THE OHIO STATE UNIVERSITY

EDWARD F. HAYES

ADVANCED RESEARCH FORUM

February 28, 2025

Hayes Advanced Research Forum
OPPORTUNITAS
Est. 1987

Welcome Remarks from the Graduate School

Good morning!

My name is Mary Stromberger, Dean of the Graduate School and Vice Provost. I'll start by thanking Katie Conner for her leadership and inviting me to share a few words all of you today.

We are here to celebrate the 39th annual Edward F. Hayes Advanced Research Forum, and it is a moment to reflect on the rich history and enduring tradition of this prestigious event. Since its inception, the Hayes Forum has been a cornerstone of academic excellence at The Ohio State University, showcasing the innovative and exemplary research conducted by our graduate students and postdoctoral scholars.

The Hayes Forum, named in honor of Edward F. Hayes, has evolved over the years to become a premier, interdisciplinary research event for graduate students and post-doctorates that helps to fulfill the University's mission of research and engagement. It provides a unique platform for our scholars to present their research, engage in intellectual exchanges, and receive recognition for their outstanding contributions. This forum not only highlights the breadth and depth of research across various disciplines but also fosters a collaborative environment where ideas and innovation can flourish.

The importance of the Hayes Forum cannot be overstated. It serves as a testament to our commitment to advancing knowledge and fostering a culture of academic rigor and research excellence. The forum fosters a sense of community among early career researchers. It provides a supportive environment where students and post-doctorates can come together, share their research stories, and celebrate their achievements. This sense of camaraderie and mutual support is invaluable in building a strong research culture at Ohio State University.

This year, the university wide partnerships that make the Hayes Forum a possibility are proud to continue the tradition of awarding cash prizes totaling

more than $17,000 to the top-judged presentations. These awards underscore the graduate community's dedication to supporting and recognizing the hard work and achievements of our scholars. The forum is co-sponsored by the Council of Graduate Students, the Graduate School, the Office of Postdoctoral Affairs, and the Enterprise for Research, Innovation, and Knowledge (ERIK), with additional support from the Office of Student Life.

As we engage with the diversity of research presented at this year's Hayes Forum, I encourage you all to explore as much of the remarkable research endeavors as possible from our graduate students and postdoctoral scholars. Together, we continue to uphold the legacy of excellence that defines the Edward F. Hayes Advanced Research Forum. Thank you for listening, and please enjoy the event!

Dean Mary Stromberger, PhD
Vice Provost for Graduate Education and Dean of the Graduate School
ENGIE-Axium Endowed Dean Chair

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)

Oral Presentations
Room Assignments

The Arts | US Bank Theatre | First Floor

Biological Sciences | Suzanne M. Scharer | Third Floor

Business | Great Hall Meeting Room 3 | First Floor

Education and Human Ecology | Student-Alumni Council | Second Floor

Engineering | Rosa M. Ailabouni | Third Floor

Food, Agricultural, and Environmental Sciences | Tanya Rutner Hartman | Third Floor

Health Sciences | Barbie Tootle | Third Floor

Humanities | Ohio Staters, Inc. Traditions | Second Floor

Math and Physical Sciences | Hays Cape | Third Floor

Social and Behavioral Sciences | Senate Chamber | Second Floor

Postdoctoral: Arts, Humanities, and Social and Behavioral Sciences| Ohio Staters, Inc. Founders | Second Floor

Postdoctoral: Biological/Life Sciences, Health Sciences, and Biomedical Engineering | Cartoon Room| Third Floor

Postdoctoral: Physical and Mathematical Sciences and Engineering | Cartoon Room| Third Floor

Oral Presentations

Approximate Schedule & Timing

Presenter 1 | 9:00 – 9:20am

Presenter 2 | 9:20 – 9:40am

Presenter 3 | 9:40 – 10:00am

Presenter 4 | 10:00 – 10:20am

Presenter 5 | 10:20 – 10:40am

Session Break | 10:40 – 10:50am

Presenter 6 | 10:50 – 11:10am

Presenter 7 | 11:10 – 11:30am

Presenter 8 | 11:30 – 11:50am

Presenter 9 | 11:50am – 12:10pm

Presenter 10 | 12:10 – 12:30pm

***Presenter 11** | 12:30 – 12:50pm

*Only the Postdoctoral Biological/Life Sciences, Health Sciences, and Biomedical Engineering session has 11 presenters

ORAL PRESENTATIONS

The Arts

Josh Antolovic, *Design*
Interpretive Gameplay: Repurposing Games for Conceptual Experiments

Zoey November, *Dance*
Making the Audible Visible: Improving Accessibility in the Performing Arts Through the Artistic Design of Subtitles

Lynn Robinson, *Arts Administration, Education, & Policy*
Manifesting the Village: Black othermothering, arts-based interventions, and curriculum building toward educator efficacy

Nupur Manoj Sachdeva, *Arts Administration, Education, & Policy*
Multilingual Voices In Art Education: Creative And Pedagogical Practices Of South Asian Women Artist-Educators In The U.S.

