9TH ANNUAL
UNDERGRADUATE SYMPOSIUM

DISCOVER · CREATE · SHARE

Friday, April 29, 2016
9 AM – 4 PM

J. Lawrence Walkup Skydome

NORTHERN ARIZONA UNIVERSITY

nau.edu/symposium
Dear Students, Faculty Mentors, and Guests,

I am privileged to welcome you to NAU’s ninth annual Undergraduate Symposium. The students presenting their ideas, creative endeavors, and research today will fill the Skydome, the du Bois Center, and the Liberal Arts building with the excitement of new discoveries.

The sheer scale of Symposium reflects the NAU community’s commitment to research and creative work at the undergraduate level. It also represents our shared dedication to service learning and collaborative projects that connect students with opportunities to make a difference.

Our faculty, who are world-class scholars with a passion for mentorship, create opportunities for exceptional undergraduate learning every day. Their influence, joined with the support of our donors and sponsors, creates an environment where intellectual discipline and joyful curiosity become lifelong habits for our students.

This devotion to student success pays rich dividends. NAU students are not average—they are exceptional. They are motivated self-starters who make the most of every opportunity we can give them, pursuing knowledge about the world around us and communicating their findings in imaginative ways. In doing so, they craft a brighter future for themselves and for all of us.

My hearty congratulations to our students and everyone who contributed to this event.

Sincerely,

Rita Hartung Cheng
President
Dear Students, Faculty Colleagues, and Guests,

Today NAU is celebrating its ninth annual university-wide Undergraduate Symposium, which showcases our undergraduate students’ efforts in research, scholarship, and artistic endeavors. Through the enthusiastic efforts of faculty and student collaborations, this Symposium has grown over the years to now fill the Walkup Skydome. I am excited that NAU is highlighting the diversity of our students’ scholarship and creative outcomes under one roof, and I applaud their academic and creative achievements.

Thank you for joining me and the NAU and Flagstaff communities in congratulating these students and wishing for their future success.

Sincerely,

William Grabe, Ph.D.
Vice President for Research
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Search for presenters, titles, and abstracts at the event kiosks or online at nau.edu/symposium

Abbreviations

CAL       College of Arts and Letters
CEFNS     College of Engineering, Forestry, and Natural Sciences
COE       College of Education
HHS       College of Health and Human Services
HONORS    University Honors Program
FCB       The W. A. Franke College of Business
GL        Global Learning
SBS       College of Social and Behavioral Sciences
UC        University College
College of Arts and Letters: Special Events for the Week of April 19-26

All College of Arts and Letters (CAL) special events for the Undergraduate Symposium listed below are in the Performing/Fine Arts Building (#37) on the NAU campus.

All events are free unless marked “$admission.” Most tickets can be purchased through NAU Central Ticketing or at the door.

Sunday, April 24 - Monday, April 25, 2016:
The Mitzvah Project: Hitler’s “Jewish” Soldiers
• 2:00 PM Sunday, 6:30 PM Monday
• Theatrikos
• $admission

Monday, April 25 - Friday, April 29, 2016:
Aphasia: Neurological Disease in Text and Image
• 8:00 PM - 8:00 PM
• Riles (#15), 2nd Floor Lobby

Tuesday, April 26 - Saturday, April 30, 2016:
Mind 2 Machine 2 Material: Digital Technology and Sculpture Today
• 12:00 PM - 5:00 PM
• NAU Art Museum

Tuesday, April 26, 2016:
NAU Jazz Band Concert
• 7:30 PM
• Ardrey Memorial Auditorium (#37)

Thursday, April 28, 2016:
Une Tempête by Aimé Césaire
• 6:00 PM - 8:00 PM
• Liberal Arts, 136

Thursday, April 28 - Saturday, April 30, 2016:
To Kill A Mockingbird
• 7:30 PM - 10:00 PM
• Clifford E. White Theatre (#37)
• $admission

Friday, April 29, 2016:
BFA Show Opening Reception
• 5:00 PM - 7:00 PM
• Beasley Gallery

Friday, April 29, 2016:
NAU Percussion Ensemble Concert
• 7:30 PM
• Ardrey Memorial Auditorium (#37)

Saturday, April 30, 2016:
NAU Wind Chamber Concert
• 10:00 AM
• Ardrey Memorial Auditorium (#37)

Saturday, April 30, 2016:
NAU Vocal Jazz Concert
• 7:30 PM
• Ardrey Memorial Auditorium (#37)
Hooper Poster Presentations & Reception
Special Event: By Invitation Only

The Office for Undergraduate Research & Creative Activity celebrates this year’s Hooper Undergraduate Research Award recipients, with special guest, Dr. Henry O. Hooper, retired NAU associate provost for academic affairs and physics professor emeritus.

Thursday, April 28, 2016
4:30-6:30 PM
Native American Cultural Center, Building 14, Gathering Room

