

THE THIRTY-FIFTH ANNUAL
Illinois Wesleyan University
John Wesley Powell
STUDENT
RESEARCH CONFERENCE

To Recognize the Research Projects & Creative Endeavors of IWU Students

CENTER FOR NATURAL SCIENCES
SATURDAY, APRIL 13, 2024

Named for explorer and geologist John Wesley Powell, the Student Research Conference gives undergraduate students at Illinois Wesleyan University the opportunity to share their intellectual and creative work. The Conference showcases the accomplishments of students across programs, providing a forum for research in a variety of fields to be presented to an engaged audience. Honoring John Wesley Powell's commitment to a broad, student-centered education in the liberal arts, the Conference celebrates student achievement and the sharing of cross-disciplinary knowledge.

ILLINOIS WESLEYAN UNIVERSITY

8:00 AM – 10:00 AM **Continental Breakfast** (CNS Atrium)
8:00 AM – 8:30 AM **Poster Setup** (CNS Atrium)

8:30 AM – 9:30 AM **Oral Presentations – Session One** (CNS Classrooms)
8:30 AM – 9:45 AM **Poster Presentations – Session A** (CNS Atrium)

10:00 AM – 11:00 PM **Keynote Address** (CNS C101):
“How Going Camping with Kierkegaard Can Help Us Live A Better Life.”
 Presented by Dr. Aaron Simmons, Professor of Philosophy, Furman University, Greenville, South Carolina.

11:15 AM – 12:15 PM **Oral Presentations – Session Two** (CNS Classrooms)
11:15 AM – 12:30 PM **Poster Presentations – Session B** (CNS Atrium)

12:30 PM **Lunch Available in Memorial Center Dining Commons**
 Conference participants and their guests can have a complimentary lunch at the Memorial Center cafeteria. Inform the lunch attendant that you're attending the JWP Conference.

9:00 AM – 12:00 PM **Educational Studies: Poster and Oral Presentations**
 1st floor, State Farm Hall

