THE OHIO STATE UNIVERSITY

EDWARD F. HAYES

GRADUATE RESEARCH FORUM

Friday, March 1, 2019 | Ohio Union
## Welcome Remarks

*Tracey Walterbusch, MEd, Vice President, Council of Graduate Students*

*Alicia Bertone, DVM, PhD, Vice President for Graduate Studies and Dean of the Graduate School*

## Academic Area Room Assignments

## Schedule

## Remembering Edward F. Hayes

## Oral Presentations

- The Arts
- Biological Sciences
- Business
- Education & Human Ecology
- Engineering
- Food, Agriculture & Environmental Sciences
- Humanities
- Mathematical & Physical Sciences
- Health Sciences
- Social & Behavioral Sciences

## Poster Presentations

- Arts and Humanities
- Biological Sciences
- Social Sciences
- Engineering
- Health Sciences
- Math and Physical Sciences

## Hayes Forum 2018 Prize Winners

## Council of Graduate Students: Who We Are

## Ohio Union Maps
Dear Guests,

Welcome to the 33rd 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 enables Ohio State graduate students not only to present their cutting edge research, but also to develop as professionals.

I am pleased that you have joined us to celebrate the graduate research that takes place at this great university. This year we have taken feedback from faculty judges and increased number of Hayes participants from about 100 to over 200 Ohio State graduate students. Additionally, we have increased the number of volunteers to increase the efficiency of the day. 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. On behalf of the Council of Graduate Students, I thank you for your unwavering and continued support.

I would like to thank a few people in particular: The primary advisor, Kerry Hodak, for her knowledge and advice, Hali Buck, Rachel Conners and Teresa Kempton-Dray for their administrative assistance and the graphics team, Jen Cottrell and Elliott Schoolcraft, and the wonderful Hayes Committee. Finally, a special thank you to the Graduate School for their support of graduate students and Senior Vice President Javaune Adams-Gaston from the Office of Student Life for her support of the Council 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 important issues. The caliber and range of scholarly work is truly inspiring and a privilege to learn from. Irrespective of your role today, I hope that what we have planned will provide you with a memorable experience.

On behalf of the Council of Graduate Students, thank you to everyone who gave their time to support the Hayes this year.

Sincerely,

Tracey Walterbusch, MEd
Vice President, Council of Graduate Students
Chair, Hayes Graduate Research Forum Committee
Dear Hayes Forum Attendees,

Welcome to the 33rd 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.

Sincerely,

Alicia Bertone, DVM, PhD  
Vice Provost for Graduate Studies and Dean of the Graduate School

Morley Stone, PhD  
Senior Vice President for Research
ACADEMIC AREA ROOM ASSIGNMENTS

Oral Presentations
The Arts
US Bank Conference Theater | 1st Floor

Biological Sciences
Rosa M. Ailabouni Room | 3rd Floor

Business Session
Suzanne M. Scharer Room | 3rd Floor

Education & Human Ecology
Creative Arts Room | Lower Level

Engineering
Senate Chamber | 2nd Floor

Food, Agricultural & Environmental Sciences
Maudine Cow Room | Lower Level

Humanities
Ohio Staters, Inc. Traditions Room | 2nd Floor

Mathematical & Physical Sciences
Ohio Staters, Inc. Founders Room | 2nd Floor

Health Sciences
Interfaith Prayer and Reflection Room | 3rd Floor

Social & Behavioral Sciences
Student-Alumni Council Room | 2nd Floor

Poster Presentations
Arts & Humanities – Great Hall Meeting Room | 1st Floor

Biological Sciences – Cartoon Room | 2nd Floor

Social Sciences – Great Hall Meeting Room | 1st Floor

Engineering – Cartoon Room | 2nd Floor

Math and Physical Sciences – Cartoon Room | 2nd Floor

Health Sciences– Great Hall Meeting Room | 1st Floor

Ohio Union Description by Floor

Lower Level
Maudine Cow Room
Creative Arts Room

1st Floor
Great Hall Meeting Room
US Bank Conference Theater

2nd Floor
Ohio Staters, Inc. Founders Room
Ohio Staters, Inc. Traditions Room
Student-Alumni Council Room
Senate Chamber
Cartoon Room

3rd Floor
Rosa M. Ailabouni Room
Suzanne M. Scharer Room
Interfaith Prayer and Reflection Room
HAYES GRADUATE RESEARCH FORUM: Schedule

7:30 – 7:50 a.m. | Registration
Great Hall Lobby | 1st Floor – Breakfast and networking session

7:50 – 8:30 a.m. | Welcome Addresses and Opening Session
U.S. Bank Conference Theater | 1st Floor

Host – Tracey Walterbusch, MEd
Chair, Hayes Research Forum
Vice President, Council of Graduate Students
PhD Student, Education and Human Ecology

