



THE OHIO STATE UNIVERSITY

EDWARD F. HAYES

GRADUATE RESEARCH FORUM

April 9, 2021

SCHEDULE

MAIN SESSIONS

WELCOME AND OPENING SESSION 7:50–8:20 a.m.

JUDGES' ORIENTATION..... 8–8:20 a.m.

ORAL PRESENTATIONS 8:30 a.m.–NOON

POSTER PRESENTATIONS 8:40 a.m.–NOON

HAYES WELLNESS BREAK..... NOON–1 p.m.

AWARDS PRESENTATION
AND CLOSING SESSION 1–2:30 p.m.

ONLINE PORTAL: go.osu.edu/HayesPortal

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WELCOME REMARKS

Welcome to the 35th Annual Edward F. Hayes Graduate Research Forum at The Ohio State University. This unique collaboration between the Council of Graduate Students, the Graduate School, and the Office of Research, with organizational support from the Office of Student Life, enables Ohio State graduate students not only to present their cutting-edge research, but also to develop as scholars and professionals. We are pleased that you have joined us to celebrate the extraordinary graduate research that takes place at our great institution.

While it has been one of the toughest years that students at Ohio State have ever collectively experienced due to the ongoing novel coronavirus pandemic and racial justice on- and off-campus, we believe that this forum showcases the very best of graduate student perseverance in research. Today, we will be recognizing our top graduate students across multiple disciplines by awarding nearly \$14,000 in cash prizes to support their research and long-term professional development.

The Hayes Forum Committee is extremely grateful to Mrs. Ann Hayes and her family for their continued support of Ohio State graduate student research endeavors. We also thank our faculty members who unsparingly gave their valuable time to support Ohio State graduate students by judging abstracts and the presentations and posters that will be presented today. The forum, organized for and by students, would not be possible without the generous support of Mrs. Hayes, our judges, and our volunteers.

Additionally, we would like to express our #BuckeyeLove and gratitude by thanking a few extraordinary Buckeyes in particular: Kerry Hodak and Teresa Kempton-Dray, from Student Life Student Activities, for their knowledge, advice, and unwavering dedication to graduate students and the Forum; the Office of Student Life Marketing team; our speakers, for dedicating their time to make the forum a more enriching experience; and the wonderful Hayes Committee for their dedication in making this event a success. Finally, a special thank you to the Graduate School, Office of Research, and Office of Student Life for their continued support of graduate students.

The abstracts and presentations this year speak to a vibrant and diverse research community that seeks to address some of today's most pressing issues. The caliber and range of scholarly work is truly inspiring and a privilege to learn from. Irrespective of your role today, we hope that what we have planned will provide you with a memorable experience. On behalf of the Council of Graduate Students, we thank you all for your unwavering and continued support of graduate students at The Ohio State University.

Nick Messenger

Vice President, Council of Graduate Students
College of Food, Agricultural, and Environmental Sciences
Co-Chair, Hayes Research Forum

DaVonti' D. Haynes, MSW, MS

College of Food, Agricultural, and Environmental Sciences
Co-Chair, Hayes Research Forum

WELCOME REMARKS

Dear Hayes Forum Attendees,

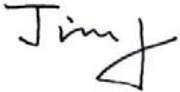
Welcome to the 35th annual Edward F. Hayes Graduate Research Forum. This collaboration between The Ohio State University's Council of Graduate Students, the Graduate School, and the Research, Innovation and Knowledge Enterprise provides an exceptional forum to celebrate your research accomplishments, present the findings of your research to the broader Ohio State community, and facilitate collaboration across campus.

As graduate students, you represent the next generation of researchers. Your creativity, ability to identify and solve problems, and drive to make and share new knowledge are crucial to the prosperity and well-being of our state, nation and world.

In addition to sharing your valuable research, the Hayes Forum is an occasion to forge connections and collaborations in meaningful new research endeavors. We encourage you to take advantage of this unique opportunity to learn from your colleagues across Ohio State.

We hope that you will be reinvigorated by your experience, and we wish you the very best in the presentation of your research.

Sincerely,



Grace Jinliu Wang

Executive Vice President

Research, Innovation and Knowledge Enterprise

WELCOME REMARKS

Dear Hayes Forum Attendees,

Welcome to the 35th annual Hayes Graduate Research Forum. This collaboration between The Ohio State University's Council of Graduate Students, the Graduate School, and the Office of Research provides a forum to celebrate your research accomplishments, present the findings of that research to the broader research community, and facilitate research collaboration across campus.

As graduate students, you represent the next generation of researchers. Your creativity, ability to identify and solve problems, and drive to make and share new knowledge are crucial to the prosperity and well-being of this and future generations. Your work will help to ensure the vitality of the nation and world.

The Hayes Forum is also an occasion to forge connections and collaborations in meaningful new research endeavors. We encourage you to take advantage of this opportunity to meet and learn from your colleagues across Ohio State.

We hope that you will be reinvigorated by your experience, and we wish you the very best in the presentation of your research.