Anastasia Sotnikova, *Arts Administration, Education, & Policy*
LGBTQ+ content, policies and public practice in a major museum. The Carnegie Museums of Pittsburgh case study.

Stephanie Stillman, *Arts Administration, Education, & Policy*
Eating By Us: Setting the Table as Site for Performance Pedagogy

Jorge Alberto Vega Rivera, *Design*
Weaving family memories in times of armed conflicts

ORAL PRESENTATIONS

Biological Sciences

Katelyn Amstutz, *Molecular, Cellular, and Developmental Biology (MCDB)*
Determining the role of a plant LINC complex in stomatal closure

Shannon Dixon, *Earth Science*
Underwater Zooplankton Light Enhancement Array (UZELA) enhanced feeding coupled with dome-shaped settlement modules enhance coral juvenile survivorship and growth

Elizabeth Fousah, *Ohio State Biochemistry Program (OSBP)*
Architecture remodeling activates the HerA-DUF anti-phage defense system

Gianni Giarrano, *Ohio State Biochemistry Program (OSBP)*
Engineered proteins containing domains from tripartite Motif Family Protein 72 (TRIM72) and the fragment crystallizable (Fc) from the human IgG1 protein increase plasma membrane repair to treat muscle diseases.

Ashley Greenlee, *Biomedical Sciences Graduate Program (BSGP)*
Investigating the Cardiotoxicities of Newer Tyrosine Kinase Inhibitors

Matthew McFadden, *Biomedical Sciences Graduate Program (BSGP)*
Methyl-CpG binding protein 2 (MeCP2) supports antiviral CD8+ T cell responses to viral infection

Anushka Ruwanpathirana, *Biomedical Sciences Graduate Program (BSGP)*
Interleukin-4 Promotes Actin Polymerization and Hypercontractility in Human Airway Smooth Muscle Cells

Sara Sequeira, *Comparative Biomedical Sciences*
Filling the gaps: Why complete animal movement data is vital for animal and human health

Raven Vella, *Biomedical Sciences Graduate Program (BSGP)*
Machine learning software (RIGATonI) discovers novel biomarkers for immunotherapy in cancer

Junyan Yu, *Biophysics*
Engineering Extracellular Vesicles as Therapeutics in NF1 Disease

ORAL PRESENTATIONS

Business

Sang Hoon Han, *Business Administration*
Relationship Crafting and Appraisals of Relationship-oriented Human Resource System

Yiming Huang, *Business Administration*
From Screen to Desk: How Evening Media Engagement Influences Next-Day Workplace Behaviors

Hanho Lee, *Business Administration*
The Cost of Augmentation-Based AI Usage: Impostor Thoughts and Their Consequences in the Workplace

Yuan Lu, *Business Administration*
Heterogeneous Endorsement Effect: Choose the Correct Endorser for the Correct Product Attribute

Jacob Rathjens, *Business Administration*
Overclocked: How the Addition of a Star Performer Impacts Incumbent Burnout

Nikhil Sharma, *Business Administration*
Regulating a Powerful Intermediary: The Effectiveness of Laws to Eliminate Adverse Pharmacy Benefit Manager Practices

Angel Simon, *Business Administration*
Revisiting the Relationship between SCM Executives and Firm Performance: The Role of Global Culture

Xin Wen, *Business Administration*
The impact of AI-enabled HRM and the moderating role of AI automation

ORAL PRESENTATIONS

Education and Human Ecology

Abby Bush, *Human Development and Family Sciences*
Understanding the Impact of Coach Assignment on Professional Development Outcomes for Early Childhood Educators

Wonjoon Cha, *Educational Psychology*
Exploring Mindset Theory in a Competitive Elite Korean High School Using a Mixed-methods Approach

Yihui Gong, *Human Development and Family Sciences*
Unraveling Mother-Child RSA Synchrony: Behavioral Regulation and the Shadow of Maternal Depression

Zhi Jie Lee, *Educational Studies*
Uncovering Latent Classes in Secondary School Bullying Victimization in Malaysia: Insights from the Mixed Rasch Model

Lutfi Ashar Mauludin, *Teaching and Learning*
SFL and ESP Writing Instruction: A Systematic Review of Pedagogical Approaches

Aimee Miley, *Human Development and Family Sciences*
The Disciplinary Practices of Child Welfare Involved Mothers with a History of Childhood Abuse/Neglect

Andrew Perry, *Educational Psychology*
Fitting In While Being First: Belonging and Academic Motivation Among First-Generation College Students

