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Concord University
The 16th CU Research Festival

April 18, 2025

Jean and Jerry L. Beasley Student Center
State Room and Ballroom

The 16th CU Research Festival

Schedule of Events

Friday, April 18

10:00 AM	Student Center - State Room Welcoming and Opening Remarks in State Room <i>(coffee and refreshments available)</i>
10:05 - 11:55 AM	Student Center - State Room Student Paper (Oral) Presentations
12:00 - 12:50 PM	Student Center - Ballroom Introduction of Keynote Speaker: Dr. Karen Griffiee Keynote Address: Dr. James Ingram "A Personal Journey Towards Equitable Outcomes for Individuals with an Intellectual Disability"
12:00 - 3:00 PM	Student Center - Ballroom Graduate and Professional School Fair
1:00 - 2:30 PM	Student Center - Ballroom Student Poster Session in Ballroom



Dr. James Ingram
*Associate Professor, Department of Educational Specialties
University of Northern Arizona*

Dr. James Ingram is an associate professor at Northern Arizona University. Ingram’s primary research interest involves sex education and sexuality development for young adults with intellectual disabilities. Additional interests include the transition into adulthood of culturally diverse students with disabilities. Through research, Ingram hopes to provide appropriate support to individuals with disabilities as they move from the structured environments of high school into life as adults. Prior to his appointment to the department of Educational Specialties, Ingram served as coordinator of an adult transition program within Flagstaff Unified School District. Ingram’s teaching career spans over 20 years in public secondary education. At NAU, Ingram applies his vast experience to teaching courses in secondary methods in special education.

10:05 AM
The Effect of the Presence of Academic Authority on Stress Levels
Shauna Belcher ad Dr. Kathryn Nutter-Pridgen

Stress is a state of mental rigidity and worry. Examining stress levels is a vital way to study the effects of behavioral phenomena. Specifically, the impact of academic authority on stress levels within a classroom will be examined. This study will consist of three undergraduate groups of college students and will examine how different intensities of authority affect stress levels. The stress levels are expected to increase as the intensity of the authority's presence increases. This suggests that there can be a reduction in stress levels when authority figures are mindful of the impact of their presence.

10:20 AM
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Madison Cornett and Dr. Tom Saladyga

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10:35 AM
Star-Spangled Spectacle: A Correlational Study of Artist Demographics and Musical Characteristics of Super Bowl National Anthem Performances
Roman Harvey Dr. Jacob Womack

This study is an exploration of relationships between performance characteristics and musician demographics of The Star-Spangled Banner performances at the Super Bowl from 1995 to 2024. While previous examinations have explored the individual connections between football, nationalism, race, gender, and music, with much research focusing on Super Bowl halftime shows, this study is unique in centering on the singing of the national anthem at the Super Bowl. Statistical analysis found that artist demographics, such as gender and generation, were correlated with multiple performance qualities, including melodic and rhythmic ornamentation, rubato, modulation, instrumentation, and accompaniment style. These findings highlight the intersectionality between personal demographics and artistic choices and shed light on the varied interpretations of the United States national anthem.

11:05 AM
Effects of CBD on Anxiety-Related Behaviors in Rats
Kellie Belcher and Dr. Rodney Klein

Cannabidiol (CBD) is an active component of the Cannabis sativa plant that has gained increasing interest for its potential to treat anxiety-related disorders. To further investigate this claim, I propose a study on the effectiveness of CBD as a treatment method for anxiety-related symptoms in rats using an elevated plus maze. Congruent with the findings of previous studies, I hypothesize CBD will be effective in relieving anxiety-related symptoms. The expected result from this study is a decrease in rat’s perceived anxiety levels after receiving CBD as a treatment. The findings of this study could offer a more accessible and affordable treatment for symptoms of anxiety.

11:20 AM
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Emily Shupe and Dr. Tesfaye Belay

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11:35 AM
The Historical & Future Impact of the Endangered Species Act
Taylor Glancy and Dr. Tom Ford

In 1973, President Richard Nixon signed the Endangered Species Act into law in an attempt to protect and restore endangered species back to a stable population. This, partnered with the National Environmental Policy Act of 1969 and other previous policies, offered great advancements for conservationists and conservation groups throughout the United States. While many were supportive of the policy, many were hesitant due to the threat that it posed to agriculture, resulting in much social commentary. Despite the pushback from the act, many additional policies were written into law in an attempt to further conservation efforts and set the path for future conservation efforts that are still in effect today. Without the Endangered Species Act, there would be a high volume of threatened or extinct species which would result in a massive decline in biodiversity through the United States.