Alicia L. Bertone, DVM, PhD

Vice Provost for Graduate Studies and Dean of the Graduate School
ENGIE-Axium Endowed Dean's Chair
Professor, Veterinary Clinical Sciences

REMEMBERING *Dr. Edward F. Hayes*

This Annual Forum is in Honor of Dr. Edward F. Hayes (1941–1998)



Dr. Hayes was born on September 8, 1941, in Baltimore, Maryland. After receiving a Baccalaureate degree from the University of Rochester and Master's and Doctorate degrees from Johns Hopkins University, he joined the faculty at Rice University. Since July 1991 he served as Vice President for Research at The Ohio State University and Professor of Chemistry. He was an exemplar of the highest ideals for excellence in teaching, scholarship, and service who continued to teach chemistry and maintained an active, productive research program during his tenure as Vice President for Research.

Dr. Hayes was an internationally distinguished scientist whose particular research interest was in molecular electronic structure theory, molecular scattering theory, and parallel computing methods. Dr. Hayes created the Undergraduate Research Forum, strongly supported the Graduate Research Forum and spearheaded the launching of the Science and Technology Campus (formerly Research Park). He served in several prominent administrative roles for the National Science Foundation and the Office of Management and Budget. In addition, he served on several advisory committees and chaired the National Science Foundation Task Force on the Future of the Supercomputer Centers Program.

Vice President Hayes served in leadership roles in scientific societies, including extensive work for the American Chemical Society, the American Physical Society, and as a Fellow of the American Association for the Advancement of Science. Dr. Hayes also gave exemplary service to several local and statewide advisory boards, including the Ohio Science and Technology Council, The Edward Orton Jr. Ceramic Foundation, and the Ohio Aerospace Institute.

Dr. Hayes was highly respected for the principled, intelligent, thoughtful and positive manner in which he approached all matters before him; he was frequently sought out for his wise counsel; and he extended grace, kindness, and appreciation to all who interacted with him. Dr. Hayes set a high standard in both his professional and personal life that will continue to be a model for us all. He continues to be sadly missed by this university community and by those who were privileged to know him as a colleague and a friend.

(Photo Courtesy of University Photo Archives)

(Biography Courtesy of OSU Board of Trustees Resolution No. 98–134)

COUNCIL OF GRADUATE STUDENTS: *Who We Are*



Council of Graduate Students at The Ohio State University

The Council of Graduate Students (CGS) is the student government for graduate students at The Ohio State University. Since 1955, the Council has represented the views of graduate students to university, local, state, and federal officials. CGS also provides a forum for graduate students to discuss and act upon issues. CGS promotes and provides academic, administrative, and social programs for graduate students and the greater university community. The organization is comprised of an officer core, executive committee, 10 senators, and over 100 delegates who collectively represent in excess of 10,000 graduate students in the 200 programs across the University. The purpose of the Council of Graduate Students is to effectively advocate and program to ensure the OSU graduate experience is the best it can be.

External Advocacy

To ensure that the graduate views are reaching the appropriate audiences, CGS appoints graduate students to serve on over 100 university-wide and senate committees. CGS also elects 10 graduate students to the University Senate, the official representative body for faculty, administration, and students, chaired by the University President.

COUNCIL OF GRADUATE STUDENTS: *Who We Are*

In addition to the Hayes Forum, CGS has a number of other programs that it oversees:

The Ray Travel Award

The Edward J. Ray Travel Award for Scholarship and Service (Ray Award) encourages and enables graduate students across the University to participate in professional conferences, both in their respective fields and in the broader academic community, by reimbursing or partially reimbursing the expenses incurred by graduate students during travel to conferences and meetings to present original research.

The Career Development Grant

The Career Development Grant program encourages graduate students to prepare for placement into their chosen field. Students will submit their Career Development Grant Application to the Council of Graduate Students (CGS) for an opportunity to receive an award to defray costs associated with the development of their careers.

The Global Gateway Research Abroad Grant

The Global Gateway Graduate Student Research Abroad Grant encourages and promotes the professional and academic development of graduate researchers at The Ohio State University by providing financial support that allows students to undertake research abroad. Student also assist the university to pursue its strategic international goals by creating and bolstering relations with universities and other institutions across the world.

The Engaged Scholar Grant

The Council of Graduate Students (CGS), in partnership with the Office of Outreach and Engagement, Office of Student Life, Office of Research, and Ohio State University Extension (OSUE) established Engaged Scholar Grant in autumn of 2020.

The Engaged Scholar Grant incentivizes graduate and professional students to undertake community-engaged research or community-engaged projects, in collaboration with a community partner, that address a specific need or problem within the community (in-state, out-of-state, and international). Graduate and professional students may apply for grants ranging from \$500 to \$1,500.

ORAL PRESENTATIONS: THE ARTS

Samantha Burgess, Music Theory

Visual Cues as an Aid in the Auditory Stream Segregation of Music

Tara Burns, Dance

Where are the edges of your flesh and who determines them?
Prosthetic, Immersive, and Embodied Performance

Tamara Hauser, Dance

Der Muenchner Schaefflertanz

Maya Jenkins, Design

Implementing Service Design Methods Towards Ideal Journeys
in Student Mental Health

Laura Neese, Dance

adjacent, possible

Adrienne Oehlers, Theatre

The Disciplined Body: Shut Up and Dance

Ketal Patel, Arts Administration, Education, and Policy

A Participatory Action Research Study of Art Educator Practices
and Creative Placemaking

Abraham Wayman, Music

Estimable Rhetoric

Xuan Zhang, Art Education

Contemporary Artwork Data Visualization in a College Level Digital
Artemaking Class: A Medium for Constructing Students' Shared
Experience in Social Justice Issues

ORAL PRESENTATIONS: BIOLOGICAL SCIENCES

Fiona Brown, Biomedical Sciences Graduate Program

PRMT5 Inhibition Restarts a Pro-Apoptotic Program and Creates Vulnerability to Combination Treatment with BCL-2 Inhibitor Venetoclax in Mantle Cell Lymphoma

Marina Buyanova, Chemistry

Discovery of a Bicyclic Peptide Inhibitor of K-Ras

Warren Campbell, Neuroscience Graduate Program

EZH2 and the polycomb repressor complex 2 are required for the reprogramming of Müller Glia into progenitor cells in the retina.