Alejandra Sierra Santely, *Teaching and Learning*
The Impact of Early Informal STEM Experiences on Science Teacher Candidates in Rural Elementary Schools

Non Viriyasatien, *Educational Studies*
The Initial Development of the Assessment of School Psychologist's Competence in Working with LGBTQ+ Individuals (ASPC-LGBTQ+)

ORAL PRESENTATIONS
Engineering

Jonathan Adorno, *Biomedical Engineering*
Engineering a Brain-Mimetic Microvessel Model for Brain Metastasis Studies

Syed Murtaza Arshad, *Electrical & Computer Engineering*
EMORe: Motion-robust free-breathing volumetric cardiovascular magnetic resonance image reconstruction using Expectation-Maximization (EM) algorithm

Benjamin Brooks, *Biomedical Engineering*
A novel additively manufactured liquid phantom for micro-CT quantification of tissue mineral density.

Kaitlyn Cimney, *Biomedical Engineering*
Cerclage Wire as an Affordable Plate Fixation Alternative in Murine Femoral Critical Sized Defect Models

Kimberly Denman, *Biomedical Engineering*
Discoidin Domain Receptor 1 (Ddr1) Alters Collagen and Mineral in Bone Matrix

Manami Fujii, *Biomedical Engineering*
The postural control system responds to three-dimensional pseudorandom perturbations

Jacob Holter, *Biomedical Engineering*
Transvascular flow initiates and guides endothelial sprouting in a blind-ended lymphangiogenic vessel-on-a-chip platform

Jenna Kline, *Computer Science & Engineering*
Autonomous, Adaptive Vision-Based Remote Sensing System for Dynamic Field Animal Ecology Studies

Snehal Patil, *Chemical Engineering*
Catalytic and non-catalytic treatment of p-nitrophenol, a priority pollutant

Allison Smith, *Biomedical Engineering*
An Improved Potting Method for Torsional Testing of Intact or Injured Mouse Femora

ORAL PRESENTATIONS

Food, Agricultural, and Environmental Sciences

Ningzhu Bai, *Environment & Natural Resources*
Identifying host intrinsic and extrinsic variables affecting tick infestation on Passerine Birds (Order: Passeriformes) in Ohio

Suraksha Baral, *Agricultural, Environmental and Development Economics (AEDE)*
From Bins to Behavior: How Enrollment Strategies Shape Composting

Xinyue Fan, *Food Science and Technology*
Development of a vibrant blue anthocyanin-based colorant for acidic food applications

Matthiew Haines, *Food Science and Technology*
Investigating odor-induced changes in taste perception in coffee

Ashani Hangawatte, *Environment & Natural Resources*
Chemical Interventions to Control Nasopulmonary Mites in Southern Sea Otters: Advancing Rehabilitation and Conservation

Ambrosia Havan, *Plant Pathology*
Investigating Anaerobic Soil Disinfestation as a Sustainable Soilborne Disease Management Strategy for Ohio's Cut Flower Industry

Megan Jamison, *Environmental Sciences*
Nanoplastic Identification and Analysis in Lake Erie Sourced Drinking Water

Anna Kolganova, *Environment & Natural Resources*
Using Biochar to Reduce Methane Emissions from Seasonally Anaerobic Soils

Audrey Kuei, *Food Science and Technology*
Applying Gamification to Improve Performance and Engagement in Descriptive Analysis of Puffed-rice Cakes

Florentino Paz Jose da Silva, *Animal Sciences*
The Role of Maternal Progesterone in Embryonic Attachment to the Uterus and Pregnancy Loss in Cows

ORAL PRESENTATIONS
Health Sciences

Madison Blake, *Biostatistics*
Falls and Injuries in Autistic Older Adults

Ayushi Das, *Molecular, Cellular, and Developmental Biology (MCDB)*
Characterization of a novel preclinical mouse model to identify antigen-specific immune responses in pancreatic cancer cachexia

Delaney Edwards, *Health and Rehabilitation Sciences*
How do muzzle velocity, bullet mass, and overall kinetic energy influence fracture initiation and propagation patterns?

Maria Ford, *Biomedical Sciences Graduate Program (BSGP)*
A Novel Protective Role for CD38 in Severe Allergic Airway Inflammation

Katarina Garibian, *Occupational Therapy*
Collaborative Approaches for Occupational Therapists and Behavior Analysts to Support Children on the Autism Spectrum: A Scoping Review

Erica Howard, *Clinical Psychology*
Structural Myelin Mapping in Repetitive Head Injury

Balaji Ramesh, *Epidemiology*
Revealing PM2.5 Exposure Inequities Relative to Social Vulnerability in Columbus Using Low-Cost Air Pollution Sensors and Geostationary Satellite Observations

