30 PM

**The More the Merrier: Building the Surface Brightness Fluctuation Distance Ladder**, by Mikaela Cowles, Joseph Jensen  
**Mentor:** Joseph Jensen  
Utah Valley University  
Presentation Time: 2:45 PM

**Mentor:** Paul Dunn  
Utah Valley University  
Presentation Time: 3:00 PM
Peer Tutoring as a High-Impact Practice (HIP) for Tutors, by Lisa Bell, Kelsey Hixon Bowles, Joni Hayward Marcum, Maren Neild, Asmaa Alsharif  
Mentor: Lisa Bell  
Utah Valley University  
Presentation Time: 1:45 PM

Cognitive and Emotional Intersection: Investigating the Relationship Between Academic Performance and Depression Among Students, by Alley Fausett, Megan Ritter Martin, Kristin Davenport, Malisa Brooks, Kent Hinkson  
Mentor: Kent Hinkson, Malisa Brooks  
Utah Valley University  
Presentation Time: 2:00 PM

Lithuania's Quest for Energy Independence from Russia, by Michelle Stanley  
Mentor: Baktybek Abdrisaev  
Utah Valley University  
Presentation Time: 2:15 PM

The Relationship Among Attachment Styles, Couple Satisfaction, and Perceived Stress, by Noah James, Rebekah Hakala, Todd Spencer  
Mentor: Todd Spencer  
Utah Valley University  
Presentation Time: 2:30 PM

Rattle My Bones: A Curation Experience, by Jalynn Lunceford  
Mentor: Crystal Koenig, Arianna Harrington  
Southern Utah University  
Presentation Time: 2:45 PM

The Relationship Among Attachment Styles and Sexual Satisfaction and Frequency, by Brandie Statham, Rebekah Hakala  
Mentor: Todd Spencer  
Utah Valley University  
Presentation Time: 3:00 PM
Session C4: Engineering Oral Presentations, 1:45 PM in Sorenson Center (SC) Room 208

**A Global Pandemic's Effect on Mobile Device Security**, by Ashton Walden
**Mentor**: Sayeed Sajal
Utah Valley University
Presentation Time: 1:45 PM

**Forest Fire Detection Using Deep Learning Techniques**, by Mason Davis
**Mentor**: Mohammad Shekaramiz
Utah Valley University
Presentation Time: 2:00 PM

**Damage Detection on Wind Turbine Blades Using Deep Learning Algorithms**, by Edwin Nazario, Mason Davis, Mohammad Shekaramiz, Mohammad Masoum, Abdennour Seibi
**Mentor**: Mohammad Shekaramiz
Utah Valley University
Presentation Time: 2:15 PM

**Mentor**: Mohammad Shekaramiz
Utah Valley University
Presentation Time: 2:30 PM

**Autonomous Inspection of Small Wind Turbines using Deep Learning Classification, Object Detection, and Autonomous Drones**, by Joshua Zander, Angel Rodriguez, Mason Davis, Edwin Nazario Dejesus, Mohammad Shekaramiz, Mohammad A S Masoum, Abdennour Seibi
**Mentor**: Mohammad Shekaramiz
Utah Valley University
Presentation Time: 2:45 PM

**Chemical Herding: Controlling Collective Behavior of Active Brownian Particles**, by Rebecca Burton
**Mentor**: Doug Tree
Brigham Young University
Presentation Time: 3:00 PM
Session C5: Humanities Oral Presentations, 1:45 PM in Keller Building (KB) Room 244

**Mentor:** Jerry Petersen  
Utah Valley University  
Presentation Time: 1:45 PM

**Hildolf, Son of Odin**, by Leif Ravnsen  
**Mentor:** Rick McDonald  
Utah Valley University  
Presentation Time: 2:00 PM

**The Lake of Salt: An Interdisciplinary Perspective of the Great Salt Lake**, by Leif Ravnsen  
**Mentor:** Scott Abbott  
Utah Valley University  
Presentation Time: 2:15 PM

**The role of communication in managing college student stress**, by Kathryn Hales  
**Mentor:** Sarah Steimel  
Weber State University  
Presentation Time: 2:30 PM

**Barking Up the Right Tree: Granting Moral Standing to Animals and Ecosystems**, by Atira Schulte  
**Mentor:** Michael Popich  
Westminster College  
Presentation Time: 2:45 PM

**The Third Thing: Anti-sectarian Frameworks in Northern Ireland Music**, by Joshua Booher  
**Mentor:** Jacob Hickman  
Brigham Young University  
Presentation Time: 3:00 PM
Climate change effects on plant functional traits in the Alaskan arctic, by Cristina Chirvasa, Tyler Williams, Matteo Petit Bon
Mentor: Karen Beard
Utah State University
Presentation Time: 1:45 PM

Deciphering Synergy: Pterostilbene and Dabrafenib in Melanoma Treatment, by Reno Blackmore, Jacob Mead, Wyatt Legas, Jennifer Meyer
Mentor: Jennifer Meyer
Utah Tech University
Presentation Time: 2:00 PM

The Relationship between Differential Finger Force in a Squeezing Task and Spin Characteristics of a Four-seam Fastball Thrown by Division-I Collegiate Baseball Pitchers, by Sierra Anderson
Mentor: Vinodh Chellamuthu
Utah Tech University
Presentation Time: 2:15 PM

Calculating genetic divergence between groups with underlying population structure using combinatorics and a permutation test, by Baylee Christensen, Reagan Mckee, Dante Celani, Candice Johnson, Randy Klabacka
Mentor: Randy Klabacka
Utah Tech University
Presentation Time: 2:30 PM

Modernizing data collection methods for animal population estimates by using unmanned aerial vehicles (UAVs), by Hunter Gordon, Jace Riley, McCade Larsen
Mentor: Aaron Davis
Utah Tech University
Presentation Time: 2:45 PM

Exploring the relationship between scalation and aridity in Uta stansburiana using modern and historical populations of the desert Southwest, by Hunter Gordon
Mentor: Geoff Smith
Utah Tech University
Presentation Time: 3:00 PM
Does increase usage in pornography by males decrease marriage rates in women, by Tyler Randall  
**Mentor:** Joshua Price  
Southern Utah University  
Presentation Time: 1:45 PM

**Soundscapes & Their Effect on Anxiety,** by Grace Collier, Sadee Ball, Shelby Shepherd, Madi Kotter, Sierra Jeppesen, Tanner Wilson  
**Mentor:** Julie Pynn  
Southern Utah University  
Presentation Time: 2:00 PM

**Loneliness and Parasocial Relationships at SUU,** by Haley LeFevre, Julie Pynn  
**Mentor:** Julie Pynn  
Southern Utah University  
Presentation Time: 2:15 PM

**The Hard Life Of A Porn Star,** by Kennley Cook  
**Mentor:** Crystal Koenig  
Southern Utah University  
Presentation Time: 2:30 PM

**Impact of Athletics United,** by Alyssa Taylor  
**Mentor:** Dr. Marquez-Velarde  
Utah State University  
Presentation Time: 2:45 PM

**Exploring Food Insecurity among Utah Tech University Students: Insights from the National College Health Assessment Survey,** by Ben Martinez, Virginia Merrill  
**Mentor:** Muhammed Yildiz  
Utah Tech University  
Presentation Time: 3:00 PM
Session C8: Science Oral Presentations, 1:45 PM in Keller Building (KB) Room 306

An Individual Based Model of Japanese Beetle Control Methods, by Heather Smith
Mentor: Vinodh Chellamuthu, Jie Liu, MD Sazib Hasan
Utah Tech University
Presentation Time: 1:45 PM

Application of the Generalized Pareto Distribution to Extreme Stock Trading Volumes, by Rachel Krupnek
Mentor: Jie Liu, Sazib Hasan, Vinodh Chellamuthu
Utah Tech University
Presentation Time: 2:00 PM

Improving Protein-Ligand Docking Predictions Using Molecular Dynamics Simulations and K-means Clustering, by Matthew Williams
Mentor: Elena Laricheva
Utah Valley University
Presentation Time: 2:15 PM

The Impact of Inducible Depletion of Sequestosome-1 (p62) from Endothelial Cells on Mesenteric and Cerebral Artery Reactivity in Mice, by G. Colton Gardner, J David Symons, Sohom Mookherjee, Michael Judge, Lynasi Gapelu, Sihem Boudina
Mentor: J. David Symons
Utah Valley University
Presentation Time: 2:30 PM

Seasonal Variation in Essential Oil Composition and Yield of Rhus aromatica Aiton (Fragrant Sumac), by Tanner Beck, Prabodh Satyal, William N Setzer, Ambika Poudel, Joseph Hilton, Michael C Rotter
Mentor: Michael Rotter
Utah Valley University
Presentation Time: 2:45 PM