- Dylan Barbera: Empathy in Motion: Self-Other Dynamics of Moving vs. Static Emotional Stimuli (Mentor: Chad Woodruff)
- Daniel Boggs: Measuring the Recharge Rate of Aquifers in the Flagstaff Area (Mentor: Abraham Springer)
- Brett Cutler: EDS/WDS Quantification of Elemental Spatial Distribution in Fish Scales: Paving the Way for Geochemical Assessment (Mentor: Russell Benford)
- Ra’Shee Esplin: Self-Assembly of Janus Particles under Chemical Propulsion and Magnetic Fields (Mentor: John Gibbs)
- Wolfgang Forbes: Dune Migration Rates on the Navajo Reservation and Possible Links to Climate Change (Mentor: Lee Amoroso)
- Elizabeth Gehret & Curtis Dankof: Numerical Modeling of Star Formation Mechanisms within Interacting Galaxies (Mentor: Lisa Chien)
- Allison Griffin: Assessing Personality Types of Students in Athletic Training Programs (Mentor: Scot Raab)
- Jonathan Grunwald: Uranium’s Effect on Estrogen Sensitive Tissues in Early Embryonic Danio Rerio (Mentor: Catherine Propper)
- Rachel Harrow: A Method for Assessing Presence of the Endangered New Mexico Meadow Jumping Mouse (Mentor: Russell Benford)
- Dane Henderson: Using Satellite Remote Sensing to Study the Birth and Fate of a New Volcanic Island (Mentor: R. Greg Vaughan)
- Alexandra Huff: Placing New Constraints on the Unexpectedly Complex Formation of Meteor Crater (Mentor: Justin Hagerty)
- John Kaplan: Potential Viability of Biopesticide for Managing Bark Beetles in Forest Ecosystems (Mentor: Richard Hofstetter)
- Samantha Kruse: Heavy Metal for Migraines: Novel Phosphonium Ligands for Palladium-Based Sandwich Complexes (Mentor: Stephanie Hurst)
- Emily Lawhead: Contemporary Japanese Installation Artists: Five Approaches to Exhibition Space (Mentor: Zsuzsanna Gulacsi)
- Erik Lehmkuhl & Lindsey Stolze: Development of Microsatellite Markers to Assess Paternity and Genetic Population Structure in the Leech Helobdella modesta (Hirudinea: Glossiphoniidae) (Mentor: Stephen Shuster)
- Lucas Molina: Litter Analysis of Long-Term Treatments on a Ponderosa Pine Forest: Litter Amounts, Oxygen Isotopes, and Climate Change (Mentor: Matthew Bowker)
- Michael Newell: Exercise Redox Signaling: Intensity Matters (Mentor: Tinna Traustadottir)
- Daniel Raggio: Advancements in Scaling Models for Ejecta Blankets of Lunar Impact Craters (Mentor: Oleg Abramov; James Wittke)
- Bridger Rodoni: Cell Signaling in Response to Acute Exercise: Effects of Aging (Mentor: Tinna Traustadottir)
- Lindsay Sidak-Loftis: Comparison of Oh’i’a Tree Genotypes on Old Versus New Lava Soils in Hawai’i (Mentor: Joseph Busch)
- Claire Sotelo & Mikayla Laufer: Understanding the Eruption History of SP Crater, Northern Arizona, Through Tephra Mapping and Cinder Analysis (Mentor: Nancy Riggs)
- Seth Terrell: Testing the Proposed Margin of the Yavapai-Mojave Boundary Zone and Field Guide (Mentor: Ernest Duedenberger)
- Dylan Thomas: Metabolic Engineering of a Host to Increase Production of a Biofuel, Dimethylsqualene (Mentor: Andy Koppisch)
- Carl Thomson: Testing a New Method for Determining Soil Moisture Infiltration (Mentor: Frances O’Donnell)
- Patrick Warfel: A Comparison between the Chemistry of Cinder Deposits and Volcanoes in the San Francisco Volcanic Field (Mentor: Nancy Riggs)
- Taylor West: Individual Differences in Mindfulness and Quiet Ego Functions as Moderators of a Neural Correlate of Self-Centric Motivation (Mentor: Robert Goodman)
- Kyle Wyman: Debris Flow Potential in Slide Fire Area (Mentor: Taylor Joyal)
## MORNING SESSION

### Skydome CAL Floor

**9:00 AM - 11:00 AM – Exhibit**

<table>
<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Time</th>
<th>Presenters/Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Throwing Pottery - CAL, Art</strong></td>
<td>Skydome CAL Floor</td>
<td>9:00 am</td>
<td>NAU Clay Club</td>
</tr>
<tr>
<td><strong>ART 497 Exhibition - HONORS, Honors Program</strong></td>
<td></td>
<td>10:00 am</td>
<td>Lauren Kalt, Taryn Schreiner, Oli Wheeldon, Olivia Yuen, Sara Bogle</td>
</tr>
<tr>
<td><strong>Who Defines Native Identity? - CAL, English</strong></td>
<td></td>
<td>11:00 am</td>
<td>Samantha Austin</td>
</tr>
<tr>
<td><strong>3D Scanning - CAL, Art</strong></td>
<td></td>
<td></td>
<td>Art 151 3D Design Class</td>
</tr>
</tbody>
</table>

### Skydome Honors Table

**9:00 AM - 11:00 AM – Exhibit**

<table>
<thead>
<tr>
<th>Event</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Scorched Earth - HONORS, Honors Program</strong></td>
<td>Skydome Honors Table</td>
<td>9:00 am</td>
<td>Griffin Thompson, Frank Furtado, Katy Waltz</td>
</tr>
</tbody>
</table>

### Skydome Roundtable R1

**11:00 AM - 11:30 AM – Roundtable Discussion**

<table>
<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Time</th>
<th>Presenters/Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trans-Feminism and Contemporary Media</strong></td>
<td>Skydome Roundtable R1</td>
<td>11:00 am</td>
<td>Gia Hoegh, Tatiana Rasic, Danielle Dlugajczyk, Colt Solberg, Katie Saline, Jenna Chaffeur, Jarrod Chaplin</td>
</tr>
</tbody>
</table>

### Skydome Roundtable R2

**10:00 AM - 10:25 AM – Roundtable Discussion**

<table>
<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Time</th>
<th>Presenters/Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Two-Eye Seeing: Embracing Indigenous and Western Knowledge in the Early Childhood Curriculum - COE, Educational Specialties</strong></td>
<td>Skydome Roundtable R2</td>
<td>10:00 am</td>
<td>Silvia Domínguez Mateo</td>
</tr>
<tr>
<td><strong>A Return to the Delta: Perspectives on Human Involvement with Colorado River Restoration through Creative Representation - HONORS, Honors Program</strong></td>
<td></td>
<td>11:00 am</td>
<td>Emily Haworth, Elizabeth Nichols, Cassandra Leone</td>
</tr>
</tbody>
</table>
Skydome Roundtable R3

9:30 AM - 9:55 AM – Roundtable Discussion
Teaching Young Minds through the Arts and Cultural Interactions - COE, Art
Kacie Hayes

10:30 AM - 11:00 AM – Roundtable Discussion
All Families are Beautiful: Celebrating Race, Ethnicity, and Sexual Identity - COE, Educational Specialties
Kirsten Novelly

Skydome East Concourse - ADA section

Interdisciplinary Writing Project Video-Gaming Exhibition – CAL, English

9:30 AM - 10:30 AM – Exhibit

How Students in the Interdisciplinary Writing Program Utilized the Rhetorical Situation and Social Media to Reach out to Incoming Freshmen
Nicole Escamilla Guardiola, Sabrina Leal, Ali Parks

A Meme Discussion of Pinterest
Morgan Wentz

A Meme Discussion of Young Adult Literature Community
Shaylee Williams

10:30 AM – 11:30 AM – Exhibit

The Playful Rhetoric of Lost Pinups
Victoria Morse

Hacking, Playing, and Reddit
Joaquin Romero

Designed Interactions of Edgy-White Liberal
Allison Almanzar

Playfully Navigating the Internet
Bailey Davis

Gamifying Freshman Composition
Evanne Gutierrez

Building a Better Dungeon: Intended and Perceived Learning
Edward Gardner

Pinning Happiness
Sarah Magee

A Meme Discussion of the Kardashian Clan
Gabrielle Hollinger
8 | NON-POSTER LISTINGS: MORNING SESSION

Skydome Stage A

9:10 AM - 9:30 AM — Oral Presentation
The Scream Affect: Looking at Final Girls and Affect Theory - SBS, Women's and Gender Studies
James Scott

9:30 AM - 9:50 AM — Oral Presentation
Intersectionality and Health Disparities: Applying an Intersectional Lens to the Supplemental Nutrition Program for Women, Infants, and Children - SBS, Women's and Gender Studies
Martha Garner

