

Intersections: Undergraduate Research Presentation Award Winners  
Fall 2024 Intersections

**Arts and Humanities**

1st Nandana Ahuja. *Should We Open The Closet Doors?: Leonardo da Vinci, Isaac Newton, and the Search for Queer Representation*. Faculty Mentor: Aviva Rothman, Department of History

**Computer Science**

1st James Bish, Carson Williams, Annika Markoff, Chelsea Yu Zheng, John McCormick, Charles Lin, Joshua Hager, and Calvin Cai. *UPBoints: Custom Event Management Platform*. Faculty Mentor: Shuai Xu, Department of Computer and Data Science

1st Abhi Chadha, and Hieu Hoang. *Multi-Modal Translator with Sign Language Recognition*. Faculty Mentor: Shuai Xu, Department of Computer and Data Science

**Engineering**

1st Oliver Meisel and Emilio Blythe. *Advanced Testing of Printed Flexible Sensors: Contact Angle and Bending Fatigue Analyses*. Faculty Mentor: Janet Gbur, Department of APT Center - Veterans Affairs

1st Iris Lai. *The Reliability of Hand-Crafting Implantable Vagus Nerve Stimulation Devices For Rats*. Faculty Mentor: Ana Hernandez-Reynoso, Department of Biomedical Engineering

2nd Simon Merenstein. *Hydraulic Brake Master Cylinder*. Faculty Mentor: Richard Bachmann, Department of Mechanical and Aerospace Engineering

2nd Huy Pham. *Design and Prototype of A Rat Robot*. Faculty Mentor: Roger Quinn, Department of Mechanical and Aerospace Engineering

**Life Sciences**

1st Alejandra Gaviria Rozo. *The DIVA study: Defining the Microbiome of the Neovagina*. Faculty Mentor: Christina Farr, Department of Pathology

1st Viganini Rajaram. *Development of nanobody-based C1q inhibitors that suppress the classical pathway of complement activation*. Faculty Mentor: Fritz Petersen, Department of Biology

1st Ayah Lababede. *Two Possible Triggering Mechanisms of pch2-dependent Pachytene Checkpoint That Induce Interchromosomal Effect*. Faculty Mentor: Nicole Crown, Department of Biology

1st Faith Ferry. *Altered Neural Dynamics and Sleep Patterns in Epilepsy and the Effect of Potassium Buffering*. Faculty Mentor: Masashi Tabuchi, Department of Neurosciences

2nd Joshua Park. *Impaired cerebral blood flow regulation in the absence of Hb  $\beta$ Cys93 in a murine exercise model*. Faculty Mentor: Rongli Zhang, Department of Medicine

2nd Brynn Connors. *Microbe-microbe interactions vary across a genus and alter the growth of an oral pathogen*. Faculty Mentor: Gina Lewin, Department of Center for Global Health and Diseases

## **Social Sciences**

1st Isaac Opoku. *Availability of Firearm Injury Prevention Information on State Department Public Websites*. Faculty Mentor: Sarah Sweeney, Department of Population and Quantitative Health Sciences

1st Esha Rawat. *Military Culture and Mental Health Stigma: Reproduction of Stigma and the Effects on Treatment-Seeking Behavior*. Faculty Mentor: Anastasia Dimitropoulos, Department of Psychological Sciences

1st Gabrielle Vaccaro. *Palatal Myoclonus and Dysphagia: A Literature Review*. Faculty Mentor: Rachel Mulheren, Department of Psychological Sciences

1st Arielle Johnson. *Race, Gender, And Intersectionality: Unpacking How Identities Influence Mental Health Inequities And Outcomes*. Faculty Mentor: Anastasia Dimitropoulos, Department of Psychological Sciences

2nd Sreeja Gadepalli. *Organizational Factors in Physician Burnout After COVID-19: Lessons for the Future*. Faculty Mentor: Anastasia Dimitropoulos, Department of Psychological Sciences

2nd David Gentile. *The Causes and Problems with Echo Chambers on Social Media Sites*. Faculty Mentor: Anastasia Dimitropoulos, Psychological Sciences

2nd Sadie Mueller. *The Benefits of "Sharenting" to Parents and the Psychological Harm to Children: a Review of the Literature*. Faculty Mentor: Anastasia Dimitropoulos, Department of Psychological Sciences

## **Physical Sciences**

1st Katherine Barber. *Stellar Populations in Simulated Galaxies*. Faculty Mentor: Chris Mihos, Department of Astronomy

1st Ananda Smith. *Cosmological constraints on anisotropic Thurston geometries*. Faculty Mentor: Craig Copi, Department of Physics

2nd Ryan Pappalardo. *Contact Behavior of Dense Suspensions under Shear Reversal*. Faculty Mentor: Abhinendra Singh, Department of Macromolecular Science and Engineering