Concord University

- **Masters of Business Administration**
- **Masters in Health Science Programs**
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Marshall University

Radford University

University of Charleston

Virginia Tech University

West Virginia School of Osteopathic Medicine

West Virginia State University

West Virginia University

West Virginia University - Dental School



Poster Session • 1 - 2:30 PM

1	The Effects of Caffeine	Luke Fraley, Charlotte McGinnis, John Rose, and Dr. Tom Ford
2	Bone Density and Different Types of Physical Activity	Jacob Keene and Dr. Jill Nolan
3	The effects anxiety and ego depletion have on sports performances	Kaylee Dixon and Dr. Jill Nolan
4	The Effectiveness of Sensory Interventions in Occupational Therapy for Children with Autism and Social Engagement Challenges	Lillian Jackson and Dr. Jill Nolan
5	Cupping and Scraping therapy in college sports	Dawson Gragg and Dr. Jill Nolan
6	Dry Needling vs PT	Andrew Dalton and Dr. Jill Nolan
7	Does Dementia Work in Reverse?	Ian Gardner and Dr. Jill Nolan
8	Effects of Music on Focus Levels of Young Adults with ADHD	Ashleigh Gabbert and Dr. Jill Nolan
9	Rehabilitation methods to prevent injuries in collegiate athletes	Abigail Bruce and Dr. Jill Nolan
10	The Effect of Time Pressure on Decision-Making	Shauna Belcher and Dr. Rodney Klein
11	Lighting Intensity and Beck's Depression Inventory	Noah Stanley and Dr. Rodney Klein
12	The Impact of Visual Distraction on Memory	Shylah Webster, Kaleen Fisher, and Dr. Rodney Klein
13	The Effects of CBD on Anxiety-Related Behaviors in Rats	Kellie Belcher and Dr. Rodney Klein
14	Effects of Chewing Gum on Memory	Kellie Belcher and Dr. Rodney Klein
15	The Effect of Environment on Performance	Macie Cline, Kylee O'Dell, and Dr. Rodney Klein
16	The Effect of Context-Dependence on Memory Over Multiple Trials	Erica Hartwell and Dr. Rodney Klein
17	The Effect of Singing on Attention	Erica Hartwell and Dr. Rodney Klein
18	Stimulated Hallucinations	Kristina Flowers and Dr. Rodney Klein
19	Mental Health and Substance Use	Kristina Flowers and Dr. Adriana Falco

Poster Session • 1 - 2:30 PM

20	Impact of Music on Physical Performance	Caitlin Webster and Dr. Rodney Klein
21	Effects of Creatine Supplementation on Muscle Strength and ATP Output in Young Adults	Demitri Jamison and Dr. Jill Nolan
22	How does grip strength help pitchers	Connor Brizendine and Dr. Jill Nolan
23	Effects of Altitude Training on Long distance Athletes	Emma Jenkins and Dr. Jill Nolan
24	Collegiate Athlete's Performance vs. Hours of Sleep	Carly Rohrbach and Dr. Jill Nolan
25	How Tree Density, Hemlock Circumference, and Species Diversity Influence Woolly Adelgid Effects on Hemlocks	Maren Boblits, Marin Parker, Hanah Smith, Caitlin Jackson, and Dr. Tom Ford
26	Fine Motor Skills and Reading Abilities in Early Childhood Development	Corey Osborne and Dr. Jill Nolan
27	The Presence of Tetracycline Resistant Bacteria in Agricultural Soil in Gap Mills, West Virginia	Kendra Karnes and Dr. Doug Creer
28	Effects of Amount of Sleep on Academics of Biology Majors	Kylea Pollinger and Dr. Doug Creer
29	Analysis and fluorescence of alpha tubulin on mammalian cells	Andrew Pettry, Bryce Legg, and Dr. Kim Chambers
30	Bacterial flora within the Oral Cavity	Andrew Pettry and Dr. David Chambers
31	An Observation of Microtubules in Mammalian Cells with Human Alpha Tubulin and GFP	Brooklyn Gibson, Katelyn Hall, and Dr. Kim Chambers
32	How Effective is Cryotherapy for Pain Management in Comparison to NSAIDs within College Athletes	Caydence Nelson and Dr. Jill Nolan
33	Visualizing Microtubule Dynamics in Mammalian Cells	Abby Day, Sammy Gill, and Dr. Kim Chambers
34	The Effects of Synergy on Antibiotic Resistance to β -lactam	Alyssa Lilly, Dr. Darla Wise and Dr. Douglas Creer
35	Effects of Microtubule Targeted Drugs Within the Cell	Katy Walkup, Madison Cornett, and Dr. Kim Chambers
36	The Microtubule Findings Of Targeted Drugs on Transfected Recombinant Plasmids and Fusion Proteins	Sarah Angell, Karsynn Davis, Madison Addair, and Dr. Kim Chambers