Numerical analysis of crowding effects in symbiotic species when delta=2, by Chance Witt, Devan Hill
Mentor: Jianlong Han, Seth Armstrong, Sarah Duffin
Southern Utah University
Presentation Time: 3:00 PM
Session C9: Social Sciences Oral Presentations, 1:45 PM in Keller Building (KB) Room 344

Roe v Wade Overturned: Unpacking layers of systemic oppression, by Madison Webster, Kristina Oldroyd, Jennifer Shubert
Mentor: Jennifer Shubert
Utah Valley University
Presentation Time: 1:45 PM

Exploring the Complex Dynamics Between Anxiety and Academic Performance in College Students, by Megan Ritter Martin, Alley Fausett, Kristin Davenport, Malisa Brooks, Kent Hinkson
Mentor: Malisa Brooks, Kent Hinkson
Utah Valley University
Presentation Time: 2:00 PM

Waiting to Act: A Study of the Impact of Mandatory Firearms Purchase Delays on Suicide Rates, by Ian Macapagal
Mentor: Joshua Price
Southern Utah University
Presentation Time: 2:15 PM

"Woke" what does it really mean?, by Benjamin VanDreew
Mentor: Kal Munis
Utah Valley University
Presentation Time: 2:30 PM

A Qualitative Review of the Stronger Families Project at Utah Valley University, by Sage Wettstein, Kaicee Postler, Rachel Arocho, Julie Nelson
Mentor: Kaicee Postler
Utah Valley University
Presentation Time: 2:45 PM

Does Consumerism Have an Effect on Relationships? The Influence of Consumerist Tendencies and Empathy on Relationship Satisfaction, by Gregory Skinner
Mentor: Yi Yin
Utah Valley University
Presentation Time: 3:00 PM
Session C10: Social Science Oral Presentations, 1:45 PM in Keller Building (KB) Room 346

The Newborn Behavioral Observation (NBO) and Its Impact on Early Relationships, Postpartum Depression, and Infant Outcomes, by Tara Caplin, Tiffanee Suhaka, Maria Balaceanu, Peg Bird, Dannelle Larsen-Rife
Mentor: Dannelle Larsen-Rife
Utah Tech University
Presentation Time: 1:45 PM

When One is Loved: Attachment Security and Relationship Quality, by Maria Balaceanu, Dannelle Larsen-Rife, Tara Caplin, Peg Bird, Grace Carsey, Tiffanee Suhaka
Mentor: Dannelle Larsen-Rife
Utah Tech University
Presentation Time: 2:00 PM

Social Pains: Attachment, ACEs, Loneliness, and Social Support, by Ives Hong, Grace Carsey, Tara Caplin, Hunter Mitchell, Peg Bird, Bridger Lisonbee, Maria Balaceanu, Dannelle Larsen-Rife
Mentor: Dannelle Larsen-Rife
Utah Tech University
Presentation Time: 2:15 PM

Reclaiming Identity: A Journey of Chicana Empowerment, by Frankie Medina
Mentor: Joy McMurrin
Utah Tech University
Presentation Time: 2:30 PM

Addressing the Cause and Effects of Childhood Sexual Abuse, by Lilliana Rogers
Mentor: Dannelle Larson-Rife
Utah Tech University
Presentation Time: 2:45 PM

Unveiling the Challenges Faced by Deaf and Disabled Undocumented Immigrants, by Reagan Bartholomew
Mentor: Dylan Hansen
Utah Valley University
Presentation Time: 3:00 PM
Session C11: Rapid-fire Engineering & Social Science Oral Presentations, 1:45 PM in Keller Building (KB) Room 348

Diagonal Translation Involving Human-Robot Co-Manipulation, by Avary Fielding
Mentor: John Salmon
Brigham Young University
Presentation Time: 1:45 PM

Calibration and Validation for Flipper, by Kenneth Smith, Douglas Cook, Carter Noh, Kirsten Steele, Jordan Porter
Mentor: Douglas Cook
Brigham Young University
Presentation Time: 1:53 PM

Finite Element Simulation of Microfluidic Chips, by Robert Macdonald
Mentor: Troy Munro
Brigham Young University
Presentation Time: 2:01 PM

Stereotactic Body Radiation Therapy Success – What Role Does Connexin-43 Distribution Play?, by Tanner Frahm, Eugene Kwan, Ravi Ranjan
Mentor: Ravi Ranjan
University of Utah
Presentation Time: 2:09 PM

Daily Emotional Regulation Use: Predicting mood in autistic and socially anxious adults through various emotional regulation strategies, by Tavish King, Elizabeth Smith
Mentor: Jared Nielsen
Brigham Young University
Presentation Time: 2:17 PM

Visualizing the impact of the Arab Spring on Women Empowerment in the Middle East region, by Mary Harris
Mentor: Joshua Gubler
Brigham Young University
Presentation Time: 2:24 PM

Does an Insecure Attachment (Anxious and/or Avoidant) to God and the Contextual Perception of God (Belief that God’s Character is Consistent with what the Bible says about God’s Character) Affect Levels of Distress?, by Eliya Rodrigues
Mentor: Grant Corser
Southern Utah University
Presentation Time: 2:32 PM
**IBD Support: Mental Health Matters**, by Kacey Rowe, Rachel Arocho, Allison Ensign  
**Mentor:** Rachel Arocho, Allison Ensign  
Utah Valley University  
Presentation Time: 2:40 PM

**Transcriptome analysis to study the effects of drought in tomato**, by Aubrilin Johnson  
**Mentor:** Yu Ya Liang  
Utah Valley University  
Presentation Time: 2:48 PM

**Does God care about Premarital Sex? Diving into the sacred bed phenomenon**, by Ivelynn Noel  
**Mentor:** Julie Johnson Pynn  
Southern Utah University  
Presentation Time: 2:56 PM (15-minute Oral Presentation)
Session D: Poster Presentations, 3:30 PM in Keller Building (KB) Rooms 401/403/405

Towards Low-cost Diagnostics for Cancer Treatment Monitoring with a Cell-free Glutamine Biosensor, by Cate Miller, Tyler Free, Brad Bundy
**Mentor:** Brad Bundy
Brigham Young University
Poster Number: 1

Towards the Development of at-home cell-free diagnostics to personalize treatment and improve the survival rates of Acute Lymphoblastic Leukemia, by Garrett Johnson, Tyler Free, Brad Bundy
**Mentor:** Brad Bundy
Brigham Young University
Poster Number: 2

Impacts of an Intercultural Teaching Experience in the Navajo Nation on Preservice Teachers, by Arahi Perdomo, Brooklyn Moore, Erin Kerr, Hula Santiago, Kylie Kay, Sarahi Joyner
**Mentor:** Krista Ruggles
Utah Valley University
Poster Number: 3

How substrate type influences the germination of Ocimum basilicum, by Emily Cherrington, Sam S Ingram, Chloe E Loveland, Ryanne Welch
**Mentor:** Olga Kopp
Utah Valley University
Poster Number: 4

Impact of the Removal of CD6 on T Cell Metabolism, by Alexa Bailey, Sophie Daines, Joshua Bennett, Carlos Moreno, Scott Weber
**Mentor:** Scott Weber
Brigham Young University
Poster Number: 5

Comparative Analysis of Native and Non-Native Rose Prickle Microbiomes and Associated Microbes, by Riley B. Jackson, Iris Cepeda
**Mentor:** Michael C Rotter, Kiara Whitley
Utah Valley University
Poster Number: 6

When does a granite become granitic? A record of major and accessory mineral re-equilibration from super- to sub-solidus within the Half Dome Granodiorite, Sierra Nevada, CA, by Emmaline M Saunders, Michael A Stearns, Ami Ward
**Mentor:** Michael Stearns
Utah Valley University
Poster Number: 7
Identification of an aphid-transmitted DNA virus in Brassica oleracea in Utah, by Travis Christensen, Geoff Zahn, Alma Laney  
**Mentor:** Alma Laney  
Utah Valley University  
Poster Number: 8

Novel compounds produced by endophytes extracted from Cercocarpus ledifolius, by Ezra Wylie, Merrill Halling  
**Mentor:** Merrill Halling  
Utah Valley University  
Poster Number: 9

Spatial Dynamics of Foliar Fungal Community Structure in the Pando Aspen Clone, by Austen Miller, Josh Leon, Geoffrey Zahn  
**Mentor:** Geoffrey Zahn  
Utah Valley University  
Poster Number: 10

Remote sensing mineral identification: an intercomparison of Hyperspectral and multispectral imagery using open-source applications in the Marysvale Volcanic Field, by Noah Christensen, Matt Olson  
**Mentor:** Matt Olson  
Utah Valley University  
Poster Number: 11

