



# Illinois Undergraduate Research Week

2016 Events  
April 17-23  
University of Illinois at Urbana-Champaign



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elcome to Undergraduate Research Week, a celebration of student excellence in research across campus. The signature event is the ninth annual campus-wide Undergraduate Research Symposium (URS), held on Thursday, April 21st. The breadth and scope of the oral and poster presentations, as well as the performances, featured reflect not only the wide range of academic disciplines at the University of Illinois, but also speak to the caliber of our undergraduate students. Our students are enterprising and thoughtful, eager to learn from their advisors and mentors. Their projects also demonstrate the ongoing commitment of our faculty to supporting and expanding undergraduate research opportunities on campus and beyond.

The presentations, posters, and performances listed below address some of society's most pressing issues, including education, health care, violent conflict, and natural disasters. As is true of the mentors who support them, these students and their projects hold the potential to change the world for the better. The featured lunch time session demonstrates the range of research that occurs at the University of Illinois, from advanced designs in engineering to questions of energy and national stability.

The 2016 URS includes a record number of participants from an expansive range of departments, colleges, and other units on campus. In addition, there will be awards in various categories for the best posters and presentations. Judges include university administrators, distinguished faculty members, and representatives of corporate sponsors.

Special thanks go to Dr. Karen Rodriguez'G, Associate Director of the Office of Undergraduate Research (OUR), Christopher Holmes and Mackenzie Kurth, graduate research assistant and undergraduate intern, respectively, for OUR, Noelle Easterday, graduate research assistant for Ethnography of the University Initiative, and OUR's Advisory Board members.

Dr. Anna Stenport  
Director, Office of Undergraduate Research

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## UNDERGRADUATE RESEARCH WEEK EVENTS

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### Office of Undergraduate Research – Getting Started in Research Workshop

Friday, April 15, 3:00–4:30 PM  
Lincoln Hall, Rm 1060

With this Workshop, the Office of Undergraduate Research inaugurates its new annual workshop series for undergraduate students who are interested in conducting research. OUR will provide an overview of the various forms of undergraduate research taking place on our campus, provide guidance in developing a plan of action, and discuss ways to contact faculty research mentors.

Attendance is limited; registered participants only.

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### Political Science Student Research Symposium & Awards Ceremony

Saturday, April 16, 11:30 AM–1:15 PM  
Heritage Room, ACES Library

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### Living-Learning Communities Researchers Initiative Poster Symposium

Sunday, April 17, 4:00–6:00 PM  
Florida Avenue Residence Halls, Oglesby Pagoda

*Using EEG to Study the Effects of Age-related Hearing Loss*

**Stephany Burz**, Sophomore, Psychology, LAS  
**Novejot Sandhu**, Sophomore, Molecular & Cell Biology, LAS

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*School Readiness: How the Experiences of Latino and African-American Parents' Influence Their Children*

**Kennedy Davis**, Freshman, Food Science & Human Nutrition, AHS  
**Stephanie Huerta**, Sophomore, Psychology and Spanish, LAS  
**Gabrielle Maloney**, Freshman, Human Development & Family Studies, ACES  
**Deiarah Wright**, Freshman, Communication, LAS

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*Biomimcry: How Nature Inspires Design*

**Ishani Dutta**, Freshman, Industrial Design, FAA

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*Empathic Modeling: How Experiencing the Experience of Another Supports Design*

**Timothy Ng**, Junior, Mechanical Engineering, ENG

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## Sponsors

Stevick Foundation  
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*Associations between Functional Mobility, Quality of Life and Community Participation among Full Time Wheelchair Users Living with Spinal Cord Injury*

**Alex Fliflet**, Freshman, Biology, LAS

*Laryngeal Flexibility: Neuromuscular Junction Differences in Rats with Varying Degrees of Vocal Training*

**Annalea Forrest**, Freshman, Psychology and Community Health, LAS/AHS

*PANIC at the DISSCO! Computer Music Composition Using Additive Sound Synthesis*

**Monika Janas**, Freshman, Computer Science, ENG

**Kristopher Kwak**, Freshman, Aerospace Engineering, ENG

**Mengqi Xu**, Freshman, Industrial Design, FAA

*Hopi Long-Distance Runners*

**Emma Kosnik**, Freshman, Undeclared, DGS

**William Kozlowski**, Junior, Economics, LAS

*Prescription Fire Effects on Mycorrhizal Productivity and Host Tree Fitness*

**Victoria Laserna**, Freshman, Biology, LAS

*Aftereffects of Children and Teen's Everyday Activities on Their ADHD Symptoms*

**Audrey Lee**, Freshman, Materials Science & Engineering, ENG

*Across the Seder Table: Reclaiming Jewish Identity in the Cape Verdean Diaspora*