Poster Session • 1 - 2:30 PM

37	Effects of Microtubule-targeting drugs on Mammalian Cells	Serenity Brooks, Jonny Sweeny, and Dr. Kim Chambers
38	DNA Barcode Reliability Using Go	Serenity Brooks and Dr. Doug Creer
39	Using Escherichia coli to Test Phosphorus Levels to Indicate Water Quality	Kaitlyn Copley, Dr. Heather Shepherd, and Dr. Doug Creer
40	Determining the role of Regulatory T Cells in a β 2-Adrenergic Receptor Knockout Mouse Model during Chlamydia muridarum Infection	William Matthews and Dr. Tesfaye Belay
41	The role of Cxcl12b and habenular axon projection in zebrafish	Ty Anderson and Dr. Sara Roberson
42	The role of Cxcl12a and posterior habenular axon projection in zebrafish	Catherine Stress and Dr. Sara Roberson
43	The Cytokine Cxcl12a Gene Expression in the Habenular Axon in Zebrafish	Alexis Agnew and Dr. Sara Roberson
44	Norepinephrine Modulates the Gene Expression of Iron Acquiring Genes	Emily Shupe and Dr. Tesfaye Belay
45	Examining the role of T helper17 cells in a beta-2 adrenergic receptor knockout stress mouse model during Chlamydia muridarum genital infection	Stephanie Manu And Tesfaye Belay
46	How does the chronic exposure of leafy plants to specific pollutants affect cuticular permeability and photosynthesis rates?	Aminatou Taousset Mahama and Dr. Tom Ford
47	Consumption of Caffeine of Mental and Physical Health	Reagain Patrick, Hailey Peterson, Kayla Garza, and Dr. Tom Ford
48	Illuminating the Cytoskeleton: Investing Transcription and Translation of Human Alpha-Tubulin Using GFP Gene Expression	Reagan Patrick, Hailey Peterson, and Dr. Kim Chambers
49	Transfecting a Recombinant Plasmid Into Mammalian Cells to Observe the Effects of Microtubule-Targeted Drugs	Katherine Webb, Jasmine Palmer, Reese Turner, and Dr. Kim Chambers
50	Screening for Microbial Degradors of Tire Chemicals Using Growth-Based Assays	Gracie Oxley and Dr. Doug Creer
51	The Effects Physical Therapy has on Mental Health	Colleen Lookabill and Dr. Jill Nolan
52	Environmental factors affect on cancer risk	Corey Shumate and Dr. Jill Nolan
53	Anti-Drug Public Service Announcement	Isaac Shafer, Sam Boothe, Katelyn Kelly, Abbie Conner, Allee Adkins, Rylee Beck, Augusta Judy and Dr. Manjunath Burdekar

Poster Session • 1 - 2:30 PM

54	Public Service Announcement on Healthy Eating	Isabelle Melton, Trixie Irene, Cayden Ramirez, Amarrah Carter-Bennett, Dakota Mills, Lauren Jones, and Dr. Manjunath Burdekar
55	Physical Activity : Strength vs Cardio	Ryan Covington and Dr. Jill Nolan
56	Adults that participated in physical activity when they was younger are less likely to have children that are overweight	Jessica Neville and Dr. Jill Nolan
57	Social Media Exposure Impacts on Mental Health	Sydney Gill and Dr. Jill Nolan
58	Examining the Relationship between Alcohol Use Disorder and Depression	Brooke Linkswiler and Dr. Jill Nolan
59	The effects of sleep and GPA with energy drinks in adolescents	Sophie Quesenberry and Dr. Jill Nolan
60	Handwashing Presentation	Heidi Payne, Megan Cutlip, Wesley Holcomb, Blake Meadows, Abby Mills, and Dr. Martha Snider
61	Early Ambulation of Post Cardiac Patients	Madison Bohan, Alexis Frazee, Nathan Riffe, Rosa Williams, and Dr. Martha Snider
62	Comparative Analysis on External Female Catheters Versus Indwelling Urinary Catheters: Implications for Infection Prevention	Rachel Clay, Haley Lawrence, Jenna-Kay Nash, CaSara Hudnall, and Dr. Martha Snider
63	Star-Spangled Spectacle: A Correlational Study of Artist Demographics and Musical Characteristics of Super Bowl National Anthem Performances	Roman Harvey and Dr. Jacob Womack
64	Anti-Smoking Campaign	Audrey Garland, Tori Basham, Elizabeth Burr, Aurora Crews, Ariel Lilly, Abbey Londeree, Jordyn Perdue and Dr. Manjunath Burdekar
65	Suicide Prevention PSA	Corey Shumate, Emma Robinetter, Paige Webb, Luke Fraley, Hazel Goodman, Tanika Shader, Izzy Williams, and Dr. Manjunath Burdekar
66	Dolphin Assisted Therapy	Rylee Nicholas and Dr. Jill Nolan
67	Crime in New Orleans	Aurora Crews and Dr. Tracy Luff
68	Where Contraband Can Be a Man	Chance Sowder and Dr. Jonathan Berkey
69	Early Pharmacy Medicines and Practices in New Orleans	Logan Sammons and Dr. Tracy Luff
70	Hurricane Katrina's Effect on New Orleans	Autumn Rumley and Dr. Tracy Luff