JaeYoung Sim, *Neuroscience*
Towards Understanding the Obesity Paradox After Spinal Cord Injury (SCI) - The Lesion-Level-Dependent (Neurogenic) Effect on Adipose Tissue Dysfunction in SCI

Samuel Speaks, *Biomedical Sciences Graduate Program (BSGP)*
Gasdermin D promotes influenza virus-induced mortality through neutrophil amplification of inflammation

ORAL PRESENTATIONS
Humanities

Samanta Buffa, *Italian*
When Virtual Reality Enters the World Language Classroom: A Comparative Research Study of In-person and VR Instruction

Sabrina Durso, *English*
Drawing Crip Time in Relationality: The Experiences of Vision Loss in Dancing After TEN and The Impending Blindness of Billie Scott

Umut Mert Gerses, *Comparative Studies*
"Thought Cabinet" and Imagining Ludic Alternatives to Capitalist Realism

Ives Hartman, *History*
The Rise and Fall of the Urban Dairy

Sydney Heifler, *History*
Love with a Mission: World War II and Womanly Duty

Deanna Holroyd, *Comparative Studies*
ADHD Diagnostic-Treatment Apps and their Care-Providing Potential: Efficient Care or Caring about Efficiency?

Joshua Kramer, *Germanic Languages & Literatures*
"Jambo, Bana! Jambo!": Examining Ethnographic Discourse in Frieda von Bülow's *Tropenkoller* (1896)

Ai-Ling Lu, *East Asian Languages & Literatures*
Beyond Q&A: Exploring Third Turns in Chinese as a Foreign Language Classroom Interactions

Mykyta Tyshchenko, *Slavic and East European Languages and Cultures*
Reading and Watching *The Idiot* Today

ORAL PRESENTATIONS

Mathematical and Physical Sciences

Samir Al Zubaydi, *Chemistry*
Reductive Cross-Coupling of Alkyl Electrophiles from Isolable Nickel-Alkyl Complexes

Spencer Burton, *Chemistry*
Electron Transfer from a Co(III) Photosensitizer with a Picosecond Charge Transfer Excited State Lifetime

Yi Tang Chen, *Biostatistics*
Elastic Functional Cox Regression Model with Shape Predictors

Ye Jin Choi, *Statistics*
Analysis of Spatial Dependence in Functional Data and Shapes of Curves

Dina Eissa, *Chemical Physics*
Resolving Sub-Angstrom Vibrational Dynamics via Strong-Field Rescattering

Kara Lamantia, *Earth Sciences*
Global and Regional Methane Signals Captured in Ice Core Records from Nevado Huascarán, Peru

Jaclyn Rebstock, *Chemistry*
Time-resolved SFG Vibrational Spectroscopy Reveals Surprises in the Stark Tuning Slope for CO on Copper

Adam Tjoelker, *Geography*
Improved field surveys of debris-covered glaciers using drone-based ground-penetrating radar

Melanie Zaidel, *Physics*
A Nu Look at the Sun: Probing the Conditions of the Solar Core Using Neutrinos

ORAL PRESENTATIONS

Social and Behavioral Sciences

Lucy Brown, *Communication*
Measuring the Fourth Wall: Prototypical Perceptions of Fictional Characters, Media Figures, and Personally Known Others

Julianna Calabrese, *Clinical Psychology*
Emerging into Parenthood: A Latent Profile Analysis on Emerging Adulthood, Parenting Satisfaction, and Parental Self-Efficacy

Cameryn Cooley, *Psychology*
Black Americans? Perception of Cognitive Change Strategies

Journie Dickerson, *Speech and Hearing Sciences*
Family environment and child language: The mediating role of parental language in families of DHH children

Kara Fort, *Communication*
The Impacts of Code-Mixing in a Cross-Cultural Narrative: How Processing Fluency Impacts Narrative Engagement and Attitudes Toward Out-Groups

Jacob Goebel, *Social Psychology*
Audience Scope Moderates Expression Likelihood Among Those Willing to Self-Censor

Courtney Jewell, *Speech and Hearing Sciences*
Tracking Stress in People with Aphasia: Insights from Ecological Momentary Assessments

Kelsey Shearer, *Anthropology*
Insulin Before Smores: The management and embodiment of diabetes at a summer camp for diabetic adolescents

Charis Stanek, *Social Work*
Relationships between Placement Characteristics and Mental Health among Youth in Residential Care

Manita Thapa, *Agricultural Communication, Education, and Leadership (ACEL)*
Digital Tools in Agricultural Extension: Factors Driving Adoption in Nepal
Purpose of Study

ORAL PRESENTATIONS

Postdoctoral: Arts, Humanities, and Social and Behavioral Sciences

Hoda Hashemi, *Special Education*
The Efficacy of Training Staffs Using Behavioral Intervention Plan (BIP) to Address Challenging Behaviors of Individuals with Intellectual and Developmental Disabilities (IDD)