Speaker – 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

8:40 a.m. – 12:10 p.m. | Oral Presentations – Guests Welcome
The Arts | US Bank Conference Theater | 1st Floor
Biological Sciences | Rosa M. Allabouni Room | 3rd Floor
Business | Suzanne M. Scharer Room | 3rd Floor
Education & Human Ecology | Creative Arts Room | Lower Level
Engineering | Senate Chamber | 2nd Floor
Food, Agricultural & Environmental Sciences | Maudine Cow Room | Lower Level
Humanities | Ohio Staters, Inc. Traditions Room | 2nd Floor
Mathematical & Physical Sciences | Ohio Staters, Inc. Founders Room | 2nd Floor
Health Sciences | Interfaith Prayer and Reflection Room | 3rd Floor
Social & Behavioral Sciences | Student-Alumni Council Room | 2nd Floor

9 a.m. – 12 p.m. | Poster Session – Guests Welcome
Great Hall Meeting Room | 1st Floor
Cartoon Room | 2nd Floor

12:10 – 12:45 p.m. | Judges’ Deliberations
Deliberations are closed to the public

12:15 – 12:55 p.m. | Hayes Forum Professional Development Session:
Negotiating a Job Across the Spectrum of Higher Education Prospects
US Bank Conference Theater | 1st Floor

1 – 2:45 p.m. | Awards Luncheon
Performance Hall | 1st Floor

Host – Tracey Walterbusch, MEd
Chair, Hayes Research Forum
Vice President, Council of Graduate Students
PhD Candidate, College of Education and Human Ecology

Award Presenters –
Kristyn Gumpper
Treasurer for the Council of Graduate Students
Doctoral Candidate, Biomedical Sciences

Alicia Bertone, DVM, PhD
Vice Provost for Graduate Studies and Dean of the Graduate School
ENGIE-Axium Endowed Dean’s Chair
Professor, Veterinary Clinical Sciences

Speakers –
Alex Wesaw
President, Council of Graduate Students
PhD Candidate, City & Regional Planning

President Michael V. Drake, MD
Morley Stone, PhD
Vice President for Research
Noah Weisleder, PhD
President of Ohio State Sigma Xi

Chapter
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)
The Music Environments of Young Children in Tanzania  
*Presented by: Lucia Benetti, Music Education*

Breath Engine  
*Presented by: Jacklyn Brickman, Art*

Color and Tone Color: Connecting Sight and Sound in Music  
*Presented by: Lindsey Reymore, Music Theory*

Subtle Semblances of Sorrow: How Emotional Granularity Influences Music and Sadness  
*Presented by: Lindsay Warrenburg, Music Theory*

Childhood Sexual Trauma and its Correlation with Borderline Personality Disorder  
*Presented by: Jessica Boushie, Printmaking*

Playing Psychopathy: Acting the Space Through Bioenergetics  
*Presented by: Matt Greenberg, Theatre (Acting)*

Inclusive Museum Interpretation  
*Presented by: Hilary Katz, Art Education*

Addressing Issues of Representation in Popular Music Research  
*Presented by: Nicholas Shea, Music Theory*

Facilitate a Growth Mindset of Creativity for College Students Using a Game Design Approach  
*Presented by: Shasha Yu, Design Research and Development*

Investigating the Policy Network of Arts-led Urban Revitalization Network Catalyzed by Creative Placemaking  
*Presented by: Wen Guo, Cultural Policy and Arts Administration*
Functional Analysis of BARD1 Missense Variants in Homology-Directed Repair and Damage Sensitivity

*Presented by: Aleksandra Adamovich, Biomedical Sciences Graduate Program*

Zoledronic Acid Affects Development of Tissue Engineered Vascular Grafts

*Presented by: Yu-Chun Chang, Biomedical Sciences Graduate Program*

Ossabaw Pigs as a Natural Preclinical Model of Metabolic Syndrome and Impaired Wound Healing

*Presented by: Nandini Ghosh, Education & Human Ecology*

The Stress-inducible Gene, Atf3, in Immune Cells Regulates Chemotherapy-exacerbated Breast Cancer Colonization

*Presented by: Justin Middleton, Molecular, Cellular and Developmental Biology*

Translational Accuracy Protects Salmonella from Oxidative Stress

*Presented by: Rebecca Steiner, Biochemistry*

Role of Hofbauer Cells in Vertical Transmission of Listeria Monocytogenes

*Presented by: Siavash Azari, Microbiology*

Lack of Collagen Receptor DDR1 Promotes Periodontal Disease in Mice

*Presented by: Michael Chavez, Oral Biology, Biosciences, College of Dentistry*

The Small Molecule OSU-2S Mediates Cell Death, Differentiation and Cell Cycle Arrest in Acute Myeloid Leukemia

*Presented by: Swagata Goswami, Molecular, Cellular and Developmental Biology*

Role of Pumilio (PUM) Mediated Post-transcriptional Regulation in Human Cells

*Presented by: Swetha Rajasekaran, Molecular Genetics*

Live Attenuated Prophylactic Vaccine for Leishmaniasis

*Presented by: Greta Volpedo, Microbiology*
Effect of Customer Portfolio and Technological Capability on Quality Performance of Pharmaceutical Contract Manufacturers  
*Presented by: In Joon Noh, Business*

