

POSTER SESSION 1: 9:30 - 10:30 A.M.

| # | STUDENT RESEARCHER | PROJECT TITLE | ADVISOR | DEPARTMENT |
|----|---------------------|---|------------------|---|
| 2 | Catharine Brady | Development of a Microfluidic Tunable Attribute Precision Screening for Characterization of Bacterial Stress | Joshua Shrout | Biological Sciences and Civil Engineering and Geological Sciences |
| 4 | Caroline Brooks | Cross Sectional Time Series Analysis on the Impacts of Race on Homeownership | Richard Williams | Sociology |
| 6 | Brendan Brown | Dispersion Curves for Plasmons in Metal Nanostructures | Gregory Hartland | Chemistry and Biochemistry |
| 8 | Adam Carr | Quantitative PCR analysis of LTA resistance in <u>Streptococcus pyogenes</u> against synthetic bacteriocins | Shaun Lee | Biological Sciences |
| 10 | Adam Cooper | Fighting Low Quality Pharmaceuticals through the Development and Simplification of an Affordable Paper-Medium Antibiotic Assay | Marya Lieberman | Chemistry and Biochemistry |
| 12 | Lina Daza | Application of molecular dynamics to study the gas-liquid interfacial properties of the ionic liquid: 1-n-butyl-3-methylimidazolium acetate [BMIM] [OA] | Edward Maginn | Chemical and Biomolecular Engineering |
| 14 | Heather DiLallo | HPLC Verification of Paper Analytical Devices to Screen for Low-Quality Albendazole | Toni Barstis | Electrical Engineering |
| 32 | Alfredo DuarteGomez | Development of Luminescent Porous Particle for Two-Color Pressure-Sensitive Paint | Hirotaaka Sakaue | Aerospace and Mechanical Engineering |
| 16 | Rebecca Dudek | Development of Novel DNA Extraction Technique for the Detection of Genetically Modified Soy Beans | Hsueh-Chia Chang | Chemical and Biomolecular Engineering |
| 18 | Bailee Egan | Linking the Core Oral Microbiome and Gut Parasites in Long-tailed Macaques | Hope Hollocher | Biological Sciences |
| 20 | Grace Enright | Applying HTC to Economic Innovation Discovery | Kirk Doran | Economics and Econometrics |
| 22 | Caitlin Guccione | Improving the Accessibility of Bioinformatic Workflows Through Cloud Deployment | Douglas Thain | Computer Science and Engineering |
| 24 | Esther Harkness | Optical Microbe Detection Platform via Low Cost Open Source Electronics | Scott Howard | Electrical Engineering |
| 26 | Melissa Henry | Longitudinal Effect of Food Insecurity on Academic Outcomes | Ying Cheng | Psychology |
| 28 | Elizabeth Innis | Validation by LC-MS of Paper Analytical Devices of Suspect Nepali Omeprazole | Toni Barstis | Electrical Engineering |