World Views: The Amazon, Peru, the Middle East, and Finland

10:00 AM - 11:00 AM — Oral Presentation

Masking Insurrection: Satirical Clothing Descriptions in Eighteenth Century Lima - HONORS, Honors Program
Brittany Erwin

Reap What Is Sown: Exploitation of the Western Amazon - HONORS, Honors Program
Austin Graham

Education and Welfare in Finland - HONORS, Honors Program
Kristy Silva

The Power of the Pen: Women and Education in the Middle East - HONORS, Honors Program
Jenna Shoosmith
Skydome Stage B

9:00 AM - 10:00 AM – Oral Presentation
The Tao of Animal: Creative Expressions of Academic Ideas - HONORS, Honors Program
Jennifer Carlson, Katie Carpenter, Austin Dikeman, Kaley Schafer, Melissa Sepulveda, Jenna Shoosmith, Brianna Sparks, Devon Swanson

10:00 AM - 11:00 AM – Oral Presentation
The Craft of Fiction, 1 - HONORS, Honors Program
Desirae Enriquez, Joseph Remy, Jr., Keely Miller, Ben Davis

Skydome Stage C

Transgender Legal and Prison Issues

9:00 AM - 10:00 AM – Oral Presentation
When a Body Becomes Illegal - HONORS, Honors Program
Jenna Chaffeur, Amber Treadway, Jarrod Chaplin, Mackenzie Staires

Today's Transgender Prison Issues in Relation to Orange is the New Black - HONORS, Honors Program
Annalee Boyle, Cindy Sloan, Celeste Zavala

Mad Max, Robots, and the Histories of Dystopias

10:00 AM - 11:00 AM – Oral Presentation
Monopoly: Mad Max Edition - HONORS, Honors Program
Braden Parker

A History of Robots in Dystopian Literature and Film - HONORS, Honors Program
Kristina Schindele, Victoria Grant, Lauren Leever

Skydome Stage D

9:00 AM - 10:00 AM – Oral Presentation
Applied Mindfulness and Wellbeing - HONORS, Honors Program
Willem Blakely, Emeli Filelds, Lyrica Jensen-Maldonado, Michael Stoy, Alexandra Ware

10:00 AM - 11:00 AM – Oral Presentation
Understanding Everyday Compassion - HONORS, Honors Program
Anthony Atayde, Savannah Hillebrand, Teddy Jemmings, Katie Mergen, Edwin Perez
## duBois Fremont Room

<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
<th>Presenters</th>
</tr>
</thead>
</table>
| 8:55 AM - 9:20 AM | Oral Presentation  
Wildlife Telemetry Drone - CEFNS, Mechanical Engineering  
Jeffrey Eberle, Lauren Adoram-Kershner, Jason Vizcaíno, Kellan Rothfus |                                                                            |
| 9:20 AM - 9:45 AM | Oral Presentation  
WL Gore Calcified Vessel Model - CEFNS, Mechanical Engineering  
Michael Rickerd, Skyler Buchanan, Cameron Fisher, Nolan Kirk, Bryce Ribucan, Kathryn Shallcross |                                                                            |
| 9:45 AM - 10:10 AM | Oral Presentation  
Hozhoni Button Making Team - CEFNS, Mechanical Engineering  
Dylan Oliva, Kristen Rieger, Ryan Torres, Bryce Igo, Abdulah Almerr |                                                                            |
| 10:20 AM - 10:45 AM | Oral Presentation  
Hozhoni Art Program Assistive Easel - CEFNS, Mechanical Engineering  
Jeannette Nelson, Margaret Wisman, Adam Barad, Brittnee Barrett, Logan Bacher |                                                                            |
| 10:45 AM - 11:10 AM | Oral Presentation  
Flood Risk to Hillside Mine Tailings Cap - CEFNS, Civil Engineering, Construction Management, and Environmental Engineering  
Adel Althawab, Kyle Karshner, Christopher Hazel, Steven Sandavol |                                                                            |
| 11:10 AM - 11:35 AM | Oral Presentation  
NAU ASCE Concrete Canoe Capstone - CEFNS, Civil Engineering, Construction Management, and Environmental Engineering  
Brooke Rhodes, Alexander Meisner, Tyler Shamburg, Abdullah Alsarraf |                                                                            |
| 11:35 AM - 12:00 AM | Oral Presentation  
Red Cloud Mine Preliminary Assessment and Site Inspection - CEFNS, Civil Engineering, Construction Management, and Environmental Engineering  
Taylor Oster, Dani Halloran, Kelsey Hammond, Haley Michael, Robert Reny |                                                                            |
| 12:00 PM - 12:25 PM | Oral Presentation  
Saginaw Hill Erosion Control - CEFNS, Civil Engineering, Construction Management, and Environmental Engineering  
Chelsie Kekaula, Colton McConnell, Brent Lipar, Emily Melkesian, Evan Kaichi |                                                                            |

## duBois Marshall Room

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<th>Time</th>
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</table>
| 8:55 AM - 9:20 AM | Oral Presentation  
2016 PCI Big Beam Capstone Project - CEFNS, Civil Engineering, Construction Management, and Environmental Engineering  
Michael O’Reilly, Nicholas Jokerst, Eman Albdiwyi, Deena Albustan |                                                                            |
| 9:20 AM - 9:45 AM | Oral Presentation  
2016 ASCE Steel Bridge - CEFNS, Civil Engineering, Construction Management, and Environmental Engineering  
Brian Jouflas, Kaitlin Vandaveer, Matthew Rodgers, Logan Couch |                                                                            |
| 9:45 AM - 10:10 AM | Oral Presentation  
NAU ASCE Concrete Canoe Capstone - CEFNS, Civil Engineering, Construction Management, and Environmental Engineering  
Chelsie Kekaula, Colton McConnell, Brent Lipar, Emily Melkesian, Evan Kaichi |                                                                            |
| 10:20 AM - 10:45 AM | Oral Presentation  
Flood Risk to Hillside Mine Tailings Cap - CEFNS, Civil Engineering, Construction Management, and Environmental Engineering  
Adel Althawab, Kyle Karshner, Christopher Hazel, Steven Sandavol |                                                                            |
| 10:45 AM - 11:10 AM | Oral Presentation  
Red Cloud Mine Preliminary Assessment and Site Inspection - CEFNS, Civil Engineering, Construction Management, and Environmental Engineering  
Taylor Oster, Dani Halloran, Kelsey Hammond, Haley Michael, Robert Reny |                                                                            |
| 11:10 AM - 11:35 AM | Oral Presentation  
Saginaw Hill Erosion Control - CEFNS, Civil Engineering, Construction Management, and Environmental Engineering  
Brooke Rhodes, Alexander Meisner, Tyler Shamburg, Abdullah Alsarraf |                                                                            |
duBois Meadows Room