Kylene Daily, Biomedical Sciences Graduate Program

Restoring Degradative Function in Alzheimer's Disease Microglia

Nicholas Deems, Neuroscience Graduate Program

Morphine-induced persistent postoperative cognitive dysfunction in aged rats occurs via a neuroinflammatory mechanism with implications for synaptic plasticity

Emily Hoskins, Biomedical Sciences Graduate Program

Characterization of gene fusions through the Oncology Research Information Exchange Network

Nicki Pukos, Neuroscience Graduate Program

New Myelin Forms Chronically After Spinal Cord Injury

Heather Struckman, Biomedical Engineering

Quantitative Assessment of Cardiac Intercalated Disk Ultrastructure and Molecular Organization by Indirect Correlative Light and Electron Microscopy

Miranda Tallman, Biomedical Sciences Graduate Program

The small molecule drug CBL0137 increases the level of DNA damage and the efficacy of radiotherapy for glioblastoma

Wenyuan Yin, Neuroscience Graduate Program

Neuroinflammatory Signaling Alters Brain Endothelial Function Following Social Stress

ORAL PRESENTATIONS: BUSINESS

Rui Gong, Business Administration-Finance

Return Chasing by Hedge Fund Investors

Andrew Hibbert, International Business

The Effect of Parent Firm Cultural Differences and Equity

Share Differences on Joint Venture Duration

Aviva Philipp-Muller, Psychology

Get Your Science Out of Here: When Do Scientific Marketing Appeals Backfire?

Jason Sigler, Business Strategy

Substitution Paradox

Zeynep Yavic, International Business

Does Institutional Context Matter for How Gender Influences Innovation?

The Heterogeneous Impact of Gender Diversity on Innovation Quality

ORAL PRESENTATIONS: EDUCATION AND HUMAN ECOLOGY

Yvonne Allsop, Educational Psychology

Teacher Influence on Student Learning-efficacy and Self-efficacy in Health Class: A Focus on HIV/Pregnancy Prevention

Racquel Armstrong, Multicultural and Equity Studies in Education

The Racialization of School Discipline: A Critical Discourse Analysis

Arianna Black, Educational Psychology

Perceptions of Emotional Cost and Undergraduate Students' Interest in Physics

Johana Chaparro-Moreno, Educational Psychology

Examining the Real-time Influence of the Context on Children's Decontextualized Language Use in Conversations in the Preschool Classroom

Monica Lu, Educational Psychology

Teachers' Roles in Shaping Classroom Social Hierarchy and Student Outcomes in Early Childhood Classrooms

Andrew Perry, Educational Psychology

Help-Seeking Behaviors of First and Continuing-Generation Students in Undergraduate Physics: A Longitudinal Investigation

Shantanu Tilak, Educational Psychology, Educational Studies

Understanding computer-supported classrooms through the lens of collective efficacy: Platforms or praxis?

Qingqing Yang, Human Development and Family Science

Preschoolers' vocabulary and inhibitory control: The role of classroom engagement

Jinjie Zhu, Educational Administration

Humble leadership in PLCs

ORAL PRESENTATIONS: ENGINEERING

A F M Anhar Uddin Bhuiyan, Electrical and Computer Engineering

Investigating the Solubility Limit in Ultrawide Bandgap β -(Al_xGa_{1-x})₂O₃ Semiconductors

Sunny Kwok, Biomedical Engineering

Deformation of Peripapillary Sclera and Retina in Response to Elevated Intraocular Pressure

Jinha Kwon, Mechanical and Aerospace Engineering

Investigating the role of collagen piezoelectricity in intrafibrillar mineralization

Daniel Ma, Civil Engineering

Hydropowered UV LEDs for Off-Grid Drinking Water Disinfection

Lilbeth Ortega-Pineda, Biomedical Engineering

Reprogramming Pancreatic Ductal Tissue via Designer Extracellular Vesicles

Basar Ozbilen, City and Regional Planning

What are the Core Indicators of Sustainability? A Content Analysis of Existing Frameworks

Spencer Stahl, Aerospace Engineering

Advances in Modeling Supersonic Jet Noise for Vertical Take-Off and Landing Aircraft

zheng hong tan, Biomedical Engineering

Macrophage Phenotype in Mouse Models of Tracheal Replacement

Danlu Zhang, Materials Science and Engineering

Tuning of Critical Fields in MgB₂ Superconductors with Oxygen Addition

ORAL PRESENTATIONS: FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

Aishwarya Badiger, Food Science and Technology

“Sell-By” Date or “Smell-By” Date? Characterizing Milk Shelf-Life Based on Key Odorant Compounds Generated During Storage

Shivani Badiger, Food Science and Technology

A study of growth properties and probiotic effects of Lactic Acid Bacteria in a consortium.