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| 30 | Elisabeth Kerns | Effect of Low Bandgap Metal Oxides and Direct Irradiation on the Degradation of Perovskites | Prashant Kamat | Chemistry and Biochemistry |
| 34 | Siena Mantooth | Targeted Asparaginase for Improved Treatment of Pediatric Leukemia | Matthew Webber | Chemical and Biomolecular Engineering |
| 36 | Brady McLaughlin | [Re]Evaluating the Cost of Electricity in Hospitals with Unreliable Energy - VSL/E Metric | Abigail Mechtenberg | Physics |
| 38 | Kate Mockler | Engineering Multifunctional Nanoparticles for Targeted Drug Delivery in Cancer | Basar Bilgicer | Chemical and Biomolecular Engineering |
| 40 | Mitchell Murphy | Using Optical Character Recognition to Assess Differential Treatment | Kasey Buckles | Economics |
| 42 | Ansley Nemeth | Synthesis of Novel Oxazoline Compounds for Use as Insecticides and the Evaluation for Mosquitocidal and Larvalcidal Activity | Mary Ann McDowell | Biological Sciences |
| 44 | Khayyon Parker | Sensitivity and Uncertainty analysis of Ground Water model Replacement TimML | Stuart Jones | Biological Sciences |
| 46 | Rebecca Radomsky | ZnO and CdSe Dual-Emission Ratiometric Probe for the Detection of Organophosphonates | Prashant Kamat | Chemistry and Biochemistry |
| 48 | Paola Rivera | Geochemical and isotopic evolution of carbonatites in Magnet Cove Complex in Arkansas | Antonio Simonetti | Civil Engineering and Geological Sciences |
| 50 | Derek Shank | Utilizing The Cannon to Predict Stellar Parameters | Timothy Beers | Physics |
| 52 | Natalie Spica | Field-testing of the MicroBio PAD: Detection of fecal contamination of water in Nepal | Reena Lamichhane-Khadka | Biology |
| 54 | Jessica Stietzel | Deep Neural Networks for Reconstructing Particle Collisions | Kevin Lannon | Physics |
| 56 | Maxwell Tetrick | Algal Biodiesel Conversion and Characterization for use as Decentralized Electrical Energy in Uganda and Notre Dame | Steven Wietstock | Chemistry and Biochemistry |
| 58 | Maura Vrabel | Determination of Crucial Immunogenic Epitopes in Major Peanut Allergy Protein, Ara h2, via Novel Nanoallergen Platform | Basar Bilgicer | Chemical and Biomolecular Engineering and Chemistry and Biochemistry |
| 60 | Justin Wei | CNVis: A Web-Based Visual Analytics Tool for Exploring Conference Navigator Data | Chaoli Wang | Computer Science and Engineering |
| 62 | Haley Wilson-Lemmon | Syngeneia And Xenoi: The Role of Kinship in the Practice of Hospitality | John Fitzgerald | Theology |
| 64 | Aristotle Zervoudakis | Phase Behavior of Complex Coacervates | Jonathan Whitmer | Chemical and Biomolecular Engineering |

POSTER SESSION 2: 10:45 - 11:45 A.M.

| # | STUDENT RESEARCHER | PROJECT TITLE | ADVISOR | DEPARTMENT |
|----|----------------------|--|-------------------|--|
| 1 | Emily Baert | An Analysis of Ego Network Characteristics | David Hachen | Sociology |
| 3 | Catherine Breakfield | How to Collect 636 Samples in 28 Days | Toni Barstis | Electrical Engineering |
| 5 | Roy BrooksRivera | Perturbation of the Calcium Signaling Toolkit Impacts <i>Drosophila</i> Wing Morphogenesis | Jeremiah Zartman | Chemical and Biomolecular Engineering |
| 7 | Savannah Butler | Degradation of Chemical Warfare Agent Proxies through ZnO Nanocrystal Assisted Photocatalysis | Prashant Kamat | Chemistry and Biochemistry |
| 9 | Carl Colglazier | Parallel Python for Global Social Simulation | Paul Brenner | Center for Research Computing/Computer Science and Engineering |
| 11 | Jonah Cremin-Endes | Community Members are an Asset in Public Health Movements | Marya Lieberman | Chemistry and Biochemistry |
| 13 | Michael Dowd | Keep the Lead Away: Understanding the Problem of Lead in St. Joseph County, Indiana | Marya Lieberman | Chemistry and Biochemistry |
| 17 | Kiera Dwyer | Development of a phosphate biosensor using the optical density and pressure of growing yeast. | Holly Goodson | Chemistry and Biochemistry |
| 19 | Paul Elhallal | Classifying Islamic Terrorism and its effects on US Counterterrorism | James Philpott | Political Science |
| 21 | Kirstin Favazzo | Validation by LC-MS of Paper Analytical Devices of Suspect Nepali Antibiotic Pharmaceuticals | Toni Barstis | Electrical Engineering |
| 23 | Amber Hannah | The role of Adenomatous Polyposis Coli (APC) tumor suppressor in intercellular junctions and cell migration | Jenifer Prosperi | Biological Sciences |
| 25 | Bryan Harris | Analyzing Resource Metadata from High Throughput Computing in an Opportunistic Environment | Douglas Thain | Computer Science and Engineering |
| 27 | Connor Howington | Using computational genomics and high-throughput computing to study malaria parasite <i>P. falciparum</i> and mosquito vector <i>A. funestus</i> | Scott Emrich | Computer Science and Engineering |
| 29 | Mackenzie Jones | The Long Road off the Family Track: The Difficulty of Having it all | Kasey Buckles | Economics |
| 31 | Peter Lazorchak | ENTROPY improves admixture analyses of low-coverage sequencing data in <i>Rhagoletis</i> flies | Meredith Doellman | Biological Sciences |