How to Radicalize the Moderate Consumer  
*Presented by: Aviva Philipp-Muller, Social Psychology*

Evolution of Inequality in the US: Entrepreneurial Activity and Financial Intermediation  
*Presented by: Mohsen Mohaghegh, Economics*

Order Quantity and Diversification Decisions Under Demand and Supply Uncertainty  
*Presented by: Somak Paul, Operations and Statistics*
ORAL PRESENTATIONS: Education & Human Ecology
Creative Arts Room, Lower Level

Students’ Goal Setting as Predictors of Growth in Social Reasoning in Collaborative Small-Group Discussions
Presented by: Elizabeth Kraatz, Educational Psychology

Financial Insecurity and Mortality Risk in American Households
Presented by: Youngwon Nam, Consumer Sciences

Teacher Self-efficacy Beliefs, Collaboration, and Quality Professional Development: Antecedents of Effective Instructional Practices
Presented by: Salim Ucan, Educational Administration

Presented by: Christopher Yaluma, Educational Policy

College Attendance, Appreciative Attitudes, and their Relationship to Geographical Locale
Presented by: Graham Knight, Higher Education and Student Affairs

Academic Discourse Socialization for Multilingual Learners from Pre-Kindergarten to Higher Education
Presented by: Afida Safriani, Foreign, Second, and Multilingual Language Education

ACA’s Premium Subsidies and Housing Consumption Among Renters
Presented by: Guangyi Wang, Consumer Sciences

Associations Between Couple Relationship Quality and Parental Depressive Symptoms
Presented by: Julia Yan, Human Development and Family Science
Immunoengineering Lung Mechanotransduction to Mitigate Ventilator-Induced Lung Injury  
*Presented by: Christopher Bobba, Biomedical Engineering*

Characterizing Corneal Mechanical Response Using Ocular Pulse Elastography (OPE)  
*Presented by: Keyton Clayson, Biophysics*

In Vivo Quantification of Aortic Stiffness in Abdominal Aortic Aneurysm Patients using Non-Invasive MR Elastography  
*Presented by: Huiming Dong, Biomedical Engineering*

Towards Clinically Feasible Whole-heart Magnetic Resonance Velocity Imaging of the Heart and Great Vessels with Intrinsic Cardiac and Respiratory Motion Compensation  
*Presented by: Aaron Pruitt, Biomedical Engineering*

Terahertz Polarimetric Imaging  
*Presented by: Nandhini Srinivasan, Electrical and Computer Engineering*

Modulation of CXCL12-induced Tumor Angiogenesis by Hyaluronic Acid using Microvessel Analogue  
*Presented by: Chia-Wen Chang, Chemical and Biomolecular Engineering*

Production of Syngas with Controllable H₂/CO Ratio by High Temperature Co-electrolysis of CO₂ and H₂O: A Promising Route to Convert CO₂ into Fuel  
*Presented by: Dhruba Jyoti Deka, Chemical and Biomolecular Engineering*

A Machine-Learning Approach to Creating 3D City Models: LiDAR Point Cloud Classification and Building Height Estimation Validation  
*Presented by: Yujin Park, City and Regional Planning*

Engineering DNA Origami Structures on Cell Surface for Detection of Cancer Biomarkers in Cellular Microenvironment  
*Presented by: Melika Shahhosseini, Mechanical Engineering*

Non-Viral Reprogramming of Degenerate Intervertebral Disc Cells Induces Trans-differentiation to a Healthy Phenotype with Enhanced Extracellular Matrix Accumulation  
*Presented by: Nina Shirley Tang, Biomedical Engineering*
Plant Diversity Predicts Pest Management Interventions in Urban Residential Landscapes  
**Presented by: Christopher Riley, Entomology**

Biological Control of Agrobacterium Rhizogenes in Hydroponic Grown Tomatoes  
**Presented by: Cecilia Chagas de Freitas, Plant Pathology**

Wine-ing About Context? Does Environment Matter? Wine Perception and Liking in Traditional Booths Compared to a Virtual and Actual Wine Bar  
**Presented by: Mackenzie Hannum, Food Science and Technology**

A Novel Method for Non-thermal Fruit and Vegetable Juice Pasteurization Using Combinations of Mechanical Treatment, Moderate Electric Field and Nisin  
**Presented by: Jin Hong Mok, Food, Agriculture, and Environmental Science**

Water Quality Impacts from Stacked Agricultural Conservation Practices  
**Presented by: Elizabeth Callow, Food, Agriculture, and Environmental Science**

Root Zone Optimization of Hydroponic Leafy Greens  
**Presented by: Daniel Gillespie, Horticulture and Crop Science**