8:55 AM - 9:20 AM – ORAL PRESENTATION  
**Exponential Perspective Rendering Engine** - CEFNS, Electrical and Computer Engineering  
Emily Bartman, Garrett Steffen, Dakota Jones, Yi Zong

9:20 AM - 9:45 AM – ORAL PRESENTATION  
**Automated Terrain Mapping of Mars** - CEFNS, Electrical and Computer Engineering  
Jorge Felix Caudillo, Tsosie Schneider, Sean Baquiro, Matthew Enright

9:45 AM - 10:10 AM – ORAL PRESENTATION  
**HelpTile Mobile Application for Tagging Websites** - CEFNS, Electrical and Computer Engineering  
Joshua Frampton, Temitope Alaga, John Dance, Jun Rao

10:20 AM - 10:45 AM – ORAL PRESENTATION  
**Developing a Graphical Interface for Genomic Analysis Tasks** - CEFNS, Electrical and Computer Engineering  
Jean-Paul Labadie, Luis Valenzuela, Jordan Marshall, Abdulaziz Alhawas

10:45 AM - 11:10 AM – ORAL PRESENTATION  
**Mobile Data Collection** - CEFNS, Electrical and Computer Engineering  
David Nagel, Justin Poehnelt, Jack Burrell, Ahmad Meer

11:10 am - 11:35 am – ORAL PRESENTATION  
**EvaluRate: Peer Evaluation Software** - CEFNS, Electrical and Computer Engineering  
Dylan Grayson, Conner Swann, Brian Saganey, Brandon Paree

duBois Southwest Room

8:55 AM - 9:20 AM – ORAL PRESENTATION  
**Preventing Falls: Real-Time Analysis of Abnormal Walking Characteristics** - CEFNS, Electrical and Computer Engineering  
Jay Morita, Robert Kasper, Mohammad Aljoilan

9:20 AM - 9:45 AM – ORAL PRESENTATION  
**The Rehabilitative BabyLift** - CEFNS, Electrical and Computer Engineering  
Colm Corr, A Al Omairin, Mustafa Alkhazab, Y E-Said

9:45 AM - 10:10 AM – ORAL PRESENTATION  
**NASA Orion Spectrometer** - CEFNS, Electrical and Computer Engineering  
Noah Zimmerer, Erich Kroneberger, Chris Wieduwilt, Zach Olson, Keifer Dunham

10:20 AM - 10:45 AM – ORAL PRESENTATION  
**Smart Energy-Saving RFID Light Switch** - CEFNS, Electrical and Computer Engineering  
Derek McCormick, Scott Peterson, Kaden MacFadyen, Bennett Kool, Christopher Hood

10:45 AM - 11:10 AM – ORAL PRESENTATION  
**Bark Beetle Deterrent** - CEFNS, Electrical and Computer Engineering  
Junchi Bin, Wesley Yazzie, Alejandro Rhyne, Abel Perez, Keith Vicente

11:10 am - 11:35 am – ORAL PRESENTATION  
**NASA ZigZag Particle Beam Imaging System** - CEFNS, Electrical and Computer Engineering  
Jose Mireles, Marissa Bell, Aaron Childers, Adam Clark, Jesse Sunderland, Zackary Remley
<table>
<thead>
<tr>
<th>Skydome Floor: Posters (9:00 AM - 11:00 AM)</th>
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</thead>
</table>

**CAL – Art**

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<tr>
<th>Title</th>
<th>Presenter/Board</th>
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<tbody>
<tr>
<td><strong>Wild Roots Cabaret &amp; Bar</strong></td>
<td>Anisha Ami - Display board [49A]</td>
</tr>
<tr>
<td><strong>Interior Design of a Salon for the Gender Neutral Society</strong></td>
<td>McKenna Cooke - Display board [49C]</td>
</tr>
<tr>
<td><strong>The Orchard: A Holistic PTSD Rehabilitation Center for Veterans</strong></td>
<td>Jessica Drake - Display board [50A]</td>
</tr>
<tr>
<td><strong>Welfare and Vocational Skills Training Center for Adults with Autism Spectrum Disorder</strong></td>
<td>Jennifer In - Display board [52D]</td>
</tr>
<tr>
<td><strong>New Ways to Fitness</strong></td>
<td>Erica McKenna - Display board [51B]</td>
</tr>
<tr>
<td><strong>Designing for Healing: A Holistic Approach to Healing Fibromyalgia and Chronic Fatigue Syndrome through Patient Guided Treatments</strong></td>
<td>Lauren Richards - Display board [51D]</td>
</tr>
<tr>
<td><strong>An Alternative Way of Living for Adults with Special Needs</strong></td>
<td>Nichelle Williams - Display board [52B]</td>
</tr>
</tbody>
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**CAL – Comparative Cultural Studies**

<table>
<thead>
<tr>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td><strong>The Esoteric History of Christian Science</strong></td>
<td>Angel Rangel - Display board [53A]</td>
</tr>
<tr>
<td><strong>A Typology of Hokusai’s Thirty-Six Views of Mount Fuji</strong></td>
<td>Isadora Nizalowski - Display board [53B]</td>
</tr>
</tbody>
</table>

**CAL – History**

<table>
<thead>
<tr>
<th>Title</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>The Tohono O’odham and the Development of the U.S.-Mexico Border</strong></td>
<td>Philip Rody - Display board [53C]</td>
</tr>
</tbody>
</table>

**CAL – Global Languages & Cultures**

<table>
<thead>
<tr>
<th>Title</th>
<th>Presenter/Board</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The Destruction of the Alps</strong></td>
<td>Rang Ly - Display board [53D]</td>
</tr>
</tbody>
</table>

**CEFNS – Biological Sciences**

<table>
<thead>
<tr>
<th>Title</th>
<th>Presenter/Board</th>
</tr>
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<tbody>
<tr>
<td><strong>Frog Compensation of Additional Weight through Backpacks</strong></td>
<td>Cassidy Crews, Alyssa Ortiz - Display board [34D]</td>
</tr>
<tr>
<td><strong>Variation in the Intensity of Infection by Echinostoma metacercaria in Bullfrog Tadpoles from Four Northern Arizona Habitats</strong></td>
<td>Lauren Badertscher, Tiffany Tran, Tanya Sutton - Display board [33A]</td>
</tr>
<tr>
<td><strong>Microbial Involvement with Colorectal Cancer</strong></td>
<td>Cherae Bilagody, Monica Yellowhair, Mark Linhart, Sonora Olivas, Emily Kaufman, Heidie Hornstra, Greg Caporaso - Display board [32D]</td>
</tr>
<tr>
<td><strong>Differential Effects of Sperm Limitation on Family Sex Ratios in the Parasitoid Wasp, Nasonia vitripennis</strong></td>
<td>Laura Blair, Alexandria Sutphin, Jeff Baranowski, Zane Holditch - Display board [32C]</td>
</tr>
</tbody>
</table>
Local Adaptation in Leeches: Estimating the Relative Fitness of Three Northern Arizona Helobdella modesta Populations in Natal and Non-Natal Water
James Boothroyd, Cassidy Klovanish, Anneliese Martinez, Rebecca Beresic-Perrins, Stephen Shuster - Display board [32A]