**Alia Muhammad Radzi**, Freshman, Economics, LAS

*Transgenerational Effects of Di-(2-ethylhexyl) Phthalate on Anxiety-like Behavior in Mice*

**Laura Olander**, Freshman, Biology, LAS

*Social Indicators and the Urban Water Cycle*

**Alishba Rehman**, Freshman, Biochemistry and Chemical Engineering, LAS

*Using Myoglobin-based Enzyme Models to Understand Heme-Copper Oxidases*

**Madeline Sponholtz**, Sophomore, Specialized Chemistry, LAS

*The Effects of Land Use on Grassland Biodiversity: Birds, Invertebrates, and Amphibians*

**April Wendling**, Earth, Society & Environmental Sustainability, LAS

*Stability Analysis of Benefit-harm Relationships Using Automaton-like Model for Plant-pollinator Community Assembly*

**Anton Bershanskiy**, Freshman, Computer Science & Mathematics, ENG

*Using Mathematical Models to Create Networks of European Languages*

**Diana Kowalski**, Freshman, Mathematics and Linguistics, LAS

## College of Fine and Applied Arts (FAA) Symposium

**On Display, April 17-23**

Art + Design Building

The School of Art + Design's Undergraduate Research Week Exhibition will feature outstanding creative research by nine students, who were selected to represent each of our degree granting programs. (Art Education, Art History, Crafts-Metals, Graphic Design, Industrial Design, New Media, Painting, Photography and Sculpture).

**On Display, April 17-23**

Temple Buell Hall (Upper West Entry Plaza and Lower Atrium)

Work from undergraduates in the School of Architecture, Department of Landscape Architecture and Department of Urban and Regional Planning will be displayed. Award-winning work from architecture undergraduate majors who have participated in design competitions sponsored within and beyond the School of Architecture will be featured. In addition, outstanding work from undergraduate majors in architecture, landscape architecture, and urban and regional planning will be displayed. This work highlights community-based projects completed by undergraduate students as part of both research and coursework.

## Undergraduate Research Apprenticeship Program (URAP) Poster Symposium

**Monday, April 18, 3:00-5:00 PM**

Illini Union Room 210

A partnership between the Office of Undergraduate Research (OUR) and the Graduate College, URAP pairs first and second-year undergraduate students (including transfer students) with advanced graduate students. Under URAP, undergraduate students have an opportunity to conduct and learn the research process through a one-on-one research experience with their graduate student mentors.

*"Con su propia voz": The Voice and Value of Disability in Mar adentro and "Receta de verano"*

**Madeline Decker**, Sophomore, English and Spanish, LAS

*Using Modified Science Trade Books to Enhance Elementary Science Instruction*

**Grace Liu**, Freshman, Elementary Education, EDU

*How Coca-Cola Manipulates Its Consumers*

**Mecca Muhammad**, Sophomore, Global Studies, LAS

*The Psychology of Politics: Measuring Political Knowledge and its Relationship with Media Exposure*

**Stephen Duginger**, Sophomore, Political Science and Economics, LAS

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*Undergraduate Research Apprenticeship Program*

**Miroslava Osorio**, Sophomore, Political Science, LAS

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*Memory for Speech Categories*

**Naif Mansury**, Sophomore, Molecular & Cellular Biology, LAS

**William Kozlowski**, Junior, Economics, LAS

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*Modern and Medieval Borders: Case Studies in Cyprus and Wales*

**Andrianna Kurzenberger**, Sophomore, Political Science, LAS

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*The Relation between Flow Turbulence and Mixing Along A Stream Confluence Shear Layer*

**Yayu Zhou**, Junior, Statistics and Mathematics, LAS

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*Analyzing the Relationship between Deflation and Recession*

**Payal Mallik**, Sophomore, Economics and Finance, LAS/BUS

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*Increased Attention to Immigration Rights and Language in the United States*