Do the differences in size between heteromorphic sex chromosomes influence organism longevity?, by Olivia Frary, Carl Hjelmen  
**Mentor:** Carl Hjelmen  
Utah Valley University  
Poster Number: 12

The Effects of an Antioxidant Supplemented Diet (Acai and Curcumin) on Learning and Memory of Drosophila melanogaster in a Model of Fetal Alcohol Spectrum Disorder (FASD), by Jaycob M Russell, Sujeong Hwang, Jake A Harward, Emily R Morden, Danielle T Taylor, Devin H Taylor  
**Mentor:** Danielle Taylor, Devin Taylor  
Utah Valley University  
Poster Number: 13

Adapting a radiative forcing algorithm of dust on snow using higher resolution data, by Andrew Knowlton, Matt Olson  
**Mentor:** Matt Olson  
Utah Valley University  
Poster Number: 14
What if WASP-39b was Twice as Hot?, by Brian Seamons
Utah Valley University
Poster Number: 15

The Field Manual of the Utah Valley Flora: An example from the genus Veronica, by Danielle Keysaw, Michael C Rotter
Mentor: Michael C Rotter
Utah Valley University
Poster Number: 16

Identification of Novel Viruses Infecting Utah Oil-Bearing Plants Hyssopus officinalis and Lavandula angustifolia, by Megan Frisby, Alma Laney, Geoff Zahn
Mentor: Alma Laney
Utah Valley University
Poster Number: 17

Analysis of Myoglobin as pseudo-peroxidase via macromolecular rate theory, by Grant Barron, Collin Tuttle, Daniel Scott
Mentor: Daniel Scott
Utah Valley University
Poster Number: 18

Atmospheric Modeling of Brown Dwarfs With PICASO, SONORA, and JWST, by Brayden Roberts, Joshua Lothringer, Denise Stephens
Mentor: Joshua Lothringer
Utah Valley University
Poster Number: 19

Utah Valley Flora Asteraceae Treatment, by Annika Wood
Mentor: Michael Rotter
Utah Valley University
Poster Number: 20

Host range testing and pathogenicity confirmation of potentially new blueberry fungus, by Kayla Knaperek, Megan Frisby, Geoffery Zahn, Alma Laney
Mentor: Alma Laney
Utah Valley University
Poster Number: 21

Establishing and Monitoring New Populations of an Endangered Plant (Phacelia argillacea) Over Several Years, by Tyler R Shaver, Lainey S Smith, Michael T Stevens
Mentor: Michael T Stevens
Utah Valley University
Poster Number: 22
Production of Antibiotics in Soil Bacteria against ESKAPE Pathogens, by Cori Bailie, Arlene Majers, Katherine Judge
Mentor: Olga Kopp
Utah Valley University
Poster Number: 23

Using Carbon and Nitrogen Stable Isotopes to Determine the Diet Composition of Ground Beetles (Coleoptera: Carabidae) in Provo Canyon, Utah, by Hayley Karns, Dylan Bryant, Noah Christensen, David Kirby, Sarah Marchant, Sarah Nicholas, Emmaline Saunders, Hannan Thomas, Nathan Smith, Dan Cavan, Daniele Ghirotti
Mentor: Alessandro Zanazzi
Utah Valley University
Poster Number: 24

Your Tooths Appetite for Hydroxyapatite, by Megan Wesenberg, Britain Jeppesen, Brianna McDaniel
Mentor: Jodie Lopez
Utah Valley University
Poster Number: 25

Detecting Antibiotic Resistance Genes in The Environment, by Natalie Welsh, Lauren Brooks, Skyler Belka
Mentor: Natalie Welsh, Lauren Books
Utah Valley University
Poster Number: 26

Creating a universal framework for reconstructing phylogenies: Building trees at your fingertips using R, by Barbara Jetton, Carl E Hjelmen
Mentor: Carl E Hjelmen
Utah Valley University
Poster Number: 27

Survey of Blow Fly (Diptera: Calliphoridae) Species Across Utah and Salt Lake Counties, by Haylee Beck, Lauren Weidner, Carl E Hjelmen
Mentor: Carl E Hjelmen
Utah Valley University
Poster Number: 28

Detection of Beet curly top virus in Utah plants, by Elise Bennett, Megan Frisby, Rob Hess, Max Taylor, Erin Riggs, Alma Laney
Mentor: Alma Laney
Utah Valley University
Poster Number: 29
Analysis of Graphene Samples Using a 785nm Raman Spectrometer and Construction of a Carbon Spectral Library, by Seth Stringham, Audrey Elison, Kevin Shurtleff, Dustin Shipp
**Mentor:** Dustin Shipp
Utah Valley University
Poster Number: 30

Leveraging Machine Learning in Face Mask Formulation, by Alexander Goslin, Hazel Ticas, Morgan Covarrubias
**Mentor:** Daniel Scott
Utah Valley University
Poster Number: 31

Monarch Butterflies - What's in their Color?, by Kyri Forman, Craig Thulin, Heath Ogden
**Mentor:** Heath Ogden
Utah Valley University
Poster Number: 32

Antimicrobial Activity of Cetaphil, by Lillian Gee, Makaylie Moore
**Mentor:** Lauren Brooks
Utah Valley University
Poster Number: 33

Evaluation of Microplastic Pollution in Subterranean Systems and the Impact of Human Visitation, by Stone Smith, Ben Belt
**Mentor:** Sally Rocks
Utah Valley University
Poster Number: 34

Monte Carlo Raman Spectroscopy Simulation: Unlocking Computational Speed with GPU Acceleration, by Thomas Caldwell
**Mentor:** Dustin Shipp
Utah Valley University
Poster Number: 35

The Primary and Secondary Metabolites of Tomato as a Response to Herbivory and Simulated Herbivory, by Iris Cepeda, Tabitha Weir, Jonathan Cook, Honey Ordonez
**Mentor:** Olga Kopp
Utah Valley University
Poster Number: 36
Green Hydrogen Production from Wastes by High Temperature Plasma Pyrolysis, by Veronica Gunyan, Minh Nguyen
Mentor: Kevin Shurtleff
Utah Valley University
Poster Number: 37

Geminivirus Resistance in Mustard Plants, by Laureana Lazarte, Adam Hales
Mentor: yu ya liang
Utah Valley University
Poster Number: 38

Investigating the impact of artificial urine on the interaction between biomarker proteins and quantum dots, by Minh Nguyen, Eugene Leung
Mentor: Ming Yu
Utah Valley University
Poster Number: 39

Creation of a 3D fluorescent image using holographic and fluorescent imaging techniques, by Vince Rossi, Spencer Brown
Mentor: Vince Rossi
Utah Valley University
Poster Number: 40

Examination of Self-Efficacy, Effort Control, and Teacher Immediacy in Women and Minorities Participating in STEM Undergraduate Research Experiences, by Sadie Jensen, Nellie Bowman, Nick Jeffery, Heather Wilson Ashworth
Mentor: Heather Ashworth
Utah Valley University
Poster Number: 41

Mentor: Claudia Jorgensen
Utah Valley University
Poster Number: 42

Carbapenem Resistance on UVU Campus, by Zadie Carlson
Mentor: Lauren Brooks
Utah Valley University
Poster Number: 43

Thermoacoustic Heat Engine, by Euiyoung Kim, Bonnie Anderson
Mentor: Bonnie Anderson
Utah Valley University
Poster Number: 44
Improved low-cost, solar water purifier to reduce clean water scarcity, by Fatoumata N'diaye, Kevin Shurtleff
Mentor: Kevin Shurtleff
Utah Valley University
Poster Number: 45

DMS-MapSeq analysis of 3' UTR in Human Genome, by Silvi Rouskin, Matthew Allan, Dragui Salazar
Mentor: Merrill Halling
Utah Valley University
Poster Number: 46

Detection of a DNA Virus in Ornamental Plants at Utah Valley University, by Jaylee Montague, Skylar Belka, Gabe Espinoza, Geoff Zahn, Alma Laney
Mentor: Alma Laney
Utah Valley University
Poster Number: 48

Analysis of Super-Black Coatings versus Black Paints, by Tyler O'Loughlin, Tyler Daynes, Erik Prazak
Mentor: Dustin Shipp
Utah Valley University
Poster Number: 49

Does Greater Phylogenetic Distance Affect Competition Outcomes in Fungal Communities?, by Joshua Stubbs, Annette Lewis, Kendall Holcomb, Barbara Suassuna Schincariol
Mentor: Geoffrey Zhan
Utah Valley University
Poster Number: 50

Groundwater and Surface Water Interactions in the Provo River Watershed, by Feyan Hoffman, Roshan Abraham, Christine Fowles, Abi Conger, Scott Jenson
Mentor: Daren Nelson
Utah Valley University
Poster Number: 51