Genotyping Yersinia pestis from North America Using Amplicon Sequencing
Heather Centner, Carina Hall, Jason Sahl, Jim Schupp, Paul Keim, David Wagner - Display board [31D]

Rare Plant Importance to Pollinator Species Richness
Landon Eldredge - Display board [31B]

A Method for Assessing Presence of the Endangered New Mexico Meadow Jumping Mouse
Rachel Harrow, Russell Benford, Valerie Horncastle, Nashelly Meneses, Carol Chambers - Display board [27A]

Competitive Outcome in Tribolium Spp. Is Determined by Priority
Zane Holditch - Display board [34B]

Risk of Arborviral Disease Transmission by Aedes aegypti in Central Arizona
Madelyn Kane, Russell Benford, Nashelly Meneses - Display board [26C]

Development of Microsatellite Markers to Assess Paternity and Genetic Population Structure in the Leech Helobdella modesta (Hirudinea: Glossiphoniidae)
Erik Lehmkuhl, Lindsey Stolze, Kelsey Banister - Display board [26A]

Effects of Butachlor and Competition on the Development of Fejervarya vittigera and Rhinella Marina
Alexander McCain, Molly Shuman-Goodier, Catherine Propper - Display board [26D]

Selection on Brood Size in the Leech Helobdella modesta
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“Chasing The Discovery Lightbulb”

Paul C. Begovac, Ph.D.
Business-Technology Leader
W.L. Gore & Assoc, Inc.

Friday, April 29, 2016
11:30 AM – 1:00 PM
du Bois Ballroom

LUNCH

11:45 AM - 1:00 PM
Skydome Stage B: Honors Convocation & Awards Ceremony

11:45 AM - 1:00 PM
Skydome Stage D: University College Awards Ceremony
AFTERNOON SESSION

Skydome CAL Floor

2:00 PM - 4:00 PM – Exhibit

**Throwing Pottery** - CAL, Art
NAU Clay Club

**3D Scanning - CAL, Art**
Art 151 3D Design Class

**ART 497 Exhibition** - HONORS, Honors Program
Lauren Kalt, Taryn Schreiner, Oli Wheeldon, Olivia Yuen, Sara Bogle

Skydome FCB Tables

2:00 PM - 4:00 PM – Exhibit

**DRWH Education towards Learning** - FCB, Business - Computer Information Systems
Renaldo Holgate

**Tastes from around the World!** - FCB, Hotel and Restaurant Management
Christine Carver

**Cooking Sous Vide with Beer** - FCB, Hotel and Restaurant Management
Caleb Shroyer, Matt Julien

Skydome HONORS Floor

2:00 PM - 4:00 PM – Exhibit

**Tombstone, Arizona, and the Myth of the Wild West** - HONORS, Honors Program
Miriam Campana, Amelia Krieg, Madison Kuyper, Morgan Louvier, Megan Nolan, Elora Palmer, Samantha Schommer, Emily Sulka, Rose Tarquini-Cassell, Allison Theisen, Patrick Warfel

Skydome Roundtable R1

1:15 PM - 1:45 PM – Roundtable Discussion

**The Future of Medicine and Motion** - HONORS, Honors Program
Ariana Bebo, Lukas Merkley, Amy Sanderson

3:00 PM - 3:25 PM – Roundtable Discussion

**Homework: The Effects and Why It Needs to Be Rethought** - COE, Teaching and Learning
Shaelyn Jiron

2:00 PM - 2:25 PM – Roundtable Discussion

**Teaching Teachers to Teach Culture** - COE, Educational Leadership
Jessica Stott
Skydome Roundtable R2

1:15 PM - 1:45 PM – **ROUNDTABLE DISCUSSION**

**Social Landscapes of the Future** - HONORS, Honors Program
Thalius Belenti, Marley Kelso, Kendall Weber, Caleb Wheeler

3:30 PM - 3:55 PM – **ROUNDTABLE DISCUSSION**

**Saved by the Bell: Alternative Philosophies of Teaching** - COE, Teaching and Learning
Mallory Marquette, Rachel Geilmaker

2:30 PM - 2:55 PM – **ROUNDTABLE DISCUSSION**

**The Impact of Literacy on Academic Achievement** - COE, Educational Specialties
Lauren Durant, Lindsey Denny, Brooke Lewis, Daniel Wong

Skydome Roundtable R3

1:15 PM - 1:45 PM – **ROUNDTABLE DISCUSSION**

**Traditional Ecological Knowledge + Technology = Future Survival** - HONORS, Honors Program
Scottie Bayles, Vanice Hoepfner, Melissa Jacquez

Skydome Stage A

**Music that Delights and Informs Us**

1:15 PM - 2:00 PM – **ORAL PRESENTATION**

**From Graphic Notation to Theatre Percussion: A Study of Percussion Ensemble Literature Based upon Thierry De Mey’s Musique de Table** - HONORS, Honors Program
Phoebe Hughes

1:15 PM - 2:00 PM – **ORAL PRESENTATION**

**A Listener’s Guide to Edgard Varese’s Flute Work** - HONORS, Honors Program
Kaitlyn Leung

**Making Sense of Bias, Disability, and Injustice**

2:00 PM - 3:00 PM – **ORAL PRESENTATION**

**A False Confession of Justice** - HONORS, Honors Program
Katie Fielder

2:00 PM - 3:00 PM – **ORAL PRESENTATION**

**Disability and the Media** - HONORS, Honors Program
Amy Sanderson

2:00 PM - 3:00 PM – **ORAL PRESENTATION**

**The Other Half: Binaries and Others in Folklore across the World** - HONORS, Honors Program
Sydney Huetter
**Authentic Education, Strong Communities**

3:00 PM - 3:20 PM – ORAL PRESENTATION  
*From School to Shoal: A Manifesto for Authentic Education* - COE, Educational Specialties  
Emmaline Frey

3:20 PM - 3:40 PM – ORAL PRESENTATION  
*Implementing Place-Based Education to Build a Stronger Community* - COE, Educational Specialties  
Michael Quinn

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**Skydome Stage B**

**Civic Engagement in the Classroom and in a Senior Living Community**

1:15 PM - 2:00 PM – ORAL PRESENTATION  
*The Peaks Senior Living Community: Improving the Lives of Its Residents* - HONORS, Honors Program  
Molly Bjerk, Ashley Mutchek, Katelyn Johnson, Shayna King

