Honors Program
COLLEGE OF LETTERS & SCIENCE
UNIVERSITY OF WISCONSIN–MADISON

The L&S Honors Program proudly hosts the

2025 Senior Honors Thesis Symposium

A Celebration of

Undergraduate Research and Scholarship

Friday, April 11, 2025

1:00 PM – 5:00 PM

Union South

Please use the following QR code to explore the abstracts submitted by each presenter!

REGISTRATION: Begins 1:00 PM in Northwoods

Presenters and guests, please stop by Northwoods on the third floor to check in prior to heading to your assigned room.

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SESSION 1: 1:20 PM – 2:50 PM

1A - Brains & Bodies   LANDMARK

Jaidynne Lash (Neurobiology & Psychology)

"Ponatinib suppresses NLRP3 inflammasome activation in primary microglia"

Isaac King (Neurobiology)

"The Impact of CAR T-cell Target Antigens on IFNγ Dependence in AML vs. B-ALL"

Joshua Baxter (Neurobiology)

"Cognitive and sensory impairments in a monkey model of frontotemporal dementia"

Tyler Sloan (Molecular & Cell Biology)

"Determining the synergistic properties of Natural Extracts in combination with Vancomycin against Clostridioides difficile"

Saira Shah (Molecular & Cell Biology)

"Mapping Human Immune Cell Development in Humanized Mouse Models for Hypoimmune Cell Therapy Studies"

Megan Roderick (Molecular & Cell Biology)

"Exploring interactions between PP2A-PR70 and BRD4 in triple-negative breast cancer"

1B - Bias, Behavior, and Big Systems   AGRICULTURE

Brooke Fandrich (Journalism)

"The Call of Illegal Prescription Drugs: what the search engine history and content analysis of illegal pharmaceutical websites can tell us about the health media consumption of fringe consumer audiences"

Jonathan Morris (Psychology)

"The Time Course of Negative Emotion and Associations With Time Spent on Work"

Daria Rudykh (Chemistry)

"Harnessing Nature's Design: Investigation of Proteins as Sustainable Build Materials"

Ian Bohachek (Geography)

"Transitions to Sustainable Energy Systems: Evaluating Renewable Energy Policies in U.S. Cities"

Han Yu Foong (Computer Sciences)

"Leveraging LLM-Vectorized Semantic Representations for Email Phishing Detection"

Shrey Modi (Computer Sciences)

"Layer-Guided Latent Reasoning: Exploring Targeted Manipulation of Processing Regions in LLMs"

1C – Vectors, Variables, and Vastness   INDUSTRY A

Bocheng Zou (Computer Sciences)
"A Simple Yet Surprisingly Effective Baseline for One-Class Defect Detection"

Tanvi Reddy Kesireddy (Computer Sciences)
"Cross-platform compatibility and performance of JDBC"

Yalei Zhao (Statistics)
"Sensitivity Analyses for Missing Not at Random Data in Body Donor Program Studies"

Yunju Ha (Statistics)
"Predicting cancer risk using biomarkers from value-added abdominal CT scans in individuals with Alzheimer's disease"

Patrick Walsh (Physics)
"A Simulation Backend for Autotuning Quantum Dot Qubit Devices"

Jakob Mills (Physics)
"Utilizing Simulation-Based Inference to Study the Structure of the Milky Way"

1D – Boundaries of Justice   INDUSTRY B

Sonya Melendez (Political Science)
"Economic Sanctions and the Burden of Compliance: Effectiveness, Enforcement, and Evasion in a Global Economy"

Honor Durham (Political Science)
"Safeguarding Democracy in Elections: Analyzing State Preparedness Against Deliberate Efforts to Undermine U.S. Election Administration"

Srinandini Sukumar (Political Science)
"Do terrorist organizations join government?"