Groundwater and Surface Water Interactions on the Hobble Creek Watershed, by Roshan Abraham, Parker Jorgenson
Mentor: Daren Nelson
Utah Valley University
Poster Number: 52
"Cognitive Insights into Madagascar Hissing Cockroaches: Memory, Learning, and Motivated Behavior", by Brandon Barlow, Ethan Reese, Victoria Vazquez, Abbi Stark, Alex Wilson, Rain Evans, Josef Becker, Monica Sanchez, Amy Chevrier, James Taylor
**Mentor:** James Taylor
Utah Valley University
Poster Number: 53

**Investigating the relationship between natural environment and drosophilid genome size**, by Samantha Curnow, Carl Hjelmen
**Mentor:** Carl Hjelmen
Utah Valley University
Poster Number: 54

**Interior Environments influence on Mental Health**, by Camille Sorenson Bown
**Mentor:** Kristen Arnold
Weber State University
Poster Number: 55

**Assessing Genomic Diversity Via whole genome resequencing in bean cultivars (Phaseolus L. spp.) from Brazil, a putative secondary center of diversity**, by Kaycie A Melville, Ashley N Egan, Yu Ya Liang
**Mentor:** Ashley N. Egan
Utah Valley University
Poster Number: 56

**Identifying and Monitoring Groundwater and Surface Water Interactions Utilizing UAVs and Remote Sensing Applications in Wetlands in Utah Lake, Utah**, by Anna Wilkinson, Feyan Hoffman, Roshan Abraham
**Mentor:** Daren Nelson
Utah Valley University
Poster Number: 57

**The Ethnobotanical link between Tropane Alkaloids and Datura**, by Cole Statham, Katelyn Thomas
**Mentor:** Michael C Rotter
Utah Valley University
Poster Number: 58

**Variability in mechanical seizure induction methods using Drosophila melanogaster (fruit flies) as a model organism**, by Vy Dao, Devin Taylor, Danielle Taylor
**Mentor:** Devin Taylor, Danielle Taylor
Utah Valley University
Poster Number: 59
Mechanical to Electrical Energy Conversion of a Door Swing, by Spencer Brown, Shawn Pepper, Carson Draughon, Ulises Thornock, Dustin Shipp
Mentor: Dustin Shipp
Utah Valley University
Poster Number: 60

Mentor: Daniel James
Utah Valley University
Poster Number: 61

Sound Levels on the UVU Pedestrian Bridge, by Jacob Sampson, Joshua Goates, Brian Patchett, Abolfazl Amin, Bonnie Andersen
Mentor: Bonnie Andersen
Utah Valley University
Poster Number: 62

Quantification of Microplastics in Utah Snow and How It’s Affected by Skiing, Snowboarding, and Artificial Snow, by Sarah Adams, Bailey Bennion, Sara S Rocks
Mentor: Sara S Rocks
Utah Valley University
Poster Number: 63

Correcting Surface Brightness Fluctuation Distances for Stellar Populations, by Sydney Holt, Mikaela Cowles
Mentor: Joe Jensen
Utah Valley University
Poster Number: 64

Study of mode transitions with an artificially-blown clarinet, by Isaac Settle, Easton Gray, Bonnie Anderson
Mentor: Bonnie Anderson
Utah Valley University
Poster Number: 65

Evaluating Presence of Antibiotic Resistance Gene vatA on UVU Campus, by Dallin Zollinger, Lauren Brooks
Mentor: Lauren Brooks
Utah Valley University
Poster Number: 66
Meta-analysis of Eddy Current Braking Systems, by John Walton, Mason Astill, Jarrett Nelson
Mentor: Dustin Shipp
Utah Valley University
Poster Number: 67

Religion, Evolution and Vaccinations: Perceptions from a GE Student Population, by N. Kanon Black, T. Heath Ogden, Britt Wyatt, Josh Premo, Jessica A Cusick
Mentor: Jessica A Cusick
Utah Valley University
Poster Number: 68

Kynurenine Deamination and Synthesis of Xanthommatin, by Stephen Chamberland, Craig D. Thulin, Katherine Solorzano, Cassandra Beddes, Nathan Twitchell, Abram Caruso
Mentor: Steve Chamberland, Craig D. Thulin
Utah Valley University
Poster Number: 69

Identifying and photographing the instars of a parthenogenetic mayfly (Centroptilum triangulifer; Ephemeroptera), by Heidi Kipp, Annika Jones, T. Heath Ogden
Mentor: T. Heath Ogden
Utah Valley University
Poster Number: 70

Pubertal Development and Estrous Cycling in POMC-deficient Mice, by Jacob Prescott
Mentor: Zoe Thompson
Utah Valley University
Poster Number: 71

Mayfly Wing Wonders: Uncovering Genetic Threads in Parthenogenic Individuals using RNA, by Melissa Rangel, Avery Larsen, Heath Ogden
Mentor: Heath Ogden
Utah Valley University
Poster Number: 72

Mentor: Zoe Thompson
Utah Valley University
Poster Number: 73
CRISPR Deletion of Viral Receptor Genes in Human Cells, by Rylan Schmanski, Mason Masters, Emilee Snow, Alexandim Offringa, Paola Robles, Spencer Perry, Joshua Mackley, Alexander Beagley, Rainey Hughes
**Mentor:** Daniel Clark
Weber State University
Poster Number: 74

Brain-eating amoeba rescue-of-infection model using drug combinations, by Karissa Bauer, Kennedy Lewis, James Belnap, Andrew Torena, Braden Freestone, Luis Montenegro Calla
**Mentor:** Daniel Clark
Weber State University
Poster Number: 75

Microbiome of PCB Contaminated Sediments, by Jerzee Findlay, Gina Fuller
**Mentor:** Katrina Twing
Weber State University
Poster Number: 76

Cultivation of bacteria from PCB-contaminated sediments PCB Degradation, by Akir Rowe, Hali Hutchinson, Kingdom Wanjoku
**Mentor:** Katrina Twing
Weber State University
Poster Number: 77

Methods for assessing Ephydra gracilis populations across Great Salt Lake, by Cora Rasmuson, Carly Biedul, David Herbst
**Mentor:** Carly Biedul
Westminster College
Poster Number: 78

Cultural humility impacts on premature termination in psychotherapy, by Logan Walker, Kate Coneys, Nick Tops, Russ Bailey
**Mentor:** Russ Bailey
Utah Valley University
Poster Number: 79

UTAH'S HERITAGE: A LITTLE KNOWN STORY OF MORMONISM AND EUGENICS, by Lindsay Beekman
**Mentor:** Olga Kopp
Utah Valley University
Poster Number: 80
Change Over Time: Cultural Humility and Microaggressions in Therapy, by Kate Coneys, Nick Top, Russ Bailey, Logan Walker, Julia Toomey
Mentor: Russ Bailey
Utah Valley University
Poster Number: 81

Relationship with soul: a short excursion in psychology and religion, by Genna Howard, Cameron John
Mentor: Cameron John
Utah Valley University
Poster Number: 82

The Influence of Political Affiliation on Academic Performance: An Examination on How Familial Political Beliefs May Impact a Child’s Educational Outcomes, by Ellery White
Mentor: Yi Yin
Utah Valley University
Poster Number: 84

We Are Not Alone: Examining the Impact of a Tween-Teen Diabetes Day Camp, by Heidi Blaylock, Carter Leuba, Eddie Hill, Christina Aguilar, Carla Cox, Aiden Hill
Mentor: Eddie Hill
Weber State University
Poster Number: 85

Investigating the Utility of Avatars and Actors in Undergraduate Psychology Role-Play Exercises, by Kennedy Parker
Mentor: Melinda Russell Stamp
Weber State University
Poster Number: 86

Mountain Haven - Senior Capstone, by Brandon Rojas
Mentor: Kristen Arnold
Weber State University
Poster Number: 87

Defect Detection in 3D Printing from Thermal Imaging, by Seth Leavitt
Mentor: Nathan Crane
Brigham Young University
Poster Number: 88

Increasing student capability to confront difficult topics through structured conversations, by Parker R. Carlquist, Lexi Brady, Seth Dotson, Jeff Glenn
Mentor: Jeff Glenn
Brigham Young University
Poster Number: 89
E-Cigarettes and Negative Impacts on Oral Health, by Nykitha chomina, Emalee Dias, Mary Roberts
Mentor: Jodi Lopez
Utah Valley University
Poster Number: 90

Addressing Teenage Pregnancy and Related Public Health Issues in Rhino Camp Refugee Settlements in Uganda, by Karina Geranios, Madison Mathews, Connor Baird
Mentor: Robert Kagabo
Utah Tech University
Poster Number: 91

Cognition in Brachyrhaphis rhabdophora, by Elizabeth Jenkins
Mentor: Jerry Johnson
Brigham Young University
Poster Number: 92