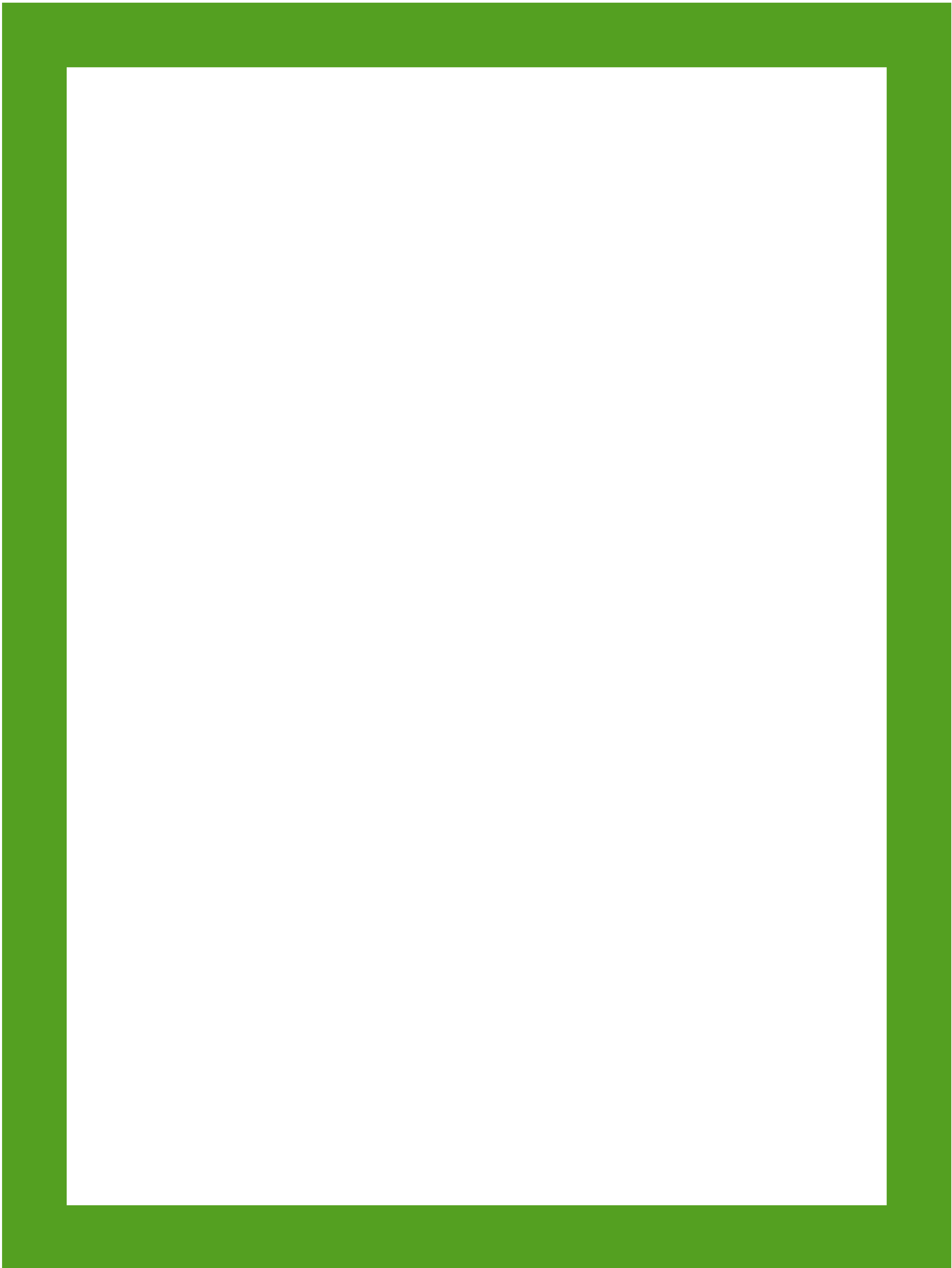
1:00 PM – 3:00 PM **School of Art: Annual Student Exhibition**
 Merwin and Wakeley Galleries | 1:30 PM, Reception and Awards

CONFERENCE WEBSITE: <https://www.iwu.edu/research-conference/>

2024 JOHN WESLEY POWELL

Student Research Conference

4|13|2024 | 8:30AM-12:30PM



ILLINOIS WESLEYAN UNIVERSITY

Keynote Speaker J. Aaron Simmons, Ph. D



BIOGRAPHY

J. Aaron Simmons was born near the Hiwassee River in Tennessee, grew up near the beaches of Florida, and now lives near the Carolina mountains. Simmons paid his way through college by working construction and playing drums professionally. He is now a professor of philosophy at Furman University in Greenville, South Carolina and specializes in philosophy of religion, existentialism, and phenomenology.

Having published widely, Simmons is the author or editor of numerous books including *God and the Other* (Indiana University Press), *The New Phenomenology* (Bloomsbury), *Christian Philosophy* (Oxford University Press), *Kierkegaard's God and the Good Life* (Indiana University Press), and *RE-Examining Deconstruction and Determinate Religion* (Duquesne University Press), among others.

Schedule

(CNS Atrium, Poster Session 1: 8:30 AM – 9:45 AM)