2:00 PM - 3:00 PM – ORAL PRESENTATION  
*The Craft of Fiction, 2* - HONORS, Honors Program  
Jessica Van Lith, Katie Miller, Aden Polydoros, Kelly Lienhard, Alycia Lichtas

1:15 PM - 2:00 PM – ORAL PRESENTATION  
*Integrating Critical Pedagogy and Civic Education in Today’s Classrooms* - HONORS, Honors Program  
Jordan Morales

3:00 PM - 4:00 PM – ORAL PRESENTATION  
*Civic Engagement through Environmental Education, Thrift Stores, and Diversity Awareness* - HONORS, Honors Program  
Ashlee Hart, Lauren Kalt, Eva Marino, Emily Haworth, Samantha Watkins, Thuy Tran, Aubrial Harrington

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**Skydome Stage C**

**Transgender and Third Sex Representations**

1:15 PM - 2:00 PM – ORAL PRESENTATION  
*Global Interpretations of Gender Identities* - HONORS, Honors Program  
Ben Halliday, Paola Felipe

1:15 PM - 2:00 PM – ORAL PRESENTATION  
*An Exploration of Gender Crossing in Shakespeare’s Twelfth Night* - HONORS, Honors Program  
Alice Pratt
Creative Interpretations of Dystopias

2:00 PM - 3:00 PM – ORAL PRESENTATION
Goodbye Gravity and The Other Side: Two Novels-in-Progress - HONORS, Honors Program
Niki DeShazo

3:00 PM - 4:00 PM – PERFORMANCE
Dystopian Stories: A Reading (2) - HONORS, Honors Program
Charlie St. Clair, Nicholas Anable, Jackson Pergiel, Haley Duncan

2:00 PM - 3:00 PM – PERFORMANCE
Turn Your Dystopia into a Utopia: An Infomercial - HONORS, Honors Program
Tessa Diehl, Jensen Grief

Skydome Stage D

1:15 PM - 2:00 PM – PERFORMANCE
Dystopian Stories: A Reading (1) - HONORS, Honors Program
Ian Carr, David Lupton, Sara Pugsley, Scott Sprauer

3:10 PM - 3:30 PM – ORAL PRESENTATION
Visualizing Big Data with D3 - CEFNS, Electrical and Computer Engineering
Ashley Green

2:00 PM - 3:00 PM – ORAL PRESENTATION
Too Much/Too Little Ego and Compassion - HONORS, Honors Program
Amanda Binkley, Corin Hill, Abbey Johnson, Zeke Saxman

3:30 PM - 3:50 PM – ORAL PRESENTATION
Calcium and Phosphorous Distributions in the Mineral Layer of Atlantic Tarpon Scales - CEFNS, Biological Sciences
Brett Cutler

duBois Fremont Room

1:15 PM - 1:40 PM – ORAL PRESENTATION
Telecomm Wind Turbine Design and Deployment - CEFNS, Mechanical Engineering
Michael Wertz, Ryan Schatz, Norman Clark, Brock Pellerin, Anas Alkandari, Hashim Alramadhan

2:05 PM - 2:30 PM – ORAL PRESENTATION
NAU Collegiate Wind Competition 2016 Tunnel, Electrical - CEFNS, Mechanical Engineering
Brayden Worrell, Brayden Worrell, Zachary Sabol, Korey Holaas, Jess Robinson, Michael Evans, Scott Muente

1:40 PM - 2:05 PM – ORAL PRESENTATION
Department of Energy Collegiate Wind Competition, Mechanical Design - CEFNS, Mechanical Engineering
James Melton, Randon Allen, Tyler Richards, Nathan Ceniceros, Jessica Bauer, Jeremy Cook

2016 UNDERGRADUATE SYMPOSIUM
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### duBois Marshall Room

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| 1:15 PM - 1:40 PM | Oral Presentation  
*City of Flagstaff Roundabout Design* - CEFNS, Civil Engineering, Construction Management, and Environmental Engineering  
Kevin Farrell, Ralph Ubert, Amal Abdelaziz, TJ Sullivan |  
2:40 PM - 3:05 PM | Oral Presentation  
*Sinclair Wash Riparian Habitat Enhancement Feasibility Study* - CEFNS, Civil Engineering, Construction Management, and Environmental Engineering  
Sierra Holloway, Maya Huffman, Skyler Quinn, Fahad Alyatama, Mohammed Almousawi |
| 1:40 PM - 2:05 PM | Oral Presentation  
*City of Flagstaff Traffic Signal Redesign* - CEFNS, Civil Engineering, Construction Management, and Environmental Engineering  
Joseph Davis, Zachary Crimmins, Jace Elkins, Jordan Weyrauch |  
3:05 PM - 3:30 PM | Oral Presentation  
*RV Wastewater Treatment* - CEFNS, Civil Engineering, Construction Management, and Environmental Engineering  
Ryan Marshall, Chris Young, Chris Yazzie, My Hoang |
| 2:05 PM - 2:30 PM | Oral Presentation  
*Cinder Lake Alternative Landfill Liner Design* - CEFNS, Civil Engineering, Construction Management, and Environmental Engineering  
Jessika Gloor, Steven Hoff, Lamyaa Alrumaidhin, Patrick Bridgman |  
3:30 PM - 3:55 PM | Oral Presentation  
*Clover Springs Riparian Restoration* - CEFNS, Civil Engineering, Construction Management, and Environmental Engineering  
Dillon Corrington, Jake Fleishman, Michael Robinson |

### duBois Meadows Room

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| 1:15 PM - 1:40 PM | Oral Presentation  
*YAX: Taxonomic Assignment Using Metagenomic Shotgun Sequences* - CEFNS, Electrical and Computer Engineering  
Hayden Westbrook, Evan Bolyen, Mike Deberg, Andrew Hodel |  
2:40 PM - 3:05 PM | Oral Presentation  
*Gigapixel Image Rendering* - CEFNS, Electrical and Computer Engineering  
Matthew Ostovarpour, Daniel Garcia-Briseno, Douglas Peterson, Thomas O’Brien |
| 1:40 PM - 2:05 PM | Oral Presentation  
*Holocaust Exhibit: Through the Eyes of Youth* - CEFNS, Electrical and Computer Engineering  
Luke Sanchez, Herbie Duah, Michael Ortega, John Loudon |  
3:05 PM - 3:30 PM | Oral Presentation  
*Toogether - A Lightweight Group Organization Tool* - CEFNS, Electrical and Computer Engineering  
Ryan Batchelder, Eric Huff, Christopher Marcus, Jonathon Todd |
| 2:05 PM - 2:30 PM | Oral Presentation  
*Measuring Accentedness* - CEFNS, Electrical and Computer Engineering  
Erik Dixon, Cameron Gaskin, Austin Abhari, Harrison Lambeth |
duBois Room A