Comparison of Milk and Soy Phospholipid Composition by Normal Phase HPLC-CAD and their Respective Effects on Cell Membrane Functionality.  
**Presented by: Erica Kosmerl, Food Science**

Cinnamodial Analogues with Insecticidal and Antifeedant Activity to Control the Aedes aegypti Mosquito  
**Presented by: Preston Manwill, Medicinal Chemistry and Pharmacognosy**

Outgrated produce variably retains surface inoculated Escherichia coli through washing  
**Presented by: Shiyu Cai, Food Science and Technology**

Expanding Diversity in Ohio 4-H Membership is Difficult Given Current Funding Structure  
**Presented by: Mark Light, Agriculture and Extension Education**
Iran, LA Style: Iranian-immigrants’ Public Events in Los Angeles  
**Presented by: Ehsan Estiri, Near Eastern Languages and Cultures**

Fire on the Drive  
**Presented by: Tessa Jacobs, English-Folklore**

The Cultural Markings of American Modernity: Paul Taylor’s, Martha Graham’s, and Alwin Nikolais’s Tours in Taiwan  
**Presented by: Tsung-Hsin Lee, Dance Studies**

Contemporary Brazilian Comedy Films: Cause and Effect of Cultural, Political and Socioeconomic Transformations in Brazil and in Brazilian Cinema  
**Presented by: Raphael Palermo dos Santos, Portuguese**

A Colonial Mission: Deviant Sex, Regulating Families, and Controlling Women’s Bodies  
**Presented by: Malia Womack, Women’s, Gender, and Sexuality Studies; Latin American Studies**

Chile Coliza: Identities, Discursive Sites, and Social Media in Gay Themed Contemporary Chilean Literature  
**Presented by: Héctor Iglesias Pascual, Spanish**

Activist Joy, Residues of Protest, and Decolonial Transformative Potential in Urban Guatemala  
**Presented by: Kristen Kolenz, Women’s, Gender, and Sexuality Studies**

The Emotional Labor of Breaking Barriers: Black Women in the Commercial Airline Industry  
**Presented by: Shannon Morrison, Women’s, Gender, and Sexuality Studies**

Aage Juul and the World’s War: Resistance, Race, and Internationalism in the Allied Fight through Italy, 1943-1945  
**Presented by: Carson Teuscher, Military History**

Words, Music, and Meaning: The Debate on Qin Song in Late Imperial China  
**Presented by: Zeyuan Wu, Chinese Literature**
ORAL PRESENTATIONS: Mathematical & Physical Sciences | Ohio Staters, Inc. Founders Room, 2nd Floor

*Presented by: Somnath Biswas, Chemistry*

Aggregated Pairwise Classification of Statistical Shapes
*Presented by: Min Ho Cho, Statistics*

Insulator-to-Superconductor Transitions: Topological Superconductivity from Simple Models
*Presented by: Tamaghna Hazra, Physics*

Photo-Initiated Ketyl Radical Reactivity via Atom Transfer Catalysis
*Presented by: Sean Rafferty, Chemistry*

A Non-Aqueous Redox Relay Flow Battery for Grid-Scale Energy Storage
*Presented by: Curt Wong, Chemistry*

A Four-coordinate \([\text{CuNO}]_{10}\) by Nitrite Reduction: Implications for Oxidative Stress in Alzheimer’s Disease
*Presented by: Jamey Bower, Chemistry*

Design, Synthesis, and Evaluation of Small Molecule Therapeutics for the Treatment of Organophosphorus Chemical Nerve Agent and Pesticide Exposure
*Presented by: Andrew Franjesevic, Mathematical and Physical Sciences*

Information Transduction between Spintronic and Photonic States in Two-Dimensional Hybrid Systems
*Presented by: Yunqiu (Kelly) Luo, Physics*

Stable Thiazyl Radicals as Organic Cathode Materials in Li-ion Batteries
*Presented by: Madison Tuttle, Chemistry*

Clustering Bayesian Posterior Sample Functions Using Fisher-Rao Metric
*Presented by: Xiao Zang, Biostatistics*
Training and Stigma in Treating OUD  
*Presented by: Bridget Bailey, Social Work*

IFITM3 is Cardioprotective  
*Presented by: Adam Kenney, Biomedical Sciences Graduate Program*

Predictors of New Onset Physical Restraint Use in Adult Intensive Care Unit (ICU) Patients  
*Presented by: Thomas Lawson, Nursing*

Forced Turnover of Aged Microglia Induces an Intermediate Phenotype but does not Rebalance CNS Environmental Cues Driving Priming to Immune Challenge  
*Presented by: Shane O’Neil, Neuroscience Graduate Program*

Traumatic Brain Injury-induced Neuronal Damage Induces Cortical Rod Microglia that Promote Persistent Neuroinflammation  
*Presented by: Kristina Witcher, Neuroscience Graduate Program*

Raking Electronic Health Records to Adjust for Selection Bias in Preterm Birth Ascertainment  
*Presented by: Sara Conroy, Public Health*