Sungjin Lee, *Public Affairs*
What Happens When We Become Age 18? SNAP Work Requirement and SNAP Participation

Nikita Makarchev, *Political Sciences*
Explaining Support for Authoritarian Indoctrination: Evidence from Putin's Russia

Sahar Tarighi, *Post-MFA Scholar, Studio Art, Ceramics*
Burdens of Resistance: Body, Labor, and Ecology in Kolberi

ORAL PRESENTATIONS

Postdoctoral: Biological/Life Sciences, Health Sciences, and Biomedical Engineering

Yi-Ju Chou, *Pelotonia Institute for Immuno-Oncology*
Targeting Lipolysis to Enhance Chemosensitivity and Immunotherapy in Pancreatic Cancer

Aline de Camargo Santos, *Postdoctoral program at SENR*
Building Climate-Resilient Cropping Systems: Lessons from 60+ years of Conservation Research in Ohio

Matthew Farrow, *Exercise Science*
The effect of a low-glycemic index diet on postprandial hypotension in individuals with long-standing spinal cord injury

Steve Leumi, *Microbiology/Virology*
Minimally Adapted Influenza A Virus Capable of Cardiac Infection in Wild Type Mice: Insights from Transcriptomic Analysis and New Therapeutic Targets

Allison Litmer, *Evolution, Ecology, and Organismal Biology*
Quantifying population dynamics of invasive Channel Catfish (Ictalurus punctatus) to aid endangered species recovery

Onila Lugun, *Postdoctoral Scholar*
DDX41 regulates ISGs expression in response to type-I IFN stimulation

Sachin Naik, *Postdoctoral Scholar*
Plant species and pH interactions shape rhizosphere bacterial diversity in peat-based systems

Xilal Y. Rima, *Diabetes and Metabolism Research Center*
Understanding the role of adipocyte interorgan signaling on obesity-associated diseases

K. Priyanka Slimi, *Psychiatry and Behavioral Health*
Risky-Decision Making Tendencies and Substance Use in Young Adolescents: Findings from the Adolescent Brain Cognitive Development Study

Chenyang Wei, *Geography and Environmental Studies*
GEDI-Informed Characterization of Temperate Vegetation Structure in Eastern North America

Haoxin Zhao, *Immunology and Immunotherapeutics*
Tumors suppress mitochondrial chaperone activity in macrophages to drive immune evasion

ORAL PRESENTATIONS

Postdoctoral: Physical and Mathematical Sciences and Engineering

Wendson Barbosa, ***Quantum Information Science and Technology***
Quantum Network and Secure Communication

Tomaz Neves Garcia, ***Chemistry and Biochemistry***
Coupling the Capture of Carbon Dioxide with its Conversion to Hydrocarbons

Kaue Riffel, ***Welding Engineering***
Implementation of Software-Assisted Robot Programming and AI-Driven Toolpath Optimization for Metal Additive Manufacturing

V Varagapriya, ***Engineering***
Multi-Horizon Stochastic Bounds in Power Systems

Poster Presentations

Room Assignments

Session 1: Engineering | Archie Griffin Ballroom West | Second Floor

Session 2: Education and Human Ecology and Social and Behavioral Sciences| Archie Griffin Ballroom West | Second Floor

Session 3: Biological and Health Sciences | Archie Griffin Ballroom West | Second Floor

Session 4: Food, Agricultural, and Environmental Sciences | Archie Griffin Ballroom West | Second Floor

Session 5: Math and Physical Sciences | Archie Griffin Ballroom West | Second Floor

POSTER PRESENTATIONS

Session 1: Engineering

1.1 Danwyn Aranha, *Chemical Engineering*
Converting Plastic Waste into Value-Added Products via Greenhouse Gas Utilization by Chemical Looping Technology

1.2 Srija Chakraborty, *Biomedical Engineering*
Chemokine-Driven Kinase Inhibitors Modulate Natural Killer Cell Function in 3D Melanoma Organ-on-a-Chip Platform

1.3 Akshar Chavan, *Electrical and Computer Engineering*
Rethinking Energy Management for Autonomous Ground Robots on a Budget

1.4 Pedram Ghassemi, *Structural Engineering*
Advancing 3D Concrete Printing: Novel Insights into Interface Behavior for Sustainable Housing and Space Construction

1.5 James Nana Gyamfi, *Chemical Engineering*
Amine-functionalized catalyst for hydrogenation of phenol

1.6 Poornima Ramesh Iyer, *Chemical and Biomolecular Engineering*
High-Gradient Magnetic Separation and Phenotypic Characterization of Sickle RBCs

1.7 Priya Jana, *Chemical Engineering*
Scalable manufacturing of inorganic nanoparticles using jet-mixing reactors

1.8 Tanay Jawdekar, *Chemical Engineering*
Advancing Emission Control: Selective removal of SOx, NOx, and H2S using nanoparticle-enhanced chemical looping scheme

