UNIVERSITY OF ROCHESTER
SCHOOL OF ARTS & SCIENCES
HAJIM SCHOOL OF ENGINEERING & APPLIED SCIENCES

GRADUATE RESEARCH DAY

FEATURING RESEARCH TALKS & POSTERS BY GRADUATE STUDENTS ACROSS DISCIPLINES

FRIDAY • MARCH 28 • 2025

UNIVERSITY OF ROCHESTER RIVER CAMPUS

EVENT PROGRAM

MARCH • 28 • 2025

OPENING REMARKS — 8:50AM TO 9:00AM

10 MINUTE GRADUATE RESEARCH TALKS — 9:00AM TO 12:00PM

PROFESSIONAL DEVELOPMENT WORKSHOPS — 12:30PM TO 1:30PM

- NAVIGATING SMALL TALK IN PROFESSIONAL SETTINGS IN THE U.S.
- HOW TO NETWORK: STRATEGIES FOR BUILDING CAREER CONNECTIONS DURING YOUR GRADUATE EDUCATION & BEYOND
- HOW TO PRESENT YOUR RESEARCH

GRADUATE POSTER SYMPOSIUM — 2:00PM TO 4:00PM

NETWORKING RECEPTION — 4:00PM TO 5:00PM

AWARDS PRESENTED BY SAS|HAJIM DEAN OF GRADUATE EDUCATION & POSTDOCTORAL AFFAIRS NICK VAMIVAKAS

SPECIAL THANKS TO...

- THE VOLUNTEER JUDGES
- THE OFFICE OF ALUMNI RELATIONS & CONSTITUENT ENGAGEMENT
- THE LANGUAGE CENTER
- THE WRITING, SPEAKING & ARGUMENT PROGRAM
- RIVER CAMPUS LIBRARIES
- THE GRADUATE STUDENT PRESENTERS!

Graduate Research Talks

Time	Speaker
9:00-9:15	**Samantha Steiner** English "Weird Postmodern Trash: White Noise and the Return of the Renaissance Approach to the Otherworldly"
9:15-9:30	**Tanya Garg** Clinical Psychology "When Expectation Meets Experience: A Virtual Reality Study on Threat Expectancy and Physiological Arousal in Trauma Exposure"
9:30-9:45	**Mary McMullan** Physics and Astronomy "FLASH Simulations of Laser-Driven Experiments to Investigate Heat Transport in Astrophysical Magnetized Turbulence"
9:45-10:00	**Manfred Virgil Ambat** Mechanical Engineering "Programmable-trajectory ultrafast flying focus pulses"
10:00-10:15	**Dylan Wang** Philosophy "Two Puzzles of Religious Commitment as Imagination"
10:15-10:30	**Emily Speybroeck** Clinical Psychology "Leveraging Court Appointed Special Advocates to Improve Outcomes for Children Involved in the Child Welfare System with Prenatal Alcohol Exposure"
10:30-10:45	**Jeffrey Baron** History "Treasure Excavations in the Medieval and Early Modern Hispanic World"
10:45-11:00	**Hossein Abolhassani** Biomedical Engineering "Development of Innervated Organoids in a Modular Microphysiologic System for Hight-Content Toxicity Testing"
11:00-11:15	**Valeria Viteri-Pflucker** Optics "Contribution of supergrowth to Fisher information in superresolved two-point imaging"
11:15-11:30	**Kathrin Lachenmaier** English "Text(ural) Bodies: Indigenous DNA, Extraction, and the (Re-)Writing of Canadian History in The Marrow Thieves"
11:30-11:45	**Sumana Roy** Geoscience "Exploring the phosphorus content of the pre-4 Ga terrestrial crust"
11:45-12:00	**Ariel Saracho** Economics "Population Growth and Exporter Dynamics"