Aiden Culver (Philosophy)
"Hog Heaven: The Ethics of Farmed Animal Welfare and Death"

Bradyn Gentile (Political Science)
"Addressing Disparities in Healthcare Access for Unaccompanied Youth Experiencing Homelessness"

INTERMISSION AND RECEPTION: 3:00 PM in Northwoods

Presenters and guests, please join Honors Program Director Dan Kapust and the L&S Honors Staff for a special event. Dan will share remarks and recognize our inaugural ***Excellence in Honors Thesis Advising awardees***. We invite all who attend to enjoy the desserts and beverages provided.

SESSION 2: 3:30 - 5:00 PM

2A - Lessons in (Bio)Chemistry   LANDMARK

Audrey Lyp (Chemistry)
"Measurement of Reactive Ozone Loss to Lake Surfaces"

Ahmad Danial Bin Muhammad Idress (Chemistry)
"Techno-economic Analysis: Industrial-scale Simulation of Oxidative Dehydrogenation of Propane over Supported Vanadium Catalysts"

Emma Dunbar (Biochemistry)
"RecA and Topoisomerase III in Post Replication Gap Repair"

Ella Martell (Biochemistry)
"Investigating Tregs and the Use of CRX-Exosomes as a Novel Treatment for GVHD"

Sherrie Wu (Biochemistry)
"Breaking the biofilm barrier: CRISPRi-guided investigation of Pseudomonas aeruginosa susceptibility to a novel natural product"

Ethan Lin (Microbiology)
"Molecular Alterations and Therapeutic Outcomes of Cholangiocarcinoma in the Veterans Health Administration: A Comprehensive Analysis Using Real-World Data"

2B - On Language (and) Learning   AGRICULTURE

Justina Wang (Computer Sciences)
"Adaptive Reading Interfaces for Bilingual and Immigrant Families"

Ziqi Liu (Computer Sciences)
"AskNow: An LLM-powered Interactive System for Real-Time Question Answering in Large-Scale Classrooms"

Jessica Wang (Computer Sciences)
"LearnMate: Enhancing Online Education with LLM-Powered Personalized Learning Plans and Support"

Courtney Snoberger (Psychology)
"The impacts of peer behavior and classroom environment on preschoolers' word learning outcomes"

Abby Simon (Psychology)
"Preschoolers' Use of Expertise in Word Learning"

Sophie Boes (English)
"Seeing (with -dI) is believing": The acquisition of evidentiality by English-Turkish bilinguals"

2C – Signals and Cells INDUSTRY A

Sania Jain (Neurobiology)
"Experience-Dependent Selection of Purkinje Cell Targets"

Rohit Bakayat (Neurobiology)
"Determining the Spatial Scale of Balanced Direction Signals for Segmentation Perception"

Taylor Crnkovich (Neurobiology)
"Glioblastoma Multiforme Immunotherapy: Investigating the Role of Dendritic Cells in GIFT7-Induced TH17 Differentiation"

Hazel Lietz (Biology)
"Oxygen as a Determinant of Bacteriophage Infection in Escherichia coli"

Shanti Hug (Molecular & Cell Biology)
"Catecholamines and β3-Adrenergic Receptor Regulate Hematopoietic Stem Cell Development"

Ngawang Namru (Molecular & Cell Biology)
"Investigating RhoA Signaling Defects in Tuberous Sclerosis Complex"

2D – Legacies and Power INDUSTRY B

Raphael Jacobson (Sociology)
"Leaving Its Mark: Space and the Collective Memory"

Axell Boomer (History)
"The Saint and Soil of Democracy: Idolatry of Abraham Lincoln as an Intersection of Christian Nationalist and Settler Nationalist Identities"

Emmett Lockwood (Political Science)
"Ballots for Business, Barriers for Bodies: The Economic Test of Political Participation"

Tanay Nagar (Computer Sciences)
"Decoding Bias in Letters of Recommendation: A Word Embeddings Approach"

Natalie Suri (History)
"The Story of Desegregation Policy Implementation in Austin, Texas: How Brown v. Board Made Educational Equality Improbable"