Sydney Grouge, Food Science and Technology

Blue Color Production from Huito and Watermelon Juice and Their Potential as Naturally-Derived Blue Colorants for Food Applications

Abigail Krentz, Food Science and Technology

Colloidal dispersion of casein micelles with pea protein via homogenization

Khyati Malik, Agricultural, Environmental and Development Economics

Understanding Behavioral Response of Households to COVID-19 Lockdowns: Evidence from India

Gonzalo Miyagusuku-Cruzado, Food Science and Technology

Pyranoanthocyanins: Novel anthocyanin-derived pigments with antioxidant activity and no cytotoxic effects on Caco-2 cells.

Wanderson Novais Pereira, Environmental and Natural Resources

Sustainability of goat grazing and mechanical clearing to restore an oak-hickory forest in the eastern region of the US

Shuai Ren, Food Science and Technology

The Effect of Preheated Whey Protein on Anthocyanin Color Stability by Fourier Transform Infrared Spectra (FTIR) and Fluorescence Quenching Spectroscopy

Danielle Voss, Food Science and Technology

Developing More Stable Colorants from Natural Sources: Influence of Anthocyanin Aglycone and Cofactor Structure on Pyranoanthocyanin Formation Efficiency

Yumin Xu, Food Science and Technology

Pathogens turn hypervirulent during colonization of food: Salmonella Enteritidis in egg as an example

ORAL PRESENTATIONS: HEALTH SCIENCES

Gabriel Alain, Health and Rehabilitation Science

Cost-benefit and Cost-effectiveness of a Primary Care Clinic for Autistic Persons

Helen Chen, Neuroscience Graduate Program

Prenatal Stress Induces Placental Dysfunction and Offspring Behavioral Deficits: the Role of Microbes and CCL2

Madeline Grosklos, Biomedical Engineering

Females with Femoroacetabular Impingement Syndrome Demonstrate Altered Hip and Knee Mechanics during a Drop Jump Task Compared to Healthy Controls

Manuja Gunasena, Comparative Veterinary Medicine

SARS-Cov-2 Mediated Monocytes Dysregulation May Contribute to Increase Risk of Cardiovascular Risk in Severe COVID-19 Patients

Matthew Lordo, Biomedical Sciences Graduate Program

Acute Myeloid Leukemia Alters Group 1 Innate Lymphoid Cell Differentiation from a Common Precursor

Shane O'Neil, Neuroscience Graduate Program

Impaired Glial IL-10 / TGF β Signaling Underlies the Exaggerated Sickness Response in Aged Mice

Nicholas Queen, Biomedical Sciences Graduate Program

Visceral Adipose Tissue-Directed FGF21 Gene Therapy Improves Metabolic and Immune Health in BTBR Mice

Lena Schreiber, Public Health

Models of Nurse Practitioner Integration into Primary Care

Nicole Weikle, Health and Rehabilitation Sciences

Sonography To Measure Abdominal Adiposity in Children: A Potential Screening Tool For Cardiometabolic Risk

Max Yano, Biomedical Sciences Graduate Program

Development of mblL-21 expanded Natural Killer cells for CLL immunotherapy

ORAL PRESENTATIONS: HUMANITIES

John Bundschuh, East Asian Languages and Literatures

**Grammatical Marking and the Creation of Narrative Structure:
Examining Early Japanese Translations of Sinitic Buddhist Texts**

Paul Cockrum, Chinese Linguistics

Taiwanese Identity and the Linguistic Tools of Representation

Sarah Craycraft, Comparative Studies

**Reinventing the Village: Youth, Heritage, and Rural Reinvestment
in Contemporary Bulgaria**

Joy Ellison, Women's, Gender, and Sexuality Studies

Coalitions at the Crossroads: Transgender Movements in the Midwest (1945-2000)

Katherine Everett, History

Architects of International Image

Santiago David Gualapuro Gualapuro, Hispanic Linguistics

**Quantity Implicature interpretations in Bilingual Population:
The case of Imbabura Kichwa**

Kara Hooser, Political Science

**Violence as Peace: Masculine Discourses and Everyday Violence
in Post-Conflict Spaces**

D'Arcee Neal, Rhetoric and Composition

Hearing A Black Ghost Made Flesh: "Threeness" and the Afrophantasmic

Paloma Pinillos Chavez, Hispanic Linguistics

**The Impact of English-Accented Spanish on the Relationship between
Latino Patients and Healthcare Professionals**

Keren Tanguay, Comparative Studies

The Practice of Infective Endocarditis

ORAL PRESENTATIONS: MATHEMATICAL AND PHYSICAL SCIENCES

Bushra Alam, Chemistry

Charge Separation in Pentacene: Bridging a Theoretical Divide

Michael Darcy, Physics

High Force Applications of DNA Origami Nanocalipers

Abigail Enders, Analytical Chemistry

Identification of Functional Groups Present in Fourier-Transform Infrared Spectra via Novel Machine Learning Approach

James Herbort, Chemistry

Feedstock Chemicals to Pharmaceutical Motifs: An Aspirational Reaction Realized via Cobalt Catalysis