1.9 Xiaofeng Jiang, *Chemical Engineering*
Three-reactor Chemical Looping System for Point Source CO2 Capture and Subsequent Utilization for Liquid Fuel Production

1.10 Ali Kaiss, *Electrical and Computer Engineering*
Estimating Heart Rate Variability (HRV) Using a Wearable MagnetoCardioGraphy (MCG) Sensor

1.11 Kartik Kashyap, *Mechanical Engineering*
Scaled Design and Optimization of Solid-State Batteries

1.12 Meghal Keskar, *Chemical and Biomolecular Engineering*
Antioxidant Loaded Nanoparticles Suspended In PEG-based Vitreous Substitute for Post-Operative Ocular Health

1.13 Mia Kordowski, *Biophysics*
Functionalized engineered extracellular vesicles for targeted delivery to intervertebral disc cells to promote pro-anabolic phenotype in primary disc samples

1.15 Ishani Karki Kudva, *Chemical Engineering*
High-Purity Syngas Production from Co-Gasification of Waste Plastics and Biomass Using a Chemical Looping Process

1.17 Sophie Mills, *Electrical and Computer Engineering*
Transport in Sb-based APDs

1.18 David Mualen, *Biomedical Engineering*
Scalable Synthesis of Cannabidiol-Loaded Block Copolymer Micelles via Electrohydrodynamic Mixing-Mediated Nanoprecipitation for Enhanced Oral Bioavailability

1.19 Manisha Muduli, *Electrical and Computer Engineering*
Heterogeneous Integration of Antimonide-Semiconductors with Si for Infrared Sensors

1.20 Madhav Muthyala, *Chemical Engineering*
SyMANTIC: An Efficient Symbolic Regression Method for Interpretable and Parsimonious Model Discovery in Science and Beyond

1.21 Neha Nooman, *Electrical and Computer Engineering*
Opto-electronic characterization of Extended Short-Wave Infrared (eSWIR) photonic detectors based on SiGeSn.

1.22 Manqi Pan, *Biomedical Engineering*
Human optic nerve head and peripapillary sclera creep in response to Intraocular elevation

1.23 Shekhar Shinde, *Chemical Engineering*
Biomass Chemical looping integrated ammonia production: A Thermodynamic, Experimental, & Technoeconomic analysis

1.24 Jack Sullivan, *Aerospace Engineering*
The Interaction Between Shock Waves and Wall Turbulence in Hypersonic Engines

POSTER PRESENTATIONS

Session 2: Education and Human Ecology and Social and Behavioral Sciences

2.1 Sudarshan Adhikari, *Agricultural Communication, Education, and Leadership (ACEL)*
It's All Menstrual Taboo: Unveiling Food Injustice in Chhaupadi Practice in Rural Nepal

2.2 Kelly Amaddio, *Psychology*
Prior Beliefs Affect Perceptions and Effectiveness of AI-Based Fact Checkers

2.3 Aula Andika Fikrullah Al Balad, *Teaching and Learning*
Impact Digital technologies on students' KSABs, engagement, and teamwork in STEM education: A Literature Review

2.4 Marina Ferreira, *Teaching and Learning*
Reflecting and Conjecturing: Key tools for advancing mathematical modeling practices

2.5 Marcella Gallmeyer, *Educational Studies*
Flowcharts A Tool for Teaching Spelling Rules to 3rd Graders With or At Risk for Disabilities

2.7 Alison Howell, *Food Science and Technology*
Food Safety Risks from Licensed Food Establishments in Franklin County, Ohio: Do Community-Level Characteristics Affect Risk of Exposure to Foodborne Illness?

2.8 Soh Hyeon Kim, *Decision Psychology*
Adapting to Urbanization: Political Party Strategies in response to Shifting Voters in sub-Saharan Africa

2.9 Eugene Kim, *Political Science*
Rank-Scope Expectations: Insights for Military Veterans

2.10 Ritika Kurup, *Social Work*
Achieving Equitable Change in Place-Based Settings: Voices of Practitioners

2.11 Jun Lee, *Consumer Sciences*
Finding Motivations for Attending Virtual Events (Virtual Concerts): Using the PPM Framework

2.12 Rika Mardiana, *Teaching and Learning*
Indonesian Students? Cognition and Mental Models of Magnetism and Electricity and the Implications to Teaching and Learning

2.13 Sara Martin, *Educational Studies*
A Review of Peer Support Arrangements for Students with Extensive Support Needs

2.14 Lucas Martinez, *City and Regional Planning*
Tourism and Coastal Transformation: Analyzing the Impact of Seafront Privatization on Coastal Access in Caye Caulker