1:15 PM - 1:40 PM — Oral Presentation
Museum of Northern Arizona Meadow Riparian Habitat Enhancement Project - CEFNS, Civil Engineering, Construction Management, and Environmental Engineering
Noor Alsadi, Matthew Sorenson, Jasem Alrumaidheen, Khaled Alazmi

1:40 PM - 2:05 PM — Oral Presentation
Flagstaff Family Food Bank: Food Storage Facility Flooding - CEFNS, Civil Engineering, Construction Management, and Environmental Engineering
Elena Smith, Erik Henricksen, Garrett Ribas, Meshal Alotaibi

Liberal Studies (Bldg #18) Room 120

1:30 PM - 1:45 PM — Oral Presentation
Contemporary Japanese Installation Art and Its Medieval Roots - CAL, Comparative Cultural Studies
Emily Lawhead

1:45 PM - 2:00 PM — Oral Presentation
An In-Depth Analysis of 20th Century American Design and Architecture's Foreign Influences - CAL, Art
Rachel Pool

2:00 PM - 2:15 PM — Oral Presentation
Shinto and Studio Ghibli: Japanese Traditional Religious Themes in Animated Film - CAL, Comparative Cultural Studies
Alden Cormany

2:15 PM - 2:30 PM — Oral Presentation
Transfusion Confusion: Empathy and the Uncanny in Dracula - CAL, English
Samantha Orsulak

2:45 PM - 3:00 PM — Oral Presentation
Documenting the Unknown: Analyzing Lewis and Clark as Naturalists - CAL, History
Addison Guevara

3:00 PM - 3:15 PM — Oral Presentation
Persian Ethnicity during the Achaemenid Period - CAL, History
Mark Holden

3:15 PM - 3:30 PM — Oral Presentation
Gendered Terror: Orientalism in French News Representations of Islamic Terrorism - CAL, Global Languages & Cultures
Elizabeth Nichols
### Skydome Floor: Posters (2:00 PM - 4:00 PM)

#### CAL – Art

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<td>An Adaptable Hotel for any Culture: Designing Universally</td>
<td>Emelia Box [49B]</td>
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<tr>
<td>The Importance of Good Design in Affordable Housing</td>
<td>Christina Dickinson [49D]</td>
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<tr>
<td>Farm to Table: Restaurant Design for a Healthier Generation</td>
<td>Lindsey Griffin [50C]</td>
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<td>Where are the Female Artists?</td>
<td>Leialoha Katsuda [51A]</td>
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<td>Disney Boutique Hotel</td>
<td>Taylor Ray [51C]</td>
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<td>Iconography of Seasons in Japanese Pictorial and Food Art</td>
<td>Emani Stanford [52A]</td>
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<td>Planning for the Future</td>
<td>Zoë Wristen [52C]</td>
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#### CEFNS – Biological Sciences

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<td>Do Amphibious Fishes Jump Farther than Fully Aquatic Fishes?</td>
<td>Curtis Choitz [31C]</td>
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<tr>
<td>Extraction and Isolation of Adipose-Derived Stem Cells</td>
<td>Martha Fowler [34C]</td>
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<td>Uranium’s Effect on Estrogen Sensitive Genes in Early Embryonic Danio Rerio</td>
<td>Jonathan Grunwald [31A]</td>
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<td>A Comparison between the Satisfaction and Effectiveness of Personal Training, Open Gym, and Group Fitness</td>
<td>Averie Johnson [33D]</td>
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<tr>
<td>How Does Acute Ethanol Exposure Affect Metabolism within Burkholderia Thailandensis E264 and Pseudomonas Aeruginosa Overtime?</td>
<td>Kristi Mascarenas [25C]</td>
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<tr>
<td>Detecting Melioidosis: Development of MagPix Assays to Limit Disease</td>
<td>Rachel Meyer [26B]</td>
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<tr>
<td>Exercise Redox Signaling: Intensity Matters</td>
<td>Michael Newell [25B]</td>
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<td>Positivity and Prevalence of Leptospira DNA in Human and Animal Samples from Rural Ecuador</td>
<td>Sonora Olivas [27D]</td>
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<td>Effects of Ethanol on Alveolar Macrophage (MΦ) Polarization during Pseudomonas Aeruginosa Infection</td>
<td>Inez Pabian [27B]</td>
</tr>
<tr>
<td>Development of Antibody Reactive Markers to Rapidly Diagnose Patients Infected with Burkholderia Pseudomallei</td>
<td>Lauren Pristo [34A]</td>
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<td>Effects of Activation on Force-Velocity Properties of Muscles during Cyclic Length Changes</td>
<td>April Rodriguez [28D]</td>
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<tr>
<td>MAGPIX: a New Technological Tool for Diagnostics and New Vaccines Development for Infectious Diseases</td>
<td>Isaiah Self [29B]</td>
</tr>
</tbody>
</table>
Testing the Pathogenicity of Close Phylogenetic Relatives of Burkholderia Pseudomallei in a Laboratory Mouse Model
Lindsay Sidak-Loftis, Victor Jimenez, Courtney Seavey, Erick Settles, Rachel Meyer, Heather Center, Apichai Tuanyok - Display board [29C]

Local Adaption of Megachildae Bees along an Elevation Gradient
Atticus Wolf - Display board [30B]

CEFNS – Chemistry and Biochemistry

Molecular Dynamics Investigation of Benzene Ordering at a Silica Interface
Kevin Gochenour - Display board [22D]

Synthesis of Isoxazoline Bacterial Growth Inhibitors through Nitrile Oxide Cycloaddition Reactions
Bradley Marsh, Serenity MacLennan, Jose Parra - Display board [23D]

Laser Ablation ICP-MS Analysis of Nine Metals in Size-Segregated, Submicron Atmospheric Particles Collected in Church Rock, New Mexico, and Flagstaff, Arizona
Daniel Vechiola, Daniel Vechiola, Marin Robinson - Display board [24C]

CEFNS – Civil Engineering, Construction Management, and Environmental Engineering

NAU ASCE Concrete Canoe Capstone
Chelsie Kekaula, Colton McConnell, Brent Lipar, Emily Melkesian, Evan Kaichi - Display board [7C]

CEFNS – Electrical and Computer Engineering

Exponential Perspective Rendering Engine
Emily Bartman, Garrett Steffen, Dakota Jones, Yi Zong - Display board [6C]

Automated Terrain Mapping of Mars
Jorge Felix Caudillo, Tsosie Schneider, Sean Baquiro, Matthew Enright - Display board [4B]

HelpTile Mobile Application for Tagging Websites
Joshua Frampton, Temitope Alaga, John Dance, Jun Rao - Display board [4A]

EvaluRate
Dylan Grayson, Conner Swann, Brian Saganey, Brandon Paree - Display board [3D]

Developing a Graphical Interface for Genomic Analysis Tasks
Jean-Paul Labadie, Luis Valenzuela, Jordan Marshall, Abdulaziz Alhawas - Display board [5B]