Bioluminescent E. coli, by Liv Harris
Mentor: Lane Law
Salt Lake Community College
Poster Number: 93

Generation and Characterization of a zebrafish 4H Leukodystrophy model, by Avery Zentner
Mentor: Hung Yu Shih
Utah Tech University
Poster Number: 94

Inexpensive Optical Power Meter, by John Walton, Dallin Durfee
Mentor: Dallin Durfee
Utah Valley University
Poster Number: 95

Who Split the Cheese? Search for Paucilactobacillus wasatchensis in a Local Creamery, by Brooklyn Matthews, Andrew Rowley, Michael Salas, Shaun Kader
Mentor: Michele Culumber, Daniel Clark
Weber State University
Poster Number: 96

Ecological Dynamics of the Hypersaline Great Salt Lake North Arm, by Amanda Lee, Alex Phillips, Bonnie Baxter, Amy Schmid
Mentor: Bonnie Baxter
Westminster College
Poster Number: 97
Family quality of life partially predicts parenting stress differences between parents with and without children with autism, by Megara Jensen, Matthew Hatch, Brock Hughes, Madeline Gillies, Spencer Myres, Maddie Blackham, Autumn Gould, Kate Leigh, Nate Lieshman

**Mentor:** Rebecca A. Lundwall
Brigham Young University
Poster Number: 98


**Mentor:** Sierra Warner
Southern Utah University
Poster Number: 99
Session D1: Science Oral Presentations, 3:30 PM in Sorenson Center (SC) Room 213 A

Accelerated Rates of Evolution in hymenopteran DSCAM genes, by Remington R Motte

Mentor: Carl Hjelmen
Utah Valley University
Presentation Time: 3:30 PM

Documenting the Flora of Utah Valley Using Student-written Treatments, by Gideon Bowes

Mentor: Michael Rotter
Utah Valley University
Presentation Time: 3:45 PM

Altered Estrus Cycles in POMC-deficient Mice, by Nathan Anderson

Mentor: Zoe Thompson
Utah Valley University
Presentation Time: 4:00 PM

Another Look at Underlying Mortality Model Used in Life Insurance Industry, by Benjamin Furniss, Britton Borget, John Sanders

Mentor: Patrick Ling
Utah Valley University
Presentation Time: 4:15 PM

Construction Techniques in Ancient Fremont Pithouses, by Ellie Martin

Mentor: Mike Searcy
Brigham Young University
Presentation Time: 4:30 PM

"Cognitive Insights into Madagascar Hissing Cockroaches: Memory, Learning, and Motivated Behavior", by Brandon Barlow, Ethan Reese, Victoria Vazquez, Abbi Stark, Monica Sanchez, Alex Wilson, Rain Evans, Josef Becker, Amy Chevrier, James Taylor

Mentor: James Taylor
Utah Valley University
Presentation Time: 4:45 PM
Development of the midwestern blot technique for elucidation of pigment-binding proteins, by Tessa C Black, Craig D Thulin  
**Mentor:** Craig Thulin  
Utah Valley University  
Presentation Time: 3:30 PM

Asexual Aviators: Transcriptome Profile of the Life Stages of a Parthenogenic Mayfly, by Avery Larsen, Heath Ogden  
**Mentor:** Heath Ogden  
Utah Valley University  
Presentation Time: 3:45 PM

Trace Metal Concentrations of Various Land Use Types Surrounding Utah Lake, by Alex Montgomery, Mason Gordon  
**Mentor:** Eddy Cadet  
Utah Valley University  
Presentation Time: 4:00 PM

HEIGHTS IN THE abc CONJECTURE. AN UNDERGRADUATE APPROACH, by Brantson Yeaman  
**Mentor:** Machiel van Frankenhuijsen  
Utah Valley University  
Presentation Time: 4:15 PM

Power Scaling a Nd:YVO4 Laser for Use as the Optical Drive of a Long Wave Infrared Optical Parametric Oscillator, by Alexander Gibb  
**Mentor:** York Young  
Utah Valley University  
Presentation Time: 4:30 PM

A Gyroscopic System for Magnified Coherent Diffraction Imaging, by Tyler Daynes, Jair Gonzalez, Jeremy Tait, Josh Jumper, Ellie Purcell, Tyler O'Loughlin, Vern Hart  
**Mentor:** Vern Hart  
Utah Valley University  
Presentation Time: 4:45 PM
Session D3: Social Sciences Oral Presentations, 3:30 PM in Keller Building (KB) Room 362

**Exploring the Differences Among Attachment Styles with Cognitive Appraisal and Emotional Suppression**, by Rebekah Hakala, Moroni Black  
**Mentor:** Todd Spencer  
Utah Valley University  
Presentation Time: 3:30 PM

**Exploring Perfectionism: Growth, Suffering and Resolution**, by Ethan Reese  
**Mentor:** Russ Bailey  
Utah Valley University  
Presentation Time: 3:45 PM

**Social Desirability, the Aim of Politics, and Neurodivergent Identity**, by Adam Smith, adam@tallsmith.com  
**Mentor:** Kal Munis  
Utah Valley University  
Presentation Time: 4:00 PM

**Duverger's Law and Polarization in a Ranked Choice Citizen-Candidate Model**, by Bryan Jay Frandsen  
**Mentor:** Joseph McMurray  
Brigham Young University  
Presentation Time: 4:15 PM

**Political Violence and Place: The Role of Locality on American Attitudes Towards Politically Motivated Aggression**, by David Schloesser  
**Mentor:** B Kal Munis  
Utah Valley University  
Presentation Time: 4:30 PM

"Open Carry for All?": How Support for Open Carry Varies Based on Who is Carrying, by Matthew Drachman, Caden Weaver, Nicholas Martin  
**Mentor:** Kal Munis  
Utah Valley University  
Presentation Time: 4:45 PM
Analysis of gravitational fields inside of a cavity throughout different dimensions, by Tate Thomas
Mentor: Alexander M Panin
Utah Valley University
Presentation Time: 3:30 PM

Artificial black holes: are they a threat to humanity?, by Tate Thomas
Mentor: Alexander M Panin
Utah Valley University
Presentation Time: 3:45 PM

Efficiently and Accurately Simulating Coupled Nonlinear Schrödinger Equations with Exponential Time Differencing and Fourier Spectral Methods, by Nate Lovett
Mentor: Harish Bhatt
Utah Valley University
Presentation Time: 4:00 PM

Effect of a supernova explosion on the mechanical and thermal stability of orbiting planets, by Alexander Panin, Benjamin Miera
Mentor: Alexander Panin
Utah Valley University
Presentation Time: 4:15 PM

Using Ecological Niche Modeling to better understand Pediomelum aromaticum, a threatened Utah plant, by Ian Eggleston, Ashley N Egan
Mentor: Ashley N Egan
Utah Valley University
Presentation Time: 4:30 PM

MRSA induced biofilm clearance by bacteriophage and antibiotic, by Rainey Hughes, Avalon Marker, Elizabeth Bouwhuis, Yeshaswini Dudde, Bryan Dopp, Scot Carington, Jared Nelson
Mentor: Daniel Clark
Weber State University
Presentation Time: 4:45 PM
Session D5: Engineering Oral Presentations, 3:30 PM in Keller Building (KB) Room 244

Subtle Force Communication for Intuitive Human-Robot Co-manipulation, by Samuel Charles
Mentor: Marc Killpack
Brigham Young University
Presentation Time: 3:30 PM

Transdermal antiseptic products as a method to decrease skin bioburden prior to surgery, by Kiersten Gardner, Hannah Duffy, Abbey Blair, Nicholas Ashton, Porter Stulce, Dustin Williams
Mentor: Dustin Williams
University of Utah
Presentation Time: 3:45 PM

Rotational Dynamics of Thrown Food Items and Their Impact on Canine Catching Success, by Caleb Slade, Evelyn Davis, Michael Orr, Brevin Bell
Mentor: Vinodh Chellamuthu
Utah Tech University
Presentation Time: 4:00 PM

Effect of Print Parameters on tensile and flexure strength of 3D printed plastic, by Baylee Schumacher, Ryley Horrocks, Divya Singh
Mentor: Divya Singh
Utah Tech University
Presentation Time: 4:15 PM

Ransomware Resilience and Ethical Dilemmas: A Comprehensive Review of Threat Landscape, Impact, and Mitigation Strategies, by Asmaa Alsharif
Mentor: Sayeed Sajal
Utah Valley University
Presentation Time: 4:30 PM

Quantifying Approximation Errors in the Flash Thermal Diffusivity Measurement Technique Using High Fidelity Simulations, by Tage T Burnett, Jakob G Bates, Christopher R Dillon, Matthew R Jones
Mentor: Christopher R Dillon
Brigham Young University
Presentation Time: 4:45 PM
Session D6: Humanities Oral Presentations, 3:30 PM in Keller Building (KB) Room 248