2.16 Alexander Ryan, *Agricultural, Environmental, and Development Economics (AEDE)*
Financial risks in flooding: U.S. bank response to rising flood disaster risk

2.17 Tristan Schmidt, *Philosophy & History of Education*
The Right to Read: An Ethical Interpretation of Students? Access to Diverse Books and Content

2.18 Hyeseon Shin, *Agricultural, Environmental, and Development Economics (AEDE)*
Agricultural Trade, Migration and Climate Change

2.19 Io Terogo, *Educational Studies*
Considering a General Religious Education in Philippine State Schools

2.20 Ahmad Ilderim Tokey, *Geography*
Accessibility and Exposure: Using Probabilistic Time Geography to Analyze Potential Exposure During Active Transportation

2.21 Charlize Hsiang-Ling Wang, *Teaching and Learning*
Navigating Structures and Hierarchies in Culturally Sustaining Pedagogy: A Multiple-Case Study in World Language Classrooms

2.22 Amy Watson-Grace, *Health and Rehabilitation Sciences*
What Autism Is vs. How Autism Is Identified: Sensory Processing and Policy Mismatch in State-Level Special Education Eligibility

POSTER PRESENTATIONS

Session 3: Biological and Health Sciences

3.1 Thaanya Amarasekara, *Ohio State Biochemistry Program (OSBP)*
Substrate specificity and 3'-5'-polymerization capabilities of two tRNAHis guanylyltransferase-like proteins

3.2 Nicola Campo Amor, *Pharmaceutical Sciences*
Physician attitudes regarding an automated risk assessment model for venous thromboembolism: A best-worst scaling

3.3 Annika Chura, *Molecular, Cellular and Developmental Biology (MCDB)*
Hepatocyte Growth Factor Is Overexpressed in AML and Remodels the Mesenchymal Stromal Cell Niche

3.4 Electra Coffman, *Molecular, Cellular and Developmental Biology (MCDB)*
Arvcf recruits Ankyrin-B and stabilizes the Cadherin-Catenin complex in the functional Aging Lens

3.5 Alison Deitsch, *Health and Rehabilitation Sciences*
Characterizing Satisfaction with Integrated Care Among Adults with Developmental Disabilities

3.6 Sayali Dharmadhikari, *Biomedical Sciences Graduate Program (BSGP)*
Pathologic Wall Shear Stress Attenuates Epithelial Differentiation and Increases Fibrosis in the Airway

3.7 Yukta Gharat, *Food Science and Technology*
Exploring antimicrobial synergies to combat Burkholderia cepacia biofilm formation

3.8 Caleb Gooden, *Molecular Genetics*
Regulatory elements in maize early development derived from long terminal repeat retrotransposons.

3.9 Michael Hsu, *Biomedical Sciences Graduate Program (BSGP)*
Nucleosomal Association of 5-hydroxymethylcytosine Correlates with Distinct Chromatin States

3.10 Ryan Huston, *Microbiology*
Converge and Contrast: Leishmania donovani?s Impacts on Uninfected Bystander Cells by Life Stage

3.11 Jacob Kamholz, *Public Health*
Emergency Medical Service Advocacy: How Likely Are Clinicians to Recommend Their Profession?

3.12 Carolyn Lee, *Comparative Veterinary Medicine*
Viral Pathogenesis and Transmission Dynamics of A/bovine/Ohio/B24OSU-342/2024 (H5N1) in Peak Lactation Dairy Cattle

3.13 Caden Martin, *Molecular, Cellular and Developmental Biology (MCDB)*
Histone acetyltransferase 1 Regulates Epigenetic Inheritance of Silent Chromatin

3.14 Sarah Palmer, *Occupational Therapy*
Diving into engagement: The Impact of child-therapist engagement on water competency outcomes among children on the autism spectrum

3.15 Elizabeth Maus, *Health and Rehabilitation Sciences*
Accessing Mobility: Device Use Among Children with Cerebral Palsy

3.18 Mauri Prislusky, *Biomedical Sciences Graduate Program (BSGP)*
Role of the Septin Cytoskeleton in Plasma Membrane Repair

3.19 Alexis Sauer, *Comparative Biomedical Sciences*
Innate Immune Cell and Transcriptomic Profiles of a Clinically Relevant Tendon Injury Model

3.20 Monica Shah, *Environmental Sciences*
Quantifying cross-species Avian Influenza Virus transmission among wild birds at a North American stopover site

3.21 Jaylen Taylor, *Ohio State Biochemistry Program (OSBP)*
Bile Inhibits Bacterial Toxins by Promoting Structural Imbalance, Aggregation, Proteolysis, and Oxidation

POSTER PRESENTATIONS

Session 4: Food, Agricultural, and Environmental Sciences

4.1 Mostafa Aliabdelbary, *Food Science*
Modulation of Shiga Toxin-producing Escherichia coli virulence during its adaptation to sprouts environment

4.2 Sandeep Dhakal, *Food, Agricultural, and Biological Engineering*
Detection of High Plain Wheat Mosaic Virus (HPWMoV) infection in sweet corn using UAS multispectral imagery and deep learning

4.3 Yuzhou Huang, *Environmental Science*
Identifying Criteria to Improve the Removal of Algal Contaminants from Drinking Water using Powdered Activated Carbon

4.4 Mirai Inaoka, *Horticulture and Crop Science*
Understanding genome changes in soft red winter wheat (triticum aestivum L.)