**Shelby Gordon**, Junior, Interdisciplinary Health Sciences, AHS

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## School of Literatures, Cultures, and Linguistics Symposium

**Monday, April 18, 3:00–4:30 PM**

Foreign Language Building Atrium

*Explicit and Implicit Knowledge of English Articles in Second Language Acquisition*

**Elizabeth Nowicki**, Senior, Linguistics and East Asian Languages and Cultures, LAS

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*Special Presentation of Chatterbot, an Artificial Intelligence Program for Predicting Users' Gender*

**By Students of Professor Judith Pintar**

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**Friday, April 22, 3:00–4:30 PM**

Foreign Language Building Atrium

*The Impact of Visual Attractiveness on Opinion Convergence Online*

**Sarah Lord**, Junior, Linguistics & Computer Science, LAS

**Marina Terkourafi**, Associate Professor, Linguistics, LAS

## Ethnography of the University Initiative (EUI) Biannual Student Conference

**Wednesday, April 20, 3:00–8:30 PM**

Library and Information Science Building, Room 126

Since 2003, EUI has provided an innovative approach to teaching and learning focused on promoting student research on universities and colleges. In EUI-affiliated courses, students use a variety of ethnographic, archival, and related methods to examine the university in its broader social, political, and historical contexts. At the end of each semester, students have the opportunity to present their research at our biannual conference as well as contribute their work to the EUI collection in the University of Illinois' digital repository, Illinois Digital Environment for Access to Learning and Scholarship (IDEALS). During this academic year, there were 15 courses affiliated with EUI, serving approximately 300 students. For the Spring 2016 conference, students from 9 courses, across a range of disciplines, will present their research. The EUI program is supported through a partnership between the Office of Undergraduate Research and the Department of Anthropology.

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## Department of English Symposium

**Thursday, April 21, 4:30–6:00 PM**

English Building Atrium

*Baldwin and the Performance of (Something Other Than) Subjectivity*

**Evan Duncan**, Senior, English, LAS

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*Sexual Assault and American Literature*

**Rebecca Baron**, Senior, English, LAS

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*Knowledge Without Virtue: Revisiting Plato's Republic Through Vladimir Bartol's Alamut*

**Krupa Patel**, Senior, English, LAS

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*Re:Search, The Undergraduate Literary Criticism Journal at Illinois*

**Melisa Puthenmadom**, Senior, English, LAS

**Ana Fleming**, Senior, English, LAS

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## Department of Anthropology Capstone Conference

**Thursday, April 28, 6:00–9:00 PM**

161 Noyes Lab

Anthropology majors present their independent research projects to faculty, fellow students and guests. Join us to celebrate their hard work and learn more about the kinds of undergraduate research going on in contemporary anthropology. Enjoy good food and conversation!

# Illinois Undergraduate Research Week *Symposium*

21 April  
Illini Union

## IMAGE OF RESEARCH COMPETITION

On Display, 9:00 AM–4:30 PM  
Illini Rooms A, B, and C

The Image of Research is a multidisciplinary competition celebrating the diversity and breadth of undergraduate student research at the University of Illinois at Urbana-Champaign. All undergraduate students were invited to submit entries consisting of an image and brief text that articulates how the image relates to the research.

### Awards

First prize: \$300

Second prize: \$200

Two honorable mentions

### The judges for 2016

**Merinda Hensley**, Assistant Professor, University Library

**Dr. Karen Rodriguez G**, Associate Director,

Office of Undergraduate Research

**Sarah Christensen**, Visual Resources Curator, University Library

**Victoria Henry**, Graduate Assistant, Scholarly Commons

To view past entries, please visit:

<http://imageofresearch.omeka.net/>

The Image of Research is organized by the Scholarly Commons of the University Library and the Office of Undergraduate Research and is supported by a generous gift to the Scholarly Commons from the Division of Intercollegiate Athletics.

## ORAL PRESENTATIONS

### Human Health & Wellness

9:15–10:15 AM, Room 209

*Prevalence of Blood Borne Viral Infections in Patients with Inflammatory Bowel Disease*

**Parnita Harsh**, Sophomore, Molecular & Cellular Biology, LAS

*Whole Fat Dairy: Spoiling the Hispanic Diet by Adding Excessive Saturated Fat*

**Amanda Ayers**, Senior, Food Science & Human Nutrition, ACES

### Youth at Risk

9