Re-Membering and the Role of Community In Exorcism In Toni Morrison’s Beloved, by Jen Hansen  
**Mentor:** Nicole Dib  
Southern Utah University  
Presentation Time: 3:30 PM

Ethical Analysis of Web3 and Decentralized Internet, by Karli Kallas  
**Mentor:** Jared Colton  
Utah State University  
Presentation Time: 3:45 PM

Is this you? Foucauldian ethics in multifactor authentication, by Maren Archibald  
**Mentor:** Jared Colton  
Utah State University  
Presentation Time: 4:00 PM

The Impact of Augustine’s Theory of Evil on Latter-Day Saint Teachings, by Miranda Judson  
**Mentor:** Mike Ashfield  
Utah State University  
Presentation Time: 4:15 PM

The Folklore of the Ghastly Menace, by Matilda Gibb  
**Mentor:** Ami Comeford  
Utah Tech University  
Presentation Time: 4:30 PM

More Than Accommodating, by Natalya Misener, John Wolfe  
**Mentor:** John Wolfe  
Utah Tech University  
Presentation Time: 4:45 PM
Unlocking the Mysteries of Glacial Watersheds: Tracing the Path of Water Chemistry Over Time and Space, by Miaja Coombs, Greg Carling  
**Mentor:** Greg Carling  
Brigham Young University  
Presentation Time: 3:30 PM

Lake Bonneville's Legacy: Unraveling Genetic Drift and Diversity Loss in West Desert Bonneville Cutthroat Trout, by Tanner Van Orden, Dennis Shiozawa, Peter Searle, Ana Kokkonen, Paul Evans  
**Mentor:** Paul Evans  
Brigham Young University  
Presentation Time: 3:45 PM

A novel method of predictive thermodynamic property mining using AIMD simulations of molten salts for use in molten salt nuclear reactors, by Maggie Wu, Ashley Littlefield, Bryant Jones  
**Mentor:** Bryant Jones  
Snow College  
Presentation Time: 4:00 PM

Photo-induced Reactivity of a Model Dipyrrrole, by Jaren Meikle, Samuel Archer  
**Mentor:** Jacob Dean  
Southern Utah University  
Presentation Time: 4:15 PM

The Stability of the steady state solutions of a Gray-Scott model, by Samuel Andersen  
**Mentor:** Jianlong Han  
Southern Utah University  
Presentation Time: 4:30 PM

Efficiently and Accurately Simulating Coupled Nonlinear Schrodinger Equations with Exponential Time Differencing and Fourier Spectral Methods, by Nathaniel Lovett  
**Mentor:** Harish Bhatt  
Utah Valley University  
Presentation Time: 4:45 PM
Session D8: Humanities Oral Presentations, 3:30 PM in Keller Building (KB) Room 306

Practical Considerations for Creating Audio for Listening Tests, by Rafael Deo  
**Mentor:** Matthew Wilcox  
Brigham Young University  
Presentation Time: 3:30 PM

The Many Names of Limahong: Remembering a Chinese Pirate in the Philippines, by William Martindale  
**Mentor:** Diana Duan  
Brigham Young University  
Presentation Time: 3:45 PM

Ancestral Puebloan Ceramics Technology and Vessel Properties at Alkali Ridge Site 13, by Carolina Corrales  
**Mentor:** James R. Allison  
Brigham Young University  
Presentation Time: 4:00 PM

Victor LaValle’s Destroyer: Comic as a New Medium for Black Narratives, by Shauri Thacker  
**Mentor:** Nicole Dib  
Southern Utah University  
Presentation Time: 4:15 PM

Theology and Prosperity of Women Within the Latter-Day Saint Church: Exploring Utah’s Religiosity Effects On Feminism, by Alexis West Salinas  
**Mentor:** Johnathan Chidester  
Southern Utah University  
Presentation Time: 4:30 PM
Session D9: Science/Engineering Oral Presentations, 3:30 PM in Keller Building (KB) Room 344

Quantifying Approximation Errors in the Flash Thermal Diffusivity Measurement Technique Using High Fidelity Simulations, by Tage T Burnett, Jakob G Bates, Christopher R Dillon, Matthew R Jones
Mentor: Christopher R Dillon
Brigham Young University
Presentation Time: 3:30 PM

Measuring shear wave speed in tendons using low-cost accelerometers on a flexible PCB with an Arduino microcontroller, by Eli F Smith, Christopher Dillon, Matthew S Allen
Mentor: Matt Allen
Brigham Young University
Presentation Time: 3:45 PM

Reducing the Cytotoxicity of Polyethylene Glycol Diacrylate Microfluidic Devices Using an Isopropyl Alcohol Washing Method, by Parker Johns, Chandler Warr, Gregory P Nordin, William G Pitt
Mentor: William G Pitt
Brigham Young University
Presentation Time: 4:00 PM

Understanding the Microbiome, Chemistry and Physical Characteristics of the Coal Creek Drainage Basin, by Nathan Winters, Reed Schweighardt, Calton Millward
Mentor: Kim Weaver
Southern Utah University
Presentation Time: 4:15 PM

Arm Modeling in Preparation for Wearable Mobility-Enhancing Elbow Brace, by Samuel Stearman
Mentor: Jeff Hill
Brigham Young University
Presentation Time: 4:30 PM

Self-Deployable and Self-Stabilizing Satellite Array, by Aliya Bascom
Mentor: Spencer Magleby
Brigham Young University
Presentation Time: 4:45 PM
The Repeated Use of Slurs In Class, by Zoë Beacham, Onon Harris, Mathias Amaya
Mentor: Megan Spurlock
Utah Valley University
Presentation Time: 3:30 PM

Unlocking Well-Being, Workplace Morale, and Employee Retention: A Tech Company's Success Story, by Michaela Thackeray, Cicilee Petersen, Scott Wiltbank, Emma Newman, Enoch Thackeray
Mentor: Matt Draper
Utah Valley University
Presentation Time: 3:45 PM

The ABC conjecture and Mason's Theorem, by Juan Palencia, Tanner Probst, Clair Yeaman
Mentor: Machiel Van Frankenhuijsen
Utah Valley University
Presentation Time: 4:00 PM

Spatial visualization versus memorization differences among sexes in organic chemistry, by Derek Baker, Lauren Jensen, Dagney Goodfellow, Seunghwan Shin
Mentor: Guizella Rocabado
Southern Utah University
Presentation Time: 4:15 PM

Organic chemistry students’ perceived costs and goal orientations, by Seunghwan Shin, Sydney Coates
Mentor: Guizella Rocabado
Southern Utah University
Presentation Time: 4:30 PM
Appendix: Accepted abstracts whose authors were unable to attend UCUR 2024

A Historiographical View of Originalism: The Evolution of Originalism to New Originalism, by Jaymon Roan
Mentor: Paul Kerry
Brigham Young University

Incorporation of American Clogging into the Dance Studio Setting, by Jillian Jarvis Iverson
Mentor: Karen Jensen
Brigham Young University

“Us Kids” vs. Them: X González and Weaponizing Youthfulness in Activism, by Luci Sullivan
Mentor: Jon Balzotti
Brigham Young University

Expanding the Lesion Network Mapping of Delusions, by Jared Nielsen, Austin Flitton, Cade Holdstock, Eli Baughan, Michael Ferguson, Fred Schaper
Mentor: Jared Nielsen
Brigham Young University

Dance and Body Image, by Taylor Davidson
Mentor: Karen Jensen
Brigham Young University

Effects of Post-Translational Histone Modifications on Transcription Rate, by Aaron Bohn, Luke Ramirez, Steven Johnson
Mentor: Steven Johnson
Brigham Young University

Emotional regulation and prosocial behavior, by Caroline Baldwin, Maleia Robinson, Adelaide Hunter
Mentor: Chenae Duerden
Brigham Young University

Using a Multi-Layered Design To Improve Nanocomposite High Deflection Strain Gauges, by Hadley Micheli, Spencer Baker, Cera Gowans, Ulrike H Mitchell, Anton E Bowden, David T Fullwood, Mckay McFadden, Emma Bowden, Thomas Andrews
Mentor: Anton E Bowden
Brigham Young University

Recommendations for Addressing Depression among individuals living in long term care settings using a culture change approach, by Emily Lewis, Jessica Allen, Jessica Barney, Jeana Olmo, Fabianna Stracuzzi, Jessica Clark
Mentor: Corinna Trujillo Tanner
Brigham Young University
Recommendations to Address Repetitiveness in People Living in Long-Term Care Settings Using a Culture Change Approach, by Jeana Olmo, Jessica Barney, Jessica Allen, Emily Lewis, Jessica Clark, Fabianna Lewis
Mentor: Corinna Tanner
Brigham Young University