4.5 Veeramani Karuppuchamy, *Food Science and Technology*
Fourier Transform Infrared Spectroscopy Combined with Chemometrics for Rapid Estimation of Brewers? Spent Grain Proximate Analysis

4.6 Saroj Khatiwada, *Animal Sciences*
Coinfection of turkeys with arthritic and enteric reovirus alters gut bacterial diversity

4.7 Ellie Kidwell, *Animal Sciences*
Investigating the mechanisms for pregnancy maintenance and success in cattle

4.8 Aleacia Laird, *Plant Pathology*
Investigation of the pathways of seed transmission for Xanthomonas campestris pv. incanae in Matthiola incana and the impact on the seed microbiome

4.9 Erick Martinez Rodriguez, *Entomology*
Breaking Resistance: Hemp extract and cannabidiol as next-gen weapons against pesticide resistant mosquitoes

4.10 H Rainak Khan Real, *Geography*
Evaluating the performance of machine learning algorithms in fine-scale canopy height mapping of boreal forest by integrating ICESat-2, PlanetScope & ArcticDEM

4.11 Prabhjot Singh, *Environmental and Natural Resources*
Impact of Different Inorganic Phosphorus (P) Fertilizer Rates on Soil P Pools

4.12 Jaspreet Singh, *Environmental Science*
How Farmer Cognition of Complexity in Agroecosystems Affects Decision-Making about Cover Cropping

4.13 Zhining Sun, *Agricultural, Environmental, and Development Economics (AEDE)*
CFAP and MFP: Announcement and Pre-Announcement Effect on Corn and Soybean Futures

4.14 Ziyang Tan, *Earth Sciences*
High Resolution Plant Hydraulic Traits Retrieved Using Model-data Fusion Constrained by ECOSTRESS Evapotranspiration

4.15 Alexis Zickafoose, *Agricultural Communication, Education, and Leadership (ACEL)*
Agrientrepreneurship Key Competencies: A Scoping Review

POSTER PRESENTATIONS

Session 5: Math and Physical Sciences

5.1 Poulomi Chakraborty, *Physics*
Magnetothermopower of a Nodal Line Semimetal

5.2 Long Dinh, *Chemistry*
Persistent organonickel complexes as general platforms for cross-coupling reactions

5.3 Emily Doss, *Inorganic Chemistry*
Electronic structure and reactivity of formal copper(III)-CH3, CH2F, CHF2, and CF3 complexes

5.4 Evan Jenner Jahn, *Astronomy*
An Atlas of the Entire Sky with Unprecedented Sensitivity

5.5 Bertha Lotsi, *Organic Chemistry*
Dendritic molecular baskets for selective binding of toxic methotrexate

5.6 William Luszczak, *Chemistry*
A Thienothiophene-Based Olefin-Linked Covalent Organic Framework for the Metal-Free Photocatalytic Oxidative Coupling of Amines

5.7 Charlie Mace, *Physics*
Calibrating the SIDM Gravothermal Catastrophe with N-body Simulations

5.8 Nitesh Kumar, *Organic Chemistry*
Dendritic molecular baskets for selective binding of toxic methotrexate

5.9 Deb Pathak, *Astronomy*
Dust as a Tracer of Gas and Feedback from Young Stars in Nearby Galaxies

5.10 Ipshita Roy, *Chemistry*
Chiral pyrrolidines via an enantioselective Hofmann-L?ffler-Freytag reaction

5.11 Sayantan Roy, *Physics*
Transport and spectroscopic probes for non-Fermi liquids in interacting models

5.12 Surav Dey Shuvo, *Atmospheric Sciences*
Blowing Snow Dynamics During the February 2020 North Dakota Blizzard: Insights from Polar WRF Simulations Coupled with the PIEKTUK-D Algorithm

5.13 Sagarika Taneja, *Chemistry*
pH-responsive Rhodamine-dipeptide conjugates for cellular tracking and drug delivery

5.14 Danielle Wampler, *Physics*
Computational modelling of RNA-protein binding interactions under an external force

5.16 Fangyi Wang, *Statistics*
Joint Registration and Conformal Prediction for Partially Observed Functional Data

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