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| 15 | Yutong Liu | Quantitative Analysis Using Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES) Reveal High Lead Contamination of Soil and Dust in Census Tract 6, South Bend, Indiana (IN) | Marya Lieberman | Chemistry and Biochemistry |
| 33 | Benjamin MacCurtain | Analysis of porosity, mineralization, and damage as contributors to fracture risk | Ryan Roeder | Aerospace and Mechanical Engineering |
| 35 | William McCarthy | Synthesis of peptidic derivatives of 1,3,5-benzenetricarboxamide and investigation of their supramolecular-assembly | Matthew Webber | Chemical and Biomolecular Engineering |
| 37 | Heather Miller | Development of a yeast biosensor for prednisone detection | Don Paetkau | Biology |
| 39 | Sebastian MunizMartinez | Electrochemical Nitrite reduction using Earth abundant based catalysts | Kyle Doudrick | Civil Engineering and Geological Sciences |
| 41 | Calvin Nazareth | Self-assembly of amphiphilic tripeptides and their peptoid analogues | Matthew Webber | Chemical and Biomolecular Engineering |
| 43 | Kimberly Orr | A new approach for alignment-free comparison of temporal networks | Tijana Milenkovic | Computer Science and Engineering |
| 45 | Ana Quintero | Synthesis of [¹³ C]-Labeled Methyl α - and β -D-Arabinofuranosides and Studies of Ring Conformational Equilibria Using Redundant NMR Spin-Couplings and Circular Statistics | Anthony Serianni | Chemistry and Biochemistry |
| 47 | Alexander Scott | Detecting Human Eye Movements from Infrared Cameras | James Schmiedeler | Aerospace and Mechanical Engineering |
| 49 | Gregory Serapio-Garcia | Big Data & the Big Five: Computationally Predicting Personality and Psychopathology from Social Media | David Watson | Psychology |
| 51 | Isabella Speedon | Comparing Tree-Based Models' Variable Predictions for School Crime | Ying Cheng | Psychology |
| 53 | Caroline Stanton | In Membrane Exploitation of Antigen/Antibody Interaction for Selective Purification and Quantification of Therapeutic Monoclonal Antibodies | Merlin Bruening | Chemical and Biomolecular Engineering and Chemistry and Biochemistry |
| 55 | Robert Stiller | Analysis in Energy Systems for Smart Grid Control using Multiple Storage Devices | Abigail Mechtenberg | Physics |
| 57 | Joseph Vallin | Phase Inversion Membrane System for Heavy Metal Absorption | William Phillip | Chemical and Biomolecular Engineering |
| 59 | Mitsy Wedderburn | Self-Medication in Long-Tailed Macaques (<i>Macaca fascicularis</i>) | Hope Hollocher | Biological Sciences |
| 61 | Taylor Wiley | Making the Grade: Change in Social Network Diversity Among First-Year Notre Dame Students | David Hachen | Sociology |
| 63 | Elon Yates | Electrochemical performance of nickel-based electrodes: Improving urea electro-oxidation | Kyle Doudrick | Civil Engineering and Geological Sciences |