Sandeep Joy, Physics

Transparent mirror effect of electrons in graphene with velocity disorder

Jack Neustadt, Astronomy

The Search for Failed Supernovae with the Large Binocular Telescope: the failed SN fraction and new candidates with 11 years of data

Anusha Pai Asnodkar, Astronomy

Measuring Rapid Global-Scale Winds on Hot Jupiters

Rachel Patton, Astronomy

Towards a Realistic Explosion Landscape for Binary Population Synthesis

Caprice Phillips, Astronomy

Detecting Biosignatures in the Atmospheres of Super-Earths with the James Webb Space Telescope

ORAL PRESENTATIONS: SOCIAL AND BEHAVIORAL SCIENCES

Erick Axxe, Sociology

Race and Gender Disparities in Academic Pay

Chloe Dunston, Sociology

"The Kind of Dad I Wanted": Reflexive and Proactive Black Fatherhood

Kevin Kim, Agricultural, Environmental and Development Economics

Unlikely Players in Agricultural Lending Market: What Are the Consequences of Agricultural Bank Acquisitions?

Simon Kolbeck, Sociology

The Influence of Declining Employment Stability on Recidivism and the Moderating Effect of Self-Control

Holly Lind-Combs, Speech and Hearing Science

Parental Stress Influences Parents' Sensitivity to Language Needs of Children with Hearing Loss

Annelise Madison, Clinical Psychology

Chronic Social Stress and Inflammatory Reactivity Predict Depressive Symptom Increases: Two Tests of the Social Signal Transduction Theory of Depression

Samuel Murphy, Clinical Psychology

Intervention Framing and the Use of Cognitive Behavioral Therapy Strategies

Ana Sucaldito, Public Health

Investigating the Impact of "Asian-American Pacific Islander" Identification and Gender on the Mental Health Outcomes of College Students

Evangeline Warren, Sociology

Negotiating Boundaries: How Proximity to Whiteness Impacts the Health of Non-White People

POSTER PRESENTATIONS: **BIOLOGICAL SCIENCES**

Rebecca Biltz, Neuroscience Graduate Program

Distinguishing prefrontal-hippocampal neural circuitry following social stress.

Madhoolika Bisht, Molecular Genetics

Distinct chromatin organization and dynamics in cancers

- A case study of Osteosarcoma

Russell Bonneville, Biomedical Sciences Graduate Program

Genomic and Transcriptomic Characterization of Relapsed

Small Cell Lung Carcinoma through Research Autopsy

Jeffrey Caminiti, Food Science and Technology

Evaluation of enzyme-assisted protein extraction from two species

of brown kelp to establish a biorefinery co-product pathway.

Debanjana Chakraborty, Biochemistry Program

Molecular basis of divergence in electron transfer pathways in Class I

and Class II DNA CPD Photolyases

Songyu Dong, Biochemistry Program

Actin-Specific ADP-Ribosylating Toxins Differentiate Among Natural Substrates

Anisha Kalidindi, Molecular Cellular and Developmental Biology

The Disruption of Circadian Timing Within Cortico-Limbic Circuits Contributes

to Cognitive Deficits in a Mouse Model of Tauopathy.

Cemantha Lane, Biomedical Engineering

Phospho-ablation of cardiac sodium channel Nav1.5 mitigates susceptibility

to atrial fibrillation and improves glucose homeostasis under conditions of

diet-induced obesity

Keefe McDougal, Biochemistry Program

Med12 is Required for Skeletal Muscle Function

Stephanie Muscat, Biomedical Sciences Graduate Program

TLR4 Antagonism Ameliorates Persistent Post-Operative Cognitive Decline

Sunayana Nayak, Biomedical Science Graduate Program

The small GTPase RAB20 regulates mitochondrial homeostasis

POSTER PRESENTATIONS: **BIOLOGICAL SCIENCES**

Kelsey Pinckard, Molecular, Cellular, and Developmental Biology

Maternal exercise preserves the cardiac health of offspring via adaptations to the cardiomyocyte

Valentina Pita Grisanti, Nutrition

Increased Physical Activity Delays Development of Obesity-Induced Pancreatic Ductal Adenocarcinoma in Mice and Modulates Inflammation

Kelly Rich, Neuroscience Graduate Program

ALS-associated KIF5A mutation causes delayed and decreased recovery following sciatic nerve crush.

Ana Salazar-Puerta, Biomedical Engineering

Designer Extracellular Vesicle Therapies for Calcific Aortic Stenosis

Zoe Tapp, Neuroscience Graduate Program

Sleep fragmentation following traumatic brain injury alters neuroinflammation and neuronal activity

Prescott Vayda, Earth Sciences

Exceptionally Preserved Fossils from some "Ordinary" Ordovician and Devonian Sedimentary Deposits of the United States

Kush Yadav, Veterinary Preventive Medicine

Genotype 3 Hepatitis E Virus (HEV) Replicates Better in ORF4 Expressing Cells is Utilized to Study Placental Lactogen as the Host Factor Enhancing HEV Replication

Hyojung Yoon, Molecular, Cellular and Developmental Biology

Entrainment regulation by p90 ribosomal S6 kinase signaling in the suprachiasmatic nucleus

Joshua Canavan, Vision Science

Differences in Ocular Biomechanics between Individuals of Sub-Saharan African, European, and Mixed-Race Descent

POSTER PRESENTATIONS: EDUCATION AND HUMAN ECOLOGY

Emre Basok, Foreign, Second, and Multilingual Language Education

The Translation of the Trump Administration's Assimilationist Ideologies into Fiscal Policies for the Language Education Community in the U.S.