Graduate Poster Presenters

Engineering & Math

- **Ajorlou, Hamed.** Electrical Engineering. “Convolutional Learning for Directed Acyclic Graphs”
- **Dou, Jin**. Biomedical Engineering. “Dynamic modeling of brain responses reveals earlier processing of predictable words”
- **Dweh, Abigail.** Biomedical Engineering. “Comparing the Impact of Systemic Pituitary Adenylate-Cyclase-Activating Polypeptide (PACAP) and Calcitonin Gene-Related Peptide (CGRP) on Balance and Auditory Sensitivities in Mice”
- **Hredoy, Hasibul Hasan.** Biomedical Engineering. “CFD-Guided Engineering of Microfluidic Devices: A Strategy for Early-Stage Research Optimization”
- **Huang, Jinfa**. Computer Science. “Identity-Preserving Text-to-Video Generation by Frequency Decomposition”
- **Islam, Md Saiful**. Computer Science. “Accessible, At-Home Detection of Parkinson's Disease via Multi-task Video Analysis”
- **Khaledyan, Donya**. Electrical Engineering. “Reconstructing Maps of Regional Brain Stiffness Variations from Shear Wave Patterns in OCT scans with conditional GAN”
- **Klose, Alanna**. Materials Science. “Lambda Theta Reflectometry for protein biosensing”
- **Liu, Raye**. Computer Science. “A Novel Framework for Differentially Private Synthetic Data Generation in Multi-Modal Databases”

- **Mohammadi, Pegah.** Mechanical Engineering. “Investigating pressure-driven phase transitions in layered ferroelectric CuInP2S6”
- **Proma, Adiba.** Computer Science. “The Role of LLMs in Tackling Political Misinformation”
- **Sacks, Jacob**. Optics. “Aberration Design of Zoom Lenses”
- **Shahnazari, Ayoub**. Mechanical Engineering. “Advancing automated classification of crystallographic structures using synthetic two-dimensional X-Ray diffraction patterns and deep learning”
- **Shrivastav, Snigdha**. Data Science. “Preliminary Steps Towards a Wearable Device for Real-Time Cardiac Monitoring among Active Firefighters to Prevent Sudden Cardiac Events”
- **Srirangam, Snehitha**. Chemical Engineering. “First-principles Study on the Role of Metal Oxide in Tandem In2O3-Pt/Al2O3 catalyst for Oxidative Propane Dehydrogenation”
- **Steiner, Colin**. Materials Science. “Terahertz Conductivity of Gadolinium Thin Films Deposited on Sapphire Substrate”
- **Swar, Sayan**. Electrical Engineering. “Making Love Visible in Noise: Enhanced Surface Wave Detection Using Slepian Tapers”
- **Taseska, Teona**. Chemical Engineering. “Nonprecious Robust Anodes for Complete Aqueous Defluorination of Per- and Polyfluoroalkyl Substances”
- **Tecse Castillo, Aldo**. Biomedical Engineering. “Exogenous All-Trans Retinoic Acid Induces Myopia and alters scleral ultrastructure in mice”
- **Tran, Linh**. Computer Science. “Investigation of Racial Bias in Vision-Language Assistants”
- **Wilsey, Madeleine**. Materials Science. “Low-Impedance Nanocatalyst–Support Composites via Pulsed Laser Grafting for Electrocatalytic Applications”
- **Zhang, Tianyu**. Computer Science. “EmboDyverse: Investigating Effects of Virtual Hands Representations and Object Feedback on Embodiment and Proteous Effect”

Humanities

- **Baghban, Yasaman**. Visual and Cultural Studies. “Representing Marginalized Communities: Satirical and Poetic Approaches in Film”
- **Ramsey, Justin**. History. “Transporting the Proletariat: City Transit and Soviet Socialism, 1920s-1960s”
- **Zhao, Tong**. Philosophy. “A Defense of Lucky Understanding”