- Characterization of Two Novel Antibiotic-Producing Strains of *Agromyces* and *Arthrobacter*, (Swetha Veluvolu), Easel 1
- Two new Species of Rain Frogs (*Pristimantis*) from the Pui Pui Protected Forest in central Peru, (Yingtong (Andy) Wang) Easel 3
- Virulent Visions: The Discovery of RcECarb, RcFlash, and RcLuke, (Tomecki “et al.”), Easel 5
- Capturing RcC: The Colonization of a New Frontier, (Hobbs “et al.”), Easel 7
- Analysis of Bird-Window Collisions on the Illinois Wesleyan University Campus, (Blake Mcglashan-Bryant & Thomas George Assalley), Easel 9
- Protein-Protein Interaction Networks Visualized Using Web-Based Software, (Anna Sheaffer) Easel 11
- Strengthening Ion Thrusters with CFD and Reinforcement Learning, (Rees Amarteifio), Easel 13
- Simulating the April 8 Solar Eclipse in Real Time, (Kaminska “et al.”), Easel 15
- Measurements of Evoked Compound Action Potentials in a Rodent Model of Neuropathic Pain Following Administration of Alcohol, Nicotine, and Pain Medications, (Samantha Wilcox), Easel 17
- Barriers to Mental Healthcare and the Effect on Access to and Utilization of Mental Health Services Among African American Individuals -Barriers to Mental Healthcare and the Effect on Access to and Utilization of Mental Health Services Among African American Individuals (Abi Morris & Spencer Fulton) Easel 19
- College athletes and mental health help seeking behavior, (Summer Yi & Kylie Hundman), Easel 21
- COVID’S Effect on Mental Health Regarding the Pediatric Population, (Euwema “et al.”), Easel 23
- Nursing Students Knowledge of Infant Safe Sleep: A Review of the Literature, (Karida Grant & Hannah Braun), Easel 25
- Simulation of Spiral Antenna Radiation Patterns, (Jaz Betz), Easel 27
- Quantum Information Laboratory Curriculum Development, (Lindquist “et al.”), Easel 29
- Upgrading IWU’s Mark Evans Observatory for Data-Taking and Analysis, (Joseph Castaneda & Nathan Frank), Easel 31
- Maneuvering Airy Beam, (Asad Ehsan Khan), Easel 33
- Observing Redshift Using Lasers, (Julia Meier Gross), Easel 35
- A new Species of Rainfrog (*Pristimantis*) from the Asháninka Communal Reserve of central Peru, (Demy Rose Yap), Easel 37

(CNS Classrooms, Oral Presentation Session One: 8:30 AM – 9:45 AM)

CNS E101 1.1 Media, Communication & Identity

- “A Large Kingdom For A Little Grave”: Shakespeare as an Echo for Political Propaganda, (Katelyn Staroszczyk)
- Reimagining Reality: Modernist Tendencies in Interactive Speculative Narratives, (Julia McMahon)
- mother wound (Farrah Bassyouni)
- Dynamic Criteria Mapping of Athlete Profiles – Tremendous Stories That Captivate Audiences, (Emma Thorman)
- Exploring the Past and Educating the Future, (Tyler Green)

CNS E103 1.2 Gender, Diversity, & Social Commentary

- Reviving the Mockingbird: A Pedagogical Analysis on Adapting "To Kill a Mockingbird" (Allison Janotta)
- “Women Are Born With Pain Built In”: A Defense of “Fleabag Feminism” (Anjali Nelson)
- Spit ‘n’ Wit: MF DOOM as Satirist, (Javier Romano)
- Fairy Tales: A Mold for Male Mentalities, (Emma Halfman)

CNS E104 1.3 Life & Health Sciences

- An Analysis of Novel Yeasts and their Brewing Potential, (Hannah Murray)
- Social Media Influence on Infant Safe Sleep a TikTok Study, (Peyton Kumpula)
- Examining the Impact of a Prewriting Exercise on Self-Compassion Guided Meditation Among Young Adults: A Pilot Study, (Samantha de Souza)
- Predicting Happiness in College Students: The Impact of Positive Body Image and Social Support, (Chloe Xu)

(CNS C101, Keynote Address: 10:00 AM – 11:00 AM)

Schedule

(CNS Atrium, Poster Session 2: 11:15 AM – 12:30 PM)