Jihyeon Choi, Counselor Education

The Effects of Facial Expression Mimicry Treatment on Emotional Empathy and Attitude toward Bullying among Elementary School Students

Colby Gregg, Agricultural Education

Examining prejudice exhibited by teachers in the Midwestern U.S.

Paul Gregor, Philosophy and History of Education

Documenting the Intersectionality of First-Generation Students with Disabilities in Higher Education

Sin Guanci, Philosophy and History of Education

Exploring the Binary of AOUM and CSE

Elizabeth Kraatz, Educational Psychology

Teacher Influences on Equity in Collaborative Knowledge Construction

Chenxi Liu, Learning Technologies

Critical Factors and Strategies that Impact Learners' Engagement in Mobile Learning Apps

Summer Luckey, Human Development and Family Science

ECE Teachers' Perceptions of Evidence-Based PD and Intensive Coaching

Manisha Naresh Nagpal, Educational Psychology

Reciprocal Influences of Teacher's Instructional Strategies and Student Reasoning during Collaborative Discussions

James O'Donnell, Art Education

Is This the Truth? How Undergraduates Relate to Potentially Manipulative and Misleading Media Imagery

Ruoxi Qi, Consumer Sciences

Social Media Communication and Engagement for Educational Organizations

POSTER PRESENTATIONS: EDUCATION AND HUMAN ECOLOGY

Michelle Richard, Educational Psychology

“I’ll get to it later”: How procrastination impacts students’ final grades

Musbah Shaheen, Higher Education and Student Affairs

**Religious Coercion on Public University Campuses:
Looking Beyond the Street Preacher**

Katrina Swinehart Held, Agricultural Education

**Teacher Perceptions about Relatedness Strategies in School Based
Agricultural Education Programs**

Jingyi Zhu, Foreign, Second, Multilingual Language Education

A Conceptual Model of Learning Transfer

POSTER PRESENTATIONS: **ENGINEERING**

Zhaozhe Chen, Earth Sciences

Artificial Floating Island System as a Sustainable Solution for Addressing Nutrient Pollution and Harmful Algal Blooms (HABs) in Ohio

Megan Co, Biomedical Engineering

Assessment of muscles via MRI

Nicholas Hazen, Biophysics Interdisciplinary Program

Regional Mechanical Deformation of Human Cornea during Intraocular Pressure Elevation

Shreyas Hirway, Biomedical Engineering

Immunofluorescence Image Analysis Pipeline for Distinguishing Epithelial-Mesenchymal Transition

Elizabeth Jergens, Chemical Engineering

DNA-caged Polymer Nanocomposites for Erasable Fluorescence Imaging

Rushikesh Joshi, Chemical Engineering

Conversion of waste petroleum coke into acetic acid using calcium ferrite assisted chemical looping process with in-situ sulfur capture

Faiz Nisar Khan, Chemical Engineering

Mixing dynamics characterization in a jet mixing reactor for controlled nanoparticle synthesis

Kym Man, Food Science and Technology

Evaluating the Efficacy of an Interactive Virtual Reality System to Conduct Contextual Sensory and Consumer Testing of Food and Beverages

Marcos Miranda, Environmental Engineering

Assessing the Viability of a CO₂ Geothermal Power System in the Gulf Coast Region

Tricia Oyster, Biomedical Engineering

Immune-Epithelial Interactions Exacerbate Cell Injury During Lung Injury Through Changes in Cell Spreading

POSTER PRESENTATIONS: **ENGINEERING**

Laine Rumreich, Computer Science and Engineering
Formal Verification of a Binary Decision Diagram

Lokaditya Ryali, Mechanical Engineering
Influence of the Number of Planet branches on the Dynamic Characteristics of a Planetary Gear Set

Ritesh Sarkhel, Computer Science and Engineering
Information Extraction from Visually Rich Documents

Sandeep Srinivasan, Industrial Engineering
Laser Powder Bed Fusion Parameter Selection Via Machine Learning Augmented Process Modeling

POSTER PRESENTATIONS: FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

Rabail Chandio, Agricultural, Environmental and Development Economics
Deforestation and Conflicts

Zach England, Animal Sciences
Assessing The Impacts Of Environmental Changes On Ambassador African Penguins' Well-being

Alyssa Essman, Weed Science
Rye termination timing

Alysa Gauci, Food, Agricultural and Biological Engineering / Horticulture and Crop Science
Yield Data and On-Farm Research

Soumya Kanti Ghosh, Plant Pathology
How abiotic stress plays ally to pathogenic attack in trees

Erica Grush, Food Science and Technology
Determination of Purple Beautyberry (*Callicarpa dichotoma*) Color, Pigments, and other Color Contributing Compounds for use as a Novel Source of Natural Colorants

Veeramani Karuppuchamy, Food Science and Technology
Use of Dynamic Vapor Sorption for Measurement of Nonfat Dry Milk Moisture Sorption Isotherms