PAK is a Thyroid Cancer Target  
*Presented by: Christina Knippler, Biomedical Sciences Graduate Program*

The Role of Notch Signaling in Human NK Cell Development  
*Presented by: Ansel Nalin, Biomedical Sciences Graduate Program*

A Novel Strategy to Inhibit Small Cell Lung Cancer Progression and Metastasis by S100A9 Inhibitor of Tumor-Associated Macrophages and Myeloid Derived Suppressor Cells  
*Presented by: Salha Sassi, Veterinary Medicine – Pathology*

Self-reported Exercise Volumes in Pediatric Patients with Overuse Knee Injuries  
*Presented by: Julie Young, Health and Rehabilitation Sciences*
Cigarette Smoking Trajectories Among Sexual Minority Women: Results from a National Longitudinal Cohort Study of U.S. Adults (2013-2016)

Presented by: Allison Glasser, Health Behavior and Health Promotion

Promotion, College of Public Health
Can Expertise Survive? Examining the Effects of Social Transmission on the Integrity of Scientific Messages

Presented by: Austin Hubner, Communication

Local Partners for Local Problems: Building Civilian Support for Foreign Intervention

Presented by: Austin Knuppe, Political Science

Styles of Emotion Regulation

Presented by: Samuel Murphy, Clinical Psychology

Affirmative Action or Civil Rights: A Textual Analysis of Ballot Measures and Related Discourse

Presented by: Tyler Hallmark, Higher Education and Student Affairs

How Relationships Foster Thriving: Associations among Compassionate Goals in Relationships, Growth Seeking Orientation, and Academic Self-Regulation

Presented by: Tao Jiang, Social Psychology

Gut Leakiness Predicts Women’s Depressive Symptoms One and Two Years Later

Presented by: Annelise Madison, Clinical Psychology

Threatened Partisans are Motivated by Support, Threatened Independents by Opposition

Presented by: Joseph Siev, Social Psychology

Class Habitus, Gender, and First-generation College Students’ Trajectories

Presented by: Ashley Wright, Sociology

Are You an Expert or Do You Just Enjoy It? The Impact of Enjoyment on Self-Perceptions of Expertise

Presented by: Jacob Teeny, Social Psychology
POSTER PRESENTATIONS: *Arts & Humanities*
*Great Hall Meeting Room, 1st Floor*

1. **Sentence-final Expressions in Popular Media: The Interaction of Character Role and Audience Design in Japanese Manga**
   Presented by: Hannah Dahlberg-Dodd, East Asian Languages & Literatures

   Presented by: Youngaah Koh, Arts Administration, Education, and Policy

3. **Music, Ethnic Politics, and Conflict in Gambella, Ethiopia**
   Presented by: Sarah Bishop, Musicology

4. **Revising Narratives of Nation: Contemporary Dance in Ireland**
   Presented by: Laura Neese, Dance
## POSTER PRESENTATIONS: Biological Sciences

*Cartoon Room, 2nd Floor*

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<tr>
<th>#</th>
<th>Title</th>
<th>Presenter</th>
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<tbody>
<tr>
<td>1</td>
<td>Molecular basis of Multiple Mitochondrial Dysfunctions Syndrome 2 (MMDS2): Impact of a disease causing Ile67Asn mutation on BOLA3</td>
<td>Sambuddha Sen, Chemistry</td>
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<td>2</td>
<td>Exploring Composition of Peptide Loops of Antibody Fragments to Enhance Biophysical Characteristics as Cancer Therapeutics</td>
<td>Jeong Min Han, Chemistry and Biochemistry</td>
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<td>3</td>
<td>Regulation of Oscillatory Genes During Vertebrate Segmentation</td>
<td>Kara Braunreiter, Molecular Genetics</td>
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<td>4</td>
<td>Rational Exploration of the Linker Composition in Relation to the Biophysical Properties of scFV Antibody Fragments</td>
<td>Michael Ryan-Simkins, Biochemistry Program</td>
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<td>5</td>
<td>Manipulating Spinal Autonomic Circuitry to Improve Cardiovascular and Immune Function</td>
<td>Benjamin Noble, Neuroscience Graduate Program</td>
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<td>6</td>
<td>Modulation of Matrix Mineralization by Discoidin Domain Receptor 2</td>
<td>Arghavan Farzadi, Biomedical Engineering</td>
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<td>7</td>
<td>Abnormal Collagen Fibril Ultrastructure in Abdominal Aortic Aneurysms</td>
<td>Blain Jones, Biomedical Engineering</td>
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<td>8</td>
<td>bPNA Probes of RNA Tertiary Interactions</td>
<td>Shiqin Miao, Chemistry and Biochemistry</td>
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<td>9</td>
<td>Vacant Lot Habitat Design and the Surrounding Landscape Shape Spider Community Assembly Across Urban Green Spaces in Cleveland, Ohio</td>
<td>Yvan Delgado de la flor, Entomology</td>
</tr>
<tr>
<td>10</td>
<td>Efficacy and Antimicrobial Characterization of Different Probiotic Bacteria Against Salmonella Infections in-vitro</td>
<td>Gary Closs Jr., Food Science and Technology</td>
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</tbody>
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POSTER PRESENTATIONS: Biological Sciences
Cartoon Room, 2nd Floor