Preventing Falls: Real-Time Analysis of Abnormal Walking Characteristics
Jay Morita, Robert Kasper, Mohammad Aljoian - Display board [5C]

Mobile Data Collection
David Nagel, Justin Poehnelt, Jack Burrell, Ahmad Meer - Display board [6A]
### CEFNS – Environmental Sciences and Environmental Studies

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<td>Lauren Badertscher, Samuel Salgado, Cara Blout, Amelia Allen</td>
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<td><strong>and Random Placement vs. Strategic Placement</strong></td>
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<tr>
<td><strong>The Restoration of Native Flora at Montezuma Well</strong></td>
<td>Carolyn Box, Colby Collins, Deavila dePersia, Michael Sloan</td>
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<td><strong>CHEFS Garden Program Consulting Project</strong></td>
<td>Kelsey Dunst, Sara Tilford, Sedona Spann</td>
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<td><strong>Environmental Justice: Recognizing Animals as Moral Agents</strong></td>
<td>Sarah Holditch</td>
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<tr>
<td><strong>Drafting and Implementing a Restoration Plan for the West Pasture at</strong></td>
<td>Sam Phalon, Madison Reese, Kelsey Blodgett</td>
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<td><strong>Montezuma Well</strong></td>
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<td><strong>Camera Trapping at Restored Riparian Zones</strong></td>
<td>Helena Van Winkle, Alexander Wilson, Jake Hirsch, Jeremy Scuderi</td>
<td>[20A]</td>
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<tr>
<td><strong>Potential Viability of Biopesticide for Managing Bark Beetles in Forest</strong></td>
<td>John Kaplan</td>
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<td>Harlan Tso, Matthew O’Neill</td>
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<td><strong>Placing New Constraints on the Unexpectedly Complex Formation of Meteor</strong></td>
<td>Alexandra Huff, Justin Hagerty, Tenielle Gaither, Amber Gullikson</td>
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<td><strong>An Early Devonian Vertebrate Fauna from the Interlake Group Williston</strong></td>
<td>Robert Lutton</td>
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<td><strong>Basin, North Dakota</strong></td>
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<td>Dustin Story</td>
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Search for presenters, titles, and abstracts at the event kiosks or online at nau.edu/symposium
CEFNS – Mechanical Engineering

Wildlife Telemetry Drone
Jeffrey Eberle, Lauren Adoram - Kershner, Jason Vizcaino, Kellan Rothfus - Display board [2C]

3D Model Verification of Magnetic Shape Memory Alloys
Jeffrey Eberle - Display board [2D]

Unmanned Aerial System (UAS) for Wildlife Tracking
Christopher Gass - Display board [3B]

CEFNS – Physics and Astronomy

Kinetics of Phase Formation and Microstructure Development of High Purity Silicon Nitride Ceramics
Shyanne Dustrud - Display board [11B]

Numerical Modeling of Star Formation Mechanisms within Interacting Galaxies
Elizabeth Gehret, Curtis Dankof, Lisa Chien - Display board [11A]

Stars for the Future
Kiril Kirkov - Display board [9A]

CEFNS – Center for Science Teaching and Learning

Examining Algebra 1 Students’ Self-Efficacy Beliefs after Engaging in a Lesson Focused on Verbal Reasoning during a Challenging Task
Joseangel Gonzalez - Display board [8C]

COE – Educational Psychology

Gender Essentialist Thinking among Students: The Role of Background and Academic Focus
Kylie Jones, Lisa Persinger, Sara Abercrombie - Display board [47B]

COE – Educational Specialties

Silence is Deadly: Culture in the Classroom
Nicole Acquaviva, Tiffani Watkins - Display board [47D]

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Analise Williams, Bradley Dishong, Kelye Scarborough, Felicity Short, Michael Alban - Display board [80B]

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Behavioral Change
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Behavior Change: Becoming Interdependent
Erin Brown - Display board [99A]

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Behavioral Change Project: Free Time to Exercise
Emilio Espinoza - Display board [99D]

Behavioral Change: Sleep Habits
Claire Gannon - Display board [98A]

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Laura Jachimowicz - Display board [97D]

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Improving Self-Confidence with a New Positive Outlook
Riley Porter - Display board [94B]

Volunteerism
Kristen Price - Display board [94C]

How Well Students Balance School While Working
Karely Ramirez, Alisa Ramon, Shannon Humphrey, Jamie Mahan, Claire Gannon - Display board [94D]
### Regaining Flexibility
Laura Saraceno - Display board [93A]

### Party Shenanigans
Zachary Stevens, Stephanie Madrid, Kara Lavender, Taylor Mauhili, Sarah Casey, Gradi Moore - Display board [93B]

### Controlling My Anger
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### Eliminating Impulse Eating
Victoria Vorsatz - Display board [93C]

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### SBS – Women’s and Gender Studies

**An Affective Lens: Judgment and Decision**
*Making Psychology and Affect Theory*
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### University College – First Year Students 111

#### Alternate Ways to Create Soundproofing Materials
LC Bridges - Display board [130B]

**The Healing Tone: Does it Work?**
Caitlin Chatelain, Samantha Witt - Display board [128B]

#### Myth of Subliminal Messages
Anna Harris - Display board [130D]

**Tunes behind the Wheel**
Michael Joyce - Display board [129D]

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### University College – University Studies

#### An Auto Ethnographic Approach to Law Enforcement and Community Relations
Matthew Montero - Display board [127D]

**Women in Art**
Brittany Yox - Display board [127B]

#### Accidental Deaths and Injuries from Sleepwalking
Laura Armstrong - Display board [126B]

#### The Silent Effect of Geographic Hazards
Roger Esson - Display board [122C]

#### Generation Y or Generation Overwhelmed?
Bianca Gonzalez - Display board [126D]

#### Plant-Based Lifestyle vs. American Culture
Kaitlyn Kohen - Display board [125B]

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#### The Study of the Growth of Tennis in Japan
Shannon Nelson - Display board [125D]

**Effects of a Nutrient-Dense Plant-Based Diet on the Quality of Life**
Monica Pruett - Display board [123B]

#### Is a Higher Education Necessary for Real Estate Agents?
Halie Times - Display board [124B]

#### The African Hunger Crisis
Eliza Valencia - Display board [124D]

#### Where Are the Women? A Study on the Women of Today’s Art History College Courses
Nicole Wells, Brittany Yox - Display board [123D]
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Thank You

We wish to thank the faculty, staff, graduate students, judges, volunteers, moderators, and student ambassadors, without whom this event would not have been possible.

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We gratefully acknowledge the following faculty, staff, alumni, and friends who volunteered to judge for CEFNS, HHS, and SBS. Thanks, also, to the volunteers who signed up after the program print deadline and could not be acknowledged.

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