Yutong Li, Food Science and Technology
Impact of Oral Antibiotic Administration and Ordinary Diet on the Profiles of Host Gut Microbiota

Molly Mills, Environmental Sciences
Soil Microbial Communities and Antibiotic Resistance in Cattle Farms in the United States: The Importance of Soils in Protecting Environmental Health

Shreya Nuguri, Food Science and Technology
Miniature Near-Infrared Spectroscopy and Multivariate Analysis for in-Field Assessment of Quality Traits in Fresh Market Tomatoes

Shib Pattadar, Fisheries and Wildlife Sciences
Nutritional quality of Nile tilapia produced in Aquaponics system

POSTER PRESENTATIONS: FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

Abigail Sommer, Food Science and Technology
Sustainable EPA and DHA Oil

xiaoyan tan, Food Science and Technology
Rapid Phenotypic Approach for Early Identification of Microbial Spoilage in Tomato Products

Madeline Winans, Animal Sciences
Measuring the Effect of Transport on Marine Mammal Welfare through Salivary Cortisol Concentrations

POSTER PRESENTATIONS: HEALTH SCIENCES

Lauren Cubellis, Medical Dietetics

Differences in CVD Risk Factors, Diet Quality, and Weight Loss Strategies in a Nationally Representative Sample of U.S. Adults

Kaetlyn Culter, Occupational Therapy

Caregiver Satisfaction and Perception of WayFinder for Travel and Navigation

Curt Fritts-Davis, Vision Science

TBI and the Near Triad

Daniel Gilmore, Health and Rehabilitation Sciences

Healthcare utilization patterns among autistic adults: A systematic review

Larkin Iversen, Translational Data Analytics

Structural Pain Network Integrity in Alzheimer's Disease

Sidney Long, Veterinary Medicine

Comparative H-gal-GP and H11 Specific Antibody Binding in Equine Cyathostomins

Meredith Lynch, Occupational Therapy

Therapeutic Environmental Modifications in the Neonatal Intensive Care Unit: A Scoping Review

Peter Madril, Health and Rehabilitation Science

Differences in dietary intakes and overall diet quality by risk for non-alcoholic fatty liver disease in US adults

Cody Mansfield, Health and Rehabilitation Sciences

The Effects of Knee Osteoarthritis on Neural Activity during a Motor Task: A Scoping Review

Julia Mazzarella, Health and Rehabilitation Sciences

Speed, Straightness, and Smoothness of Reach Change with Different Functional Tasks in Typically Developing Children

Kazune Pax, Oral Biology

Impact of maternal gestational exposures on development of the infant oral microbiome

POSTER PRESENTATIONS: HEALTH SCIENCES

Janell Pisegna, Health and Rehabilitation Sciences

Occupational Therapy Interventions for Anxiety and Depressive Symptoms in Physical Disability Inpatient Rehabilitation: A Systematic Review

Nicole Roberge, Occupational Therapy Program

A Systematic Review of Sensory Interventions for Attention and Self-Regulation in Children with Autism Spectrum Disorders.

Kimberley Scott, Health and Rehabilitation Sciences

Using the Pediatric Outcomes Data Collection Instrument to Measure Motor Function and Parent Expectations in Children with Cerebral Palsy

Michelle Scott, Biosciences

Oral Health and JUUL: A Toxic Relationship

Andrew Wagner, Health and Rehabilitation Science

Vestibular Noise as a Contributor to Postural Sway

Rachel Williamson, Genetic Counseling

Identifying Insurance Barriers in Obtaining Exome Sequencing in the Pediatric Setting

Rebecca Woodson, Occupational Therapy

Effectiveness of Occupational Therapy Focused Aquatic Intervention for Children with Autism Spectrum Disorder

POSTER PRESENTATIONS: MATHEMATICAL AND PHYSICAL SCIENCES

Kevin Ingles, Physics

The X(3872) in a hot pion bath

Zhiying Li, Geography

Uncertainty in the Gridded Daily Temperature Datasets for Estimation of Potential Evapotranspiration Values and Trends in the Continental United States

Jenae Linville, Organic chemistry

The Design of Multicomponent Self-Assembly of Two Small Molecules

Dan Liyanage, Physics

Novel emulators for relativistic heavy ion collision simulations

Kartik Lovekar, Statistics

Testing for the Network Small-World Property

McKensie Mason, Organic Chemistry

Controllable Self-Assembly Pathways of a pH-Responsive Coumarin Tetrapeptide Towards Directing Multicomponent Nanostructures

Taylor Murphy, Physics

Color-octet Scalars in Dirac Gaugino Models with Broken R Symmetry

Andrew Piper, Physics

The Strong Field Simulator: An Attosecond Study of Electron Recollision

Julie Rolla, Physics

Evolving Antennas for Ultra-High Energy Neutrino Detection

Raymond Twumasi, Chemistry

Rapid Syntheses and Diversification of Valuable Drug-like Motifs via Radical-Chaperone-mediated C-H Functionalization

Maria Vazquez de Vasquez, Analytical Chemistry

A Tale of II Ions: Solvent Shared versus Contact Ion Pairing of Ca^{2+} and Mg^{2+} to Carboxylates in Aqueous Systems