Nursing Care of Older Adults with Dementia Related Combative Behavior: Recommendations to Foster Positive Outcomes in Long-Term Care Settings, by Emily Lewis, Jessica Allen, Jessica Barney, Jeana Olmo, Fabianna Stracuzzi, Jessica Clark
Mentor: Corinna Tanner
Brigham Young University

Recommendations to preserve autonomy and dignity among individuals in Long-Term Care Settings who decline personal care, by Emily Lewis, Jessica Allen, Jessica Barney, Jeana Olmo, Fabianna Stracuzzi, Jessica Clark
Mentor: Corinna Trujillo Trujillo
Brigham Young University

An Iterative Approach to Auto Indexing Historical Records: Evidence from the 1930 Mexico Census, by Joseph Price, Jackson Roubidoux, Robert Woodberry
Mentor: Joe Price
Brigham Young University

Gender-based mobility disparities: a literature review, by Molly Tolman
Mentor: John Salmon
Brigham Young University

Effects of Consolidation on Healthcare Prices: Evidence from Hospital Chargemasters, by George Smith
Mentor: Paul Eliason
Brigham Young University

Breaking from American Isolationism During the Franco-Prussian War, by Benjamin Rasband
Mentor: Paul Kerry
Brigham Young University

Dancing into the Future, by Makinley Butterfield
Mentor: Karen Jensen, Susan Morris
Brigham Young University

Emphasis on Commercial Dance at Brigham Young University: Bridging the Gap for Well-Rounded, Industry-Ready Dancers, by Lynnae Tumanuvao
Mentor: Karen Jensen
Brigham Young University
Measuring Local Thermal Properties with Thermoreflective Photothermal Methods, by David Leavitt, Alex Hansen, Thomas Andrews, Henry Wooley
Mentor: Troy Munro
Brigham Young University

The Impact of Dance Movement Therapy on Trauma Recovery, by Camille Litster
Mentor: Karen Jensen
Brigham Young University

For Such a Time as This: Interfaith Prayer in the U.K. Women’s Suffrage Movement 1912-1914, by Grace Chipman
Mentor: Paul Kerry
Brigham Young University

Effects of electrostatic surface charge in electrowetting applications, by Madeline Ursenbach
Mentor: Nathan Crane
Brigham Young University

Dance Therapy in the Dance Studio, by KT Kossin
Mentor: Karen Jensen
Brigham Young University

The Stage-Oriented Treatment of Dissociative Identity Disorder, by Halle Schnackenberg
Mentor: Jared Warren
Brigham Young University

The Socioeconomic Impact of Interracial Parentage in the Early 20th Century, by Sam Eliason, Jacob Van Leeuwen
Mentor: Joe Price
Brigham Young University

Dance and Autism, by Annie Harris
Mentor: Karen Jensen
Brigham Young University

CD5: A Potential Method to Improve CAR T cell Therapy, by Cody McStraw, Carlos Moreno
Mentor: Scott Weber
Brigham Young University

The Need for Dance Movement Therapy for Dementia, by Sara Cruz
Mentor: Karen Jensen
Brigham Young University
Strength Training For Dancers, by Abbi Kelley
Mentor: Karen Jensen
Brigham Young University

Meaning in Emptiness: A Look at Cultural Negotiations and Identity Among Polynesian Immigrants in Japan, by Kaliopasi Uhi
Mentor: Greg Thompson, Jordan Haug
Brigham Young University

The Importance of Space in Building Community, by Hannah Slade
Mentor: Gregory Thompson
Brigham Young University

Dance is Manly: Changing the Stereotypes of Dancing Boys, by Mackay Butler
Mentor: Karen Jensen, Susan Morris
Brigham Young University

Training to Be Aware of Others: Sports, Respect, and Cosmopolitanism Tokyo, by Rhiannan Boseman
Mentor: Jordan Haug
Brigham Young University

Conversion, Relationships, and Identities: Searching the Asian Women of the Church of Jesus Christ of Latter-day Saints, by Madison Buckles
Mentor: Diana Duan
Brigham Young University

Cloud Based Penetration Testing in a Serverless Environment, by McKay Fawcett
Mentor: R Alexandar Nichols
Southern Utah University

The Perceived Monstrosity of American Black Male Childhood in Victor Lavalle’s Destroyer, by Emily MacDonald
Mentor: Nicole Dib
Southern Utah University

Small Means to Happiness, by Danny Hatch, Julie Pynn
Mentor: Danny Hatch
Southern Utah University

Molecular Basis of Opioid Insensitivity in Frog Respiratory Neurons, by Michelle Tin, Adara Deniro, Ayako Yamaguchi
Mentor: Ayako Yamaguchi
University of Utah
A Case Study on Homeless Policy in the Greater Salt Lake Area, by Maddie Fuchs
Mentor: Jeff Rose
University of Utah

Analyzing inter- and intra-user variability of T1 reactivities for CAD assessment, by Creston Bettridge, Johnathan Le, Edward Dibella, Ganesh Adluru
Mentor: Ganesh Adluru
University of Utah

Synthesis of Flexible Electrode Array, by Sanjana Aujla
Mentor: Simon Binder
University of Utah

Understanding Drivers of Chronic Wasting Disease Among White-tailed Deer in Northwest Arkansas, by Diana Felipe, Elizabeth Warburton
Mentor: Elizabeth Warburton
Utah State University

Streamlining NEPA, by Steffen Rigby, Jennifer Morales
Mentor: Jennifer Morales
Utah State University

Natural UVA Light and Bird Window Collisions at Utah State University Classroom and Student Services Building, Brigham City, UT, by Tannon Merrill
Mentor: Jessica Habashi
Utah State University

A Mathematical Model of HPA Dynamics and Impacts of Alcohol Consumption, by Matthew Gergley
Mentor: Vinodh Chellamuthu
Utah Tech University

Mentor: Russell Reid
Utah Tech University

Student-Created Patient Case Studies for Licensure Exam Preparation and Open Educational Resource (OER) Publication: A Collaborative Project, by Cynthia Reber, Emma Lanners
Mentor: Not applicable
Utah Tech University

Multivariate Statistical Analysis of Surface Water Quality in Southern Utah, by Bridger Farnsworth
Mentor: Md Sazib Hasan
Utah Tech University
Log4Shell: An In-depth Examination of a Pervasive Cybersecurity Threat in Enterprise Java Applications, by William Casper
Mentor: Sayeed Sajal
Utah Valley University

Determining the Human OC43 RNA Structure using DMS-MaPseq, by Ethan Cox, Gabriel Romero, Dr. Rouskin
Mentor: Daniel Horns
Utah Valley University

The Merger of Blockchain and Cybersecurity: Opportunities and Challenges Ahead, by Cassidy Jensen
Mentor: Sayeed Sajal
Utah Valley University

Measuring Password Strength: A Study of Digital Password Policies from Large Corporations, by Dallon Monson
Mentor: Sayeed Sajal
Utah Valley University

Encryption Concerns with Quantum Computing and the Rise of Quantum-Resistant Encryption Algorithms, by Ryland Freeman
Mentor: Sayeed Sajal
Utah Valley University

Classical vs Modern Architecture: Exploring Aesthetic Contrasts, by Kent Ips
Mentor: Brandon Ro
Utah Valley University

Hacking Wifi Basics, by Julianna Fotheringham
Mentor: Sayeed Sajal
Utah Valley University

Moments of Perfection, by Sabrina Nilson
Mentor: ALEXANDRA GIANNELL
Utah Valley University

Broken Access Control Vulnerabilities and Prevention, by Jeremiah Engel
Mentor: Sayeed Sajal
Utah Valley University

Mentor: Sayeed Sajal
Utah Valley University
The Prevalence of SQL Injection, by David Adamson
Mentor: Sayeed Sajal
Utah Valley University

Risk of Misconfiguration, by Nathan Smalling
Mentor: Sayeed Sajal
Utah Valley University

Political Cyber Attacks, by Garrett Christensen
Mentor: Sayeed Sajal
Utah Valley University

Negotiated Data, by Emily Burch
Mentor: Sayeed Sajal
Utah Valley University

Revolutionizing Sustainable Architecture: Biomimicry and Digital Tools, by Jean Claude Coomer
Mentor: Brandon Ro
Utah Valley University

The Effect of Data Breaches in Modern Day Business and Media, by Daniel Wilsher
Mentor: SAYEED SAJAL
Utah Valley University

Analytique of Memory Grove Park Pagoda, by Davis McDermott
Mentor: Ben Felix
Utah Valley University