- Characterization of an antibiotic-producing bacterial isolate effective against *Enterobacter aerogenes*, (Rayion Smith), Easel 2
- The Isolation and Characterization of Novel Bacteriophages Hosted on Marine Dwelling Bacteria, (Keeli Ann Moore & Abhirup Das) Easel 4
- Lytic Legends: FarmerDoug and Jollipop, *Microbacterium foliorum* Bacteriophages, (Gragert “et al.”), Easel 6
- Characterization of Phase Transition Behavior in VO₂ Thin Films, (Eric Min Myat) Easel 8
- Custom Robot with Microcontroller Integration, (Khanh Tran) Easel 10
- Improving Student’s Conceptual Understanding and Problem-Solving Skills by Connecting Algebra to Their Lives Through Real-World Applications, (Seth Albin), Easel 12
- Exploring What is Behind the Curtain: Examining Inflection's Superstaq Platform for Quantum Computing, (Dalton Spalding) Easel 14
- Chronically Recorded Spinal ECAP Threshold in Rats in the Spared Nerve Injury Model, (Grace Liszkiewicz & Mansi Shah) Easel 16
- A Literature Review of Benefits of Postoperative Ambulation in Patients Over Age 65, (Kayla Borg & Alexa Anders) Easel 18
- Body Mass Index and Other Alternative Measures to Better Evaluate Adolescent Health States and Fitness: A Literature Review, (Megan Elyssa Barrameda & Alauna Coggins), Easel 20
- Navigating Nurse Burnout: A Literature Review on Current Strategies for Sustaining Fulfillment and Renewal in Challenging Times., (Grace Spader & Devyn Kennedy), Easel 22
- Illuminating Insight to Graphene and Vanadium-Dioxide via Raman Spectroscopy, (Kaminska “et al.”), Easel 24
- The Construction of a System for Four Point Probe Over a Wide Range of Temperatures, (Wyatt Broers) Easel 26
- Wavefront Correction and Photometry for Supernova Observations, (Ahnika I. Hess & Pauline P. Malabanan), Easel 28
- Working towards accessible measurements of Photon Bunching, (Huston “et al.”), Easel 30
- Polarization Eigenstates of Liquid Crystal Devices, (Nathan Killough & Asad Ehsan Khan) Easel 32
- The Power Conversion Efficiency and Fabrication of Methylammonium Lead Tri-Bromide Perovskite Solar cells, (Emma Korzyniewski & Olivia Tirey) Easel 34

- Enhancing Self-Compassion: An Empirical Comparison of Expressive Writing and Meditation, (Samantha de Souza) Easel 36
- Electronics ad Absurdum, (Wanda L. Lindquist & Quincy Carlson), Easel 38

(CNS Classrooms, Oral Presentation Session Two: 11:15 AM– 12:15 PM)

CNS E101 2.1 Global Immigration

- Narco Service Provisions in Tierra Caliente: La Familia Michoacana, Los Caballeros Templarios, and Los Zetas, (Itzel Mendoza)
- Cuban Migration: Cold War Legacies and Contemporary Exceptionalism, (Zoe Hovde)
- Overcoming Barriers: Understanding Factors Limiting Immigrant Access to Welfare Benefits (Bea Manlapaz)
- (Bi)lingual, (Bi)cultural, and the Space in Between, (Emma Sempsrott)

CNS E103 2.2 History, Change, & Righting Wrongs

- Forgotten, (Sami Curtis)
- No, where are you really from?, (Alex Seehuus)
- IWU Students and Countercultures of the 1960s: Action and Influence of the Civil Rights and Women's Movement on IWU Students, (Lillian Winkeler)
- Reframing Climate Change- A Response to Peter Singer, (Melinda Burgin)

CNS E104 2.3 Creative Landscapes

- Strawberry Diamond, (Joshua Cortez)
- I Can't Take Myself Seriously, (Makenzie Lee Cozza)
- Call of the Void, (Varvara Kuznetsova)
- Mutually Assured Misconstruction, (Emma Forman)