Nishchhal Verma, Physics

Upper Bounds on Superfluid Stiffness

POSTER PRESENTATIONS: SOCIAL AND BEHAVIORAL SCIENCES

Jingyi Wang, Developmental Psychology

Fathers' Perceptions of Marital Relationships and Child Externalizing Problems

Malorie Albee, Anthropology

Skeletal implications of societal gender norms: Sexual dimorphism in foot bone robusticity in modern body donors

Yolonda Bradshaw, Animal Sciences

The Impact of Breed Identification, Potential Adopter Perceptions and Demographics, and Out-of-Kennel Dog Behavior on Shelter Dog Adoptability

Yue Chu, Sociology

Indirect estimation of age-specific mortality: A Singular Value Decomposition-based Bayesian approach

Anna Church, Sociology

The Best of Both Worlds: Childbirth Preferences and Providers

Erik Clarke, Political Science

Partisan Cheating and Competing: The Effect of Salient Partisan Competition on Tolerance of Election Cheating

Madelyn Green, Anthropology

(Re)identifying the marginalized: Revising methods for identifying Seminole American Indian and Japanese Asian individuals in a medicolegal context

Kaita Gurian, Anthropology

What Accentuated Striae in Tooth Enamel Reveal About Physiological Stress Differences in Two Ohio Populations of Disparate Socioeconomic Status

Heather Hansen, Cognitive Psychology

Adults vs. neonates: Differentiation of functional connectivity between the basolateral amygdala and occipitotemporal cortex

Tao Jiang, Social Psychology

Love Is Not A Battlefield: Nonzero-Sum Beliefs and Response to Conflict in Romantic Relationships

POSTER PRESENTATIONS: SOCIAL AND BEHAVIORAL SCIENCES

Shannon Kelley, Animal Sciences

**The Influence of Human-Animal Interaction on the Anxiety, Affect,
and Heart Rate of Undergraduate Students**

Jacob Kepes, Sociology

The Enduring Effects of Slavery and Contemporary Black Incarceration

Samantha Kirgesner, Anthropology

**A Long-term Analysis of Human-Environment Interactions As Revealed
by Ancient Mollusk Foraging in Fiji**

*Thadchaigeni Panchalingam, Agricultural, Environmental,
and Development Economics*

**Effects of Public Health Insurance Expansions on the Non-Healthcare
Consumption Expenditures of Low-Income Households**

Natalie Romeri-Lewis, Political Science

Justice for Black Americans

Shatira Woods, Sociology

**Elucidating the Distinction between Christian Nationalism
and White Nationalism**

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Ulises Zevallos-Aguilar
Xiaoli Zhang
Jiangjiang Zhu
Ouliana Ziouzenkova
xun zou

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THE ARTS

1st Place: Noor Danielle Murteza

2nd Place: Emily Kaniuka

3rd Place: Biyan Zhu

Honorable Mention: Jessica Pissini

BIOLOGICAL SCIENCES

1st Place: Nicki Pukos

2nd Place: Warren Campbell

3rd Place: Walaa Hussein

Honorable Mention: Michael Chavez

BUSINESS

1st Place: Dongxu Li

2nd Place: Jianna Jin

3rd Place: Seonghoo Chung

Honorable Mention: John Costello

EDUCATION AND HUMAN ECOLOGY

1st Place: Manisha Naresh

2nd Place: Nathan Helsabeck

3rd Place: Susan Talley

ENGINEERING

1st Place: Caitlin Jones

2nd Place: Denis Newman-Griffis

3rd Place: Towhidur Razzak

Honorable Mention: Luke Lemmerman

Honorable Mention: Nina Shirley Tang

FOOD, AGRICULTURE, AND ENVIRONMENTAL SCIENCES

1st Place: Brittany Miles

2nd Place: Nathan Nordstedt

3rd Place: Yumin Xu

HUMANITIES

1st Place: Sean Yeager

2nd Place: Ehsan Estiri

3rd Place: Yiwen Liu

Honorable Mention: Wei Zhou

MATH AND PHYSICAL SCIENCES

1st Place: Preston Pozderac

2nd Place: Allen Prusinowski

3rd Place: James Matuk

HEALTH SCIENCES

1st Place: Meghan Flannery

2nd Place: Russell Bonneville

3rd Place: Helen Chen

Honorable Mention: Heather Walker

SOCIAL AND BEHAVIORAL SCIENCES

1st Place: Yujin Park

2nd Place: Stephen Lo

3rd Place: Elisa Allen

2020 POSTER PRESENTATION WINNERS

BIOLOGICAL SCIENCES

1st Place: Wenyuan Yin

2nd Place: Kara Braunreiter

3rd Place: Abigail Zalenski

EDUCATION AND HUMAN ECOLOGY

1st Place: Kelsey Higginson

2nd Place: Kimberly Scott

3rd Place: Joanne Vakil

FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

1st Place: Margaret Beetstra

2nd Place: Abigail Sommer

3rd Place: Danica Berry

HEALTH SCIENCES

1st Place: Michelle Scott

2nd Place: Matthew Lordo

3rd Place: Rachel Bican

MATH, PHYSICAL SCIENCES, AND ENGINEERING

1st Place: Elizabeth Jergens

2nd Place: Joseph Smith

3rd Place: Maria Talarico

SOCIAL AND BEHAVIORAL SCIENCES

1st Place: John Harden

2nd Place: Maria Cotter

3rd Place: Karen Perta



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