Natural Sciences

- **Aby, Irin.** Chemistry. “Kuratowski based MOFs for facile capture and degradation of per fluorinated contaminants”
- **Balakrishnana, Aiswarya**. Biology. “4-Thio-Uridine Labelling PolyA-Click-Seq (4PAC) Allows for Kinetic Analysis of PolyA site Selection”
- **Butt, Jordan**. Chemistry. “A Dual-Readout Photonic Sensor for Simultaneous Measurement of Enzyme Activity and Concentration”
- **Carmona Perez, Daniela**. Chemistry. “Effect of Coordination Environment and Electronic Coupling on Redox Entropy in a Family of Dinuclear Complexes”
- **Garcia-Hernandez, Sergio E**. Biomedical Engineering. “Role of cell-matrix mechanical communication during lumen formation”
- **Gueye, Aida**. Materials Science. “Influence of composition and cation distribution on the electrocatalytic capabilities of ternary spinel ferrites”
- **Guzhang, Yue**. Brain and Cognitive Sciences. “Attention-related N2pc component of the visual evoked potentials as a marker of fine-grain shifts of attention within the foveola”

- **Hegde, Abhay.** Physics and Astronomy. “Time-resolved Stochastic Dynamics of Quantum Thermal Machines”
- **Huffman, Lucy**. Chemistry. “Assessing Structure and Dynamics of Iron Complexes Supported by Tris(amidyl)amine Ligands”
- **Huynh, Alana**. Chemistry. “Engineering Cytochromes c of Different Organisms for Hydrogen Evolution”
- **Jain, Anushka**. Biology. “Ubiquitination Patterns in Nascent Proteins”
- **Li, Howard**. Brain and Cognitive Sciences. “Spatial Encoding via visuomotor integration”
- **Liu, Yuxuan**. Materials Science. “Catch-and-Display Immunoassay (CAD-IA) for Point-of-Care Diagnostics of Traumatic Brain Injury”
- **McClure, Mathew**. Optics. “Spatial degree of unpolarization of full Poincaré beams”
- **Meng, Ziyi**. Materials Science. “Complete Electrocatalytic Defluorination of Perfluorooctane Sulfonate in Aqueous Solution with Nonprecious Materials”
- **Mondal, Mohammad Elious**. Chemistry. “Collective effects in Polariton Spectroscopy”
- **Reger, Noah**. Biology. “Deconvoluting the function of Anp32e in H2A.Z-dependent gene activity using fruit flies”
- **Sam, Akza**. Physics and Astronomy. “Streamers in Star Formation: A Survey of Class 0/I Protostellar Envelopes in IC348”
- **Sannigrahi, Sanchari**. Chemistry. “Exploration of collective coupling effects in photo-induced dynamics”
- **Todd, Harrison**. Geoscience. “Earliest Earth: New Outcrop Yields Three Ancient Zircons”
- **Weight, Braden**. Physics and Astronomy. “Cavity Quantum Electrodynamics Enables para- and ortho- Selective Electrophilic Bromination of Nitrobenzene”

- **Whitehead, Bevan**. Chemistry. “Capturing Perfluorinated Greenhouse Gases with Metal–Organic Frameworks”
- **Xu, Yang**. Physics. “High-fidelity spatial information transfer through scattering media by an epsilon-near-zero time gate”

Social Sciences

- **Cassano-Coleman, Riesa**. Brain and Cognitive Sciences. “Perceptual features of music influence the likelihood, but not the qualities, of evoked autobiographical memories”
- **Huang, Songsong**. Psychology. “Contexualizing growth mindset: The moderating role of school competitiveness on the mindset–performance link among Chinese and American adolescents”
- **Moon, Ellise**. Linguistics. “A Solution to the Problem of Minimal Parts”
- **Twal, Leena**. Developmental Psychology. “Delineating Specificity in Parental Responses to Children’s Distress: Associations with Neighborhood Risk and Children’s Socioemotional Outcomes”
- **Zeng, Qingzhi Ruby**. Brain and Cognitive Sciences. “Prosodic and other paralinguistic features of speech differ across social contexts and roles”