11 The Application of Supercritical CO2 Technology on Modifying Beta-lactoglobulin to Reduce Milk Allergenicity
Presented by: Po-Wei Yeh, Food Science and Technology

12 The Neuronal IL-1b Receptor is Necessary and Sufficient for Paired Fighting-induced Social Withdrawal and Cognitive Impairment
Presented by: Damon DiSabato, Neuroscience Graduate Program

13 Exploring Brain Secretory Dynamics Using a Spatially and Temporally Defined Protein Tagging Technique
Presented by: Josh Rieskamp, Neuroscience Graduate Program

14 Non-peptidic Cell-penetrating Motifs for Mitochondrion-specific Cargo Delivery
Presented by: George Appiah Kubi, Organic Chemistry

15 Discovery of Novel Genes Controlling Mitochondrial CI Biogenesis via a Forward Genetic Screen in Chlamydomonas Reinhardtii
Presented by: Andrew Castonguay, Molecular Genetics

16 Dietary Gamma-Tocopherol Supplementation Reduces Stroke Severity in Lean Mice
Presented by: Katie Stock, Human Nutrition

17 Transplantation of pre-adipocytes and stem progenitors from BAT SVF improves glucose metabolism of the recipients
Presented by: Revati Dewal, Molecular, Cellular, Developmental Biology

18 Environmental Experience of Infants with Congenital Heart Disease in Cardiac Intensive Care
Presented by: Laura Beth Kalvas, Nursing

19 Effects of Smoking and Obesity on the Subgingival Microbiome
Presented by: Najla Kasabreh, Periodontology
POSTER PRESENTATIONS: Engineering
Cartoon Room, 2nd Floor

1. Application of DNA Cages in Biological Imaging
   Presented by: Elizabeth Jergens, Chemical Engineering

2. Dynamics of Techno-Ecological Synergy: A Sustainable Design Paradigm
   Presented by: Utkarsh Shah, Chemical Engineering

   Presented by: Angshuman Kapil, Materials Science and Engineering

4. Modeling Microbial Growth in Carpet Dust at Varying Relative Humidity Levels using the Time-of-Wetness Model
   Presented by: Sarah Haines, Environmental Science

5. Sand Bioreactors- The Membrane Fouling Solution Right Beneath Your Feet
   Presented by: Kelsey Henderson, Food, Agricultural, and Biological Engineering

6. Imperfections by Design: Tunable Interactive Buckling and Postbuckling in Architected Actuating Units
   Presented by: Amal Jerald Joseph Maria Joseph, Mechanical Engineering

7. Separation of Intrinsically Magnetic Red Blood Cells Using Combination of Numerical Modelling and Microfluidic Magnetic Deposition System
   Presented by: James Kim, Chemical and Biomolecular Engineering

8. Surface Area Determination of Metal-Organic Frameworks
   Presented by: Archit Datar, Chemical Engineering

9. Using small angle X-ray scattering (SAXS) to characterize the homogeneous nucleation of carbon dioxide (CO₂) in a supersonic nozzle
   Presented by: Kayane Dingilian, Chemical Engineering

10. Exploring Strategies to Improve Yields of Oxidative Coupling of Methane in a Chemical Looping System
    Presented by: Deven Baser, Chemical Engineering

11. Rapid Access to Oxazoles from Feedstock Chemicals Via Tandem Oxidation
    Presented by: Andrew Chen, Chemistry and Biochemistry