Poster Session • 1 - 2:30 PM

71	Something about interpretation of GPR data from the Mississippian Hinton Formation, US Route 460, Mercer Co, WV	Alexander Chernauskas, Andrew Beohler, and Dr. Joseph Allen
72	Nano-Scale Observations of Cryptocrystalline Matrix in an Amygdale-Bearing Pseudotachylyte	Hunter Midkiff and Dr. Joseph Allen
73	The Effects of Nicotine Usage on Health	Garon Wiseman and Dr. Tom Ford
74	Sleeping Patterns in College Students and Overall Health	Sarah Turner and Dr. Tom Ford
75	Relationship between physical activity and mental health	Mason Taylor, Maddox Walker, and Dr. Tom Ford
76	Impact of nutrition on likelihood of contracting infectious disease	Abigail Parker, Autumn Bane, Reagan Southers, and Dr. Tom Ford
77	The Effects of Concord University Water Quality on Residential Students vs. Commuters	Kaden Cline, Kaleb Meadows, Arianna Davis, Gracie Oxley, and Dr. Tom Ford
78	Mental Health and Burnout in Healthcare Employees	Victoria (Tori) Brewster, Abigail Humphrey, Bradley Hanshaw, Karsynn Davis, and Dr. Tom Ford
79	The Relationship Between Your Skin and Overall Health	Kindall Hamilton, Delaney Buckland, Louisa Stout, and Dr. Tom Ford
80	The Effects of Hormonal Contraceptive Methods on Anxiety	Madison Addair and Dr. Douglas Creer
81	Influenza and Vegetable Intake: Are They Correlated?	Faith Ketron and Dr. Douglas Creer
82	The Role of Nutrition in Sports Performance and Muscle Recovery	Corey Boston and Dr. Jill Nolan
83	Is the prevalence of e-cigarette use in individuals with a bachelor's degree higher than similarly aged individuals without a bachelor's degree?	Jamison Wall and Dr. Jill Nolan
86	Allograft vs Autograft ACL Reconstruction	Delaney Gill and Dr. Jill Nolan

Poster Session • 1 - 2:30 PM

87	Shoe Composition and Stress Fractures: Does Our Footwear Matter?	Bryce Legg and Dr. Jill Nolan
88	Tetracycline Resistance in Soil Microplastics: Unmasking the Impact of Plastic Upon our Frontline in Bacterial Defense	Bryce Legg Dr. Darla Wise, and Dr. Doug Creer
89	Poster Presentation	Alexis Anzevino and Dr. Jill Nolan
90	High-Performance Liquid Chromatography Analysis of Extracts Prepared From Filamentous Fungi	Katherine Webb and Dr. Darrell Crick
91	Microwave-Assisted Aldol Reactions	Serentiy Shrewsbury and Dr. Darrell Crick
92	Image-Based Counting Method and Antimicrobial Activity of Natural Product Extracts	Kaitlyn Copleu and Dr. Darrell Crick
93	Shade Tuner	Jaxon Tipton, Wyatt Frye, Madoc Lathroum, Summer Harmon, Jacob Chittaphong, and Dr. Mark Dietrich
94	Radio Astronomy	Morgan Roadman and Dr. Mark Dietrich
95	Fusion Help Desk Ticketing Application	Ethan Board and Dr. Mark Dietrich
96	Nova-Sunrise	Xander Lewis, Liam Fogarty, John Smith, Jamey Shrieves, All Computer Science Majors, and Dr. Mark Dietrich
97	Z-Squared Educational Video Platform	Mikel Cox, Hunter Willis, Logan Zuchelli, Zachary Craddock, Ashton Burgess, and Dr. Mark Dietrich
98	ACE's and cardiovascular disease	Amber Edwards and Dr. Jill Nolan
99	GFP and alpha- tubulin	Amber Edwards and Dr. Kim Chambers
100	A Comprehensive Visualization of Transfected Cellular GFP and alpha-tubulin	Kendal Bliss, Andrew Thymius, and Dr. Kim Chambers
101	Bioactivity-guided Fractionation of Calea Zacatechichi	Kendal Bliss