Programing Robotic Arms for Use in IPSII Imaging, by Pedro Del Valle, Dallin Durfee
Mentor: Dallin Durfee
Utah Valley University

Covering our Digital Assets: An In-Depth Analysis of Data Breaches and Their Countermeasures, by Justus Owen
Mentor: Sayeed Sajal
Utah Valley University

Navigating the New Norm: Ensuring Data Privacy and Cybersecurity in the Era of Remote Work, by Mark Carroll
Mentor: Sayeed Sajal
Utah Valley University

Integration of AI and Radio Frequency Data Encryption, by Victoria Marques
Mentor: Sayeed Sajal
Utah Valley University
Quantum Computing: Is It Really Going To Break Cybersecurity?, by W. Byron Major
Mentor: Sayeed Sajal
Utah Valley University

Biometric Authentication Risks and Secure Data Storage for Biometric Templates, by Alexandria McOmber, Sayeed Sajal
Mentor: Sayeed Sajal
Utah Valley University

The World In Your Chair, by Remington Hinton, Oakley Holmes, Taylor Calder
Mentor: Jodie Lopez
Utah Valley University

Sophisticated Spear-Phishing Strategies, by Morgan Molyneaux
Mentor: SAYEED SAJAL
Utah Valley University

What Makes a Password?, by Joshua Gray
Mentor: Sayeed Sajal
Utah Valley University

Security in the World of Cloud Computation, by Ammon Price
Mentor: Sajeed Sajal
Utah Valley University

Universal GPS Spoofing Detection, by Tyler Henry
Mentor: Sayeed Sajal
Utah Valley University

Cybersecurity in Digital Payments and its Effect on People, by Diego Sigaran
Mentor: Sayeed Sajal
Utah Valley University

Investigating the role of machine learning in intrusion detection, by Carter Baxter
Mentor: Sajal Sayeed
Utah Valley University

Shift in Pediatric Concussion trends in Emergency Departments due to the COVID-19 Pandemic, by Vonda Wright
Mentor: David Rallison
Utah Valley University
Taming the Hydra: Addressing Enterprise Security Tool Sprawl for Enhanced Cybersecurity Efficacy, by Andrew Moscrip
Mentor: Sayeed Sajal
Utah Valley University

Unveiling the Data Brokerage Industry: Know Thy Data, Control Thy Privacy, by Arza Henrie
Mentor: SAYEED SAJAL
Utah Valley University

Dangers of SQL Injections, by Michael Crowther
Mentor: SAYEED SAJAL
Utah Valley University

How Data Regulation will affect the Future of Security, by Corbin Folkman
Mentor: Sayeed Sayeed
Utah Valley University

Biometric Authentication Methods: Vulnerabilities and Risk Management, by Eden Barlow
Mentor: Sayeed Sajal
Utah Valley University

Security Concerns Raised by the "Internet of Things", by Jeffrey Mordecai Smith
Mentor: Sayeed Sajal
Utah Valley University

Bringing Order to Discord: How Discord Moderators Handle Server Attacks, by Simon Smith
Mentor: Sajeed Sajal
Utah Valley University

Quantum Computing: It's effects on cybersecurity and what its being done to deal with it, by Michael Hughes
Mentor: Sayeed Sajal
Utah Valley University

The Effectiveness and Faults of Privacy Laws, by Megan Black
Mentor: Sayeed Sajal
Utah Valley University

SQL Injection Detection using Machine Learning, by Jordan Miller
Mentor: Sayeed Sajal
Utah Valley University

Systematic Review of Literature in School Health in Developing Countries, by Sierra Phillips
Mentor: Melinda Barber
Utah Valley University
Burnout in Dental Hygiene, by Brendan Cannon, Katelyn Allen, Kara Poulson
Mentor: Jodie Lopez
Utah Valley University

AI Scams in the Digital Age, by Blake Johnson
Mentor: Sayeed Sajal
Utah Valley University

Spear-Phishing Attacks: Assessing Global Preparedness, by Jaden Albrecht
Mentor: Sayeed Sajal
Utah Valley University

AI Impacts on Biometric Security, by Isaac Johnson
Mentor: Sayeed Sajal
Utah Valley University

Legions of Rome, by Savannah Brady
Mentor: Stevie M Munz.
Utah Valley University

Conducting laser physics labs using compact USB spectrometer, by Tensor Elmikawy, Alexander Panin
Mentor: Utah Valley University

We Are Not Broken, by Kaia Lane
Mentor: Alexandra Giannell
Utah Valley University

Survey Experiment on Climate Change Policy Framing, by Jared B Medlyn
Mentor: Kal Munis
Utah Valley University

Empowering female students in higher education: An In-Depth Exploration of Needs, Expectations, and Challenges, with a focus on learning disabilities, by Anna Titcomb
Mentor: Yi Yin
Utah Valley University

Validating an Updated Protocol for Predicting the Structure of HIV-RRE, by Ethan Cox, Gabriel Romero Agosto, Silvi Rouskin
Mentor: Daniel Horns
Utah Valley University
Political Framing and Zoning Reform: Measuring the Efficacy of Anti-California Rhetoric, by Brittain Corbett
Mentor: Kal Munis
Utah Valley University

Factors that Influence the Public's Support of Ex-Convicts' Reintegration Into the Workforce, by Jessica McOmber, Mikelle Dahl
Mentor: Kal Munis
Utah Valley University

Which profile attributes of homeless individuals make it less likely for them to be selected for aid?, by Ismael Cabadas, Alyssa Elizalde
Mentor: Kal Munis
Utah Valley University

Supercritical Fluid Extraction of Mitragyna Speciosa Alkaloids, by Andrew Lapray, Phillip Read
Mentor: Kevin Shurtleff
Utah Valley University

Religiosity, Race, and Republicanism: How Americans Evaluate the Political Biases of Other Religious People, by Max Colledge
Mentor: Kal Munis
Utah Valley University

Identifying LGBTQ+ Individual's Perceptions of Belonging and Acceptance in the Utah Valley, by Alyssa Sawyer, Ismael Cabadas, Amelia Doman, Carli Oyler
Mentor: Steven Sylvester
Utah Valley University

Looking for Gas Leaks: Using Hubble Space Telescope to Observe an Ultra-Hot Jupiter in the Near-UV, by Austin Baldwin, Joshua Lothringer
Mentor: Joshua Lothringer
Utah Valley University

Paganism and Witchcraft in the Modern Day, by Sage Gurney
Mentor: Alexandra Giannell
Utah Valley University

ACEs unloved and feeling like you are meant to succeed, by Preston Stobart
Mentor: Chris Anderson
Utah Valley University
Fragmented Dreams and Memory, by Jordan Smith
Mentor: Alexandra Gianell
Utah Valley University

Balancing the Authority of Religion and Common Opinion in the Modern Age, by Carter Darger
Mentor: Robert Burton, Baktybek Abdrisaev
Utah Valley University

Personal Narratives Surrounding the Great Salt Lake, by Maria Hyde Silva
Mentor: Scott Abbott
Utah Valley University

AWS IAM security management pitfall, by Hoyoung Kim
Mentor: Sayeed Sajal
Utah Valley University

MELD:Rebuild, by Ashley Cox
Mentor: Kristen Arnold
Weber State University

Identification of Coprophilous spores linked to megafaunal herbivory in the biodiverse Fynbos Biome, South Africa, by Bennett Davenport, Mitchell J Power
Mentor: Stella Grace Mosher
University of Utah

RNA Sequencing Pathways In Search of Lupus Biomarkers, by Michael Told, Naomi Rapier-Sharman, Sehi Kim
Mentor: Brett Pickett
Brigham Young University

Exploring Perfectionism, Religiosity, and Internalized Negative Feelings in an Open Enrollment College, by Hugo Moreno, Acacia Overono
Mentor: Acacia Overono
Utah Valley University

Se Sentir and Metaphor Semantic Shift, by Megan Hamilton
Mentor: James Law
Brigham Young University

Characterization of an Acousto-optic Modulator for Implementation in a Q-switched Nd:YVO4 Laser, by Benjamin Holt
Mentor: York Young
Utah Valley University
Fetal Macrophages Produce Interleukin-7 in the Developing Hematopoietic Niche, by Daniel Barrera
Mentor: Anna Beaudin
University of Utah

Using Pair Blocking to Better Identify Unique Matches, by Erica Webb, Joseph Price
Mentor: Joseph Price
Brigham Young University

Attitudes Regarding Gender and Sexuality Scale, by Viridian Hellebore, Isabella Rodriguez, Stockton Palmer, Sim Perry, Justine Padilla
Mentor: Kirsten L Graham
Southern Utah University

Comparative Analysis of Auto Insurance Claim Prediction through Machine Learning, by Jacob Atkinson
Mentor: Vinodh Chellamuthu
Utah Tech University