12. Denoising Speech Using Realistic Feedback
    Presented by: Peter Plantinga, Computer Science and Engineering

13. Comparative Two-dimensional Relative Enamel Thickness (RET) of South African Hominin Premolars
    Presented by: Mackie O’Hara, Anthropology
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<td>14</td>
<td>Springback Calibration of High Strength Metals using Vaporizing Foil Actuator Method</td>
<td>Presented by: Bhuvi Nirudhoddi, Engineering</td>
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<td>16</td>
<td>Influence of Varying Solar Zenith Angles on Phenology Extracted from Vegetation Indices</td>
<td>Presented by: Yang Li, Environmental Science Graduate Program</td>
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<tr>
<td>17</td>
<td>Effectiveness of Cleaning-In-Place (CIP) using Ozonated Water for Inactivation of Biofilms</td>
<td>Presented by: Ariel Garsow, Food Science and Technology</td>
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<td>18</td>
<td>Manual Wheelchair Data Extraction and Processing Device</td>
<td>Presented by: Noah Einstein, Mechanical Engineering</td>
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<td>19</td>
<td>Improved Image Classification by augmentation of Neural Network and Topological Data Analysis</td>
<td>Presented by: Sayan Mandal, Computer Science and Engineering</td>
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<td>20</td>
<td>Analysis of Bridge Performance Measures for Allocating Funds in Transportation Systems</td>
<td>Presented by: Chi Zhang, Civil Engineering</td>
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<td>21</td>
<td>Microsphere Immunoassay and Cell Tracking Velocimetry to Diagnose Iron-Related Disorders in Point-of-Care Applications</td>
<td>Presented by: Mitchell Weigand, Chemical and Biomolecular Engineering</td>
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<td>22</td>
<td>Heteroatom-doped Carbon Nanostructures as Catalysts for Electrochemical Halogen Production Technologies</td>
<td>Presented by: Deeksha Jain, Chemical Engineering</td>
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<td>23</td>
<td>Chance-Constrained Optimal Path Planning in Uncertain Environments</td>
<td>Presented by: Rachit Aggarwal, Mechanical Engineering</td>
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<td>24</td>
<td>Catalytic Enantioselective Synthesis of Highly Functionalized Cyclobutenes</td>
<td>Presented by: Mahesh Parsutkar, Organic Chemistry</td>
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<td>25</td>
<td>Glutamatergic Regulation of Remyelination After Spinal Cord Injury</td>
<td>Presented by: Nicki Pukos, Neuroscience</td>
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| 1 | The Relationship Between Movement Kinematics of the Upper Extremity and Motor Development: An Exploratory Study  
*Presented by: Rachel Bican, Health and Rehabilitation Sciences* |
| 2 | Parent-Reported PEDI-CAT, GMFM, and GMFCS for Very Young Children with Cerebral Palsy  
*Presented by: Kimberley Scott, Health and Rehabilitation Sciences* |
| 3 | Physical Therapists Demonstrate Good Inter-rater Reliability across Dynamic Postures and Movements - a Critical First Step to Treatment Consistency  
*Presented by: Shelby York, Physical Therapy* |
| 4 | Targeting of HDAC1/2 and CDK4 is cooperative in Dedifferentiated Liposarcomas (DDLPS)  
*Presented by: Richard Maradiaga, Medicine* |
| 5 | Spatial and Temporal Characteristics of Spontaneous Upper Extremity Movements in Infants with and without Neonatal Stroke  
*Presented by: Julia Mazzarella, Health and Rehabilitation Science* |
| 6 | Writing in the Margins: Women Composers in the Orchestral World  
*Presented by: Trevor Marcho, Music Education* |
| 7 | Purification and Structural Elucidation of Plantaricin TC318, A Novel Antimicrobial Peptide Produced by Lactobacillus Plantarum  
*Presented by: Walaa Hussein, Food Science and Technology* |
| 8 | Motivational Interviewing in Overweight and Obese Cancer Survivors: A Time Series Analysis  
*Presented by: Ashlea Braun, Health and Rehabilitation Sciences* |
| 9 | Illness Perceptions Predict Depressive and Anxiety Symptoms, Mood, and Absolute Lymphocyte Counts in Chronic Lymphocytic Leukemia  
*Presented by: Nicole Arrato, Clinical Psychology* |
| 10 | Adolescent Recall of Cigarette Advertisements Making Natural Claims  
*Presented by: Brittney Keller-Hamilton, Epidemiology* |
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<th>Title</th>
<th>Presenter</th>
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<td>Visible Transient Absorption Spectroscopy Toward Understanding the Influence of Copper Vacancies on photoelectrochemical processes</td>
<td>Elizabeth Fugate, Chemistry</td>
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<td>2</td>
<td>A Hypothesis Test for Network Comparison</td>
<td>Ha Khanh Nguyen, Applied Statistics</td>
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<td>4</td>
<td>Circumgalactic Medium: The Key to Lost Baryons in the Universe</td>
<td>Sanskriti Das, Astronomy</td>
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<td>5</td>
<td>Axis-Dependent Conduction Polarity in Re4Si7 Single Crystals</td>
<td>Michael Scudder, Chemistry and Biochemistry</td>
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POSTER PRESENTATIONS: Social Sciences
Great Hall Meeting Room, 1st Floor

1. Agent-based Models to Explore Social Norms and Ecological Outcomes of Swidden Agriculture
   Presented by: Fabio Correa Duran, Anthropology

2. Engaging the Dark Side: Exploring Identification with Morally Deviant Antagonists
   Presented by: Rebecca Frazer, Communication

3. Cultural Heritage within the Landscapes of Fiji
   Presented by: Kyle Riordan, Anthropology

4. Reverse Engineering the LGBQ Voice: Utilizing Prototype Theory to Construct Linguistic Prototypes of Sexual Identity
   Presented by: Katherine Conner, Linguistics

5. Levels of Work-Related Stress of Special Education Teachers with and without Children with Autism Spectrum Disorder in their Classrooms
   Presented by: Bethany Frick, Speech and Hearing

6. The Interactive Impact of Generational Status and Achievement Goal Adoption on Academic Achievement
   Presented by: Andrew Perry, Educational Psychology

7. Debt Burden in Older Age and Loneliness
   Presented by: Madeleine Drost, Human Development and Family Science

8. A Naturalistic Observational Study of Maternal Emotion Socialization and Emotion Expression: Prospective Associations with Preschooler’s Regulation of Anxiety
   Presented by: Karis Inboden, Human Development and Family Science

9. Investigating the Impact of Early Childhood Education through Third Grade
   Presented by: Nathan Helsabeck, Quantitative Research Evaluation and Measurement

10. Depressive Symptoms Among Ethnic Minority Adolescents: The Role of Parental Closeness and Social Cohesion
    Presented by: Guijin Lee, Social Work

11. Effects of Self-Directed Static Picture Prompts on the Vocational Skills of Individuals with Severe Disabilities
    Presented by: Mary Barczak, Special Education

12. Social Influence of Collaborative Small-group Discussions
    Presented by: Saesbyul Kim, Educational Psychology
POSTER PRESENTATIONS: Social Sciences
Great Hall Meeting Room, 1st Floor

13 The Role of Implicit Writing Beliefs in High School Students’ Literature-related Argumentative Writing
Preseuted by: Manisha Nagpal, Educational Psychology

14 Translanguaging Pedagogies: Affordances, Constraints, and Next Steps
Preseuted by: Nicole King, Foreign, Second, & Multilingual Language Education

15 The Affectionate Gesture Planner (AGP) iOS App for Couples: A Pilot Study
Preseuted by: Patrick Bortz, Human Development and Family Science

16 Attentional Capture Alters Feature Perception
Preseuted by: Jiageng Chen, Psychology

17 Experience of Space in Music-making
Preseuted by: Yong Jeon Cheong, Musicology
2018 ORAL PRESENTATION WINNERS

THE ARTS
1st Place: Josh Truett; Performance, History, and Theory
2nd Place: Caitlyn Trevor; Music Theory
3rd Place: Lindsey Reymore; Music Theory

BIOLOGICAL SCIENCES
1st Place: Debadrita Modak; Chemistry
2nd Place: Kelly Crowe; Cellular, and Developmental Biology
3rd Place: Christopher Schwebach; Molecular, Cellular, and Developmental Biology

EDUCATION & HUMAN ECOLOGY
1st Place: Nivedita Bhaktha; Quantitative Research, Evaluation and Measurement
2nd Place: Kirsten Smith; Education - Policy and Leadership
3rd Place: Leigh Groom; Reading and Literacy in Early and Middle Childhood

ENGINEERING
1st Place: Yixiao Cui; Biomedical Engineering
2nd Place: B. Audrey Nguyen; Biomedical Engineering
3rd Place: Juliana Laszakovits; Civil, Environmental, and Geodetic Engineering

FOOD, AGRICULTURE & ENVIRONMENTAL SCIENCES
1st Place: Katie Robertson; Environment and Natural Resources - Fisheries and Wildlife Specialization
2nd Place: Seungjun Lee; Environmental Sciences Graduate Program
3rd Place: Geoffrey Dubrow; Food Science and Technology

HUMANITIES
1st Place: Kathryn Lang; Environmental History
2nd Place: Nathan Young; Near Eastern Languages and Cultures
3rd Place: Stacey Alex; Spanish and Portuguese

MATHEMATICAL & PHYSICAL SCIENCES
1st Place: Grace Eder; Chemistry
2nd Place: Gabriel Khan; Mathematics
3rd Place: Michalea King; Earth Sciences

HEALTH SCIENCES
1st Place: Khaled Altabtbaei; Biology
2nd Place: Russell Bonneville; Biomedical Sciences
3rd Place: Christin Zwolski; School of Health and Rehabilitation Sciences

SOCIAL & BEHAVIORAL SCIENCES
1st Place: Hannah Shatzer; Psychology
2nd Place: Mary Cole; Anthropology
3rd Place: Andre Plate; Clinical Psychology

2018 POSTER PRESENTATION WINNERS

ARTS, HUMANITIES & SOCIAL SCIENCES
1st Place: Mackenzie Hannum; Food Science and Technology
2nd Place: Brittneey Keller-Hamilton; Epidemiology
3rd Place: Heather McDonough-Caplan; Clinical Psychology Biological Sciences

BIOLOGICAL SCIENCES
1st Place: Rim Yoseph; Neuroscience
2nd Place: Lindsey Webb; Biomedical Sciences
3rd Place: Igor Mrdjen; CPH: Environmental Health Science Engineering, Math and Physical Sciences

ENGINEERING, MATHEMATICAL & PHYSICAL SCIENCES
1st Place: Kayla Presley; Materials Science and Engineering
2nd Place: Vance Gustin; Engineering, Math and Physical Sciences
3rd Place: Krishnaja Duvvuri; Chemistry
COUNCIL OF GRADUATE STUDENTS: 
Who We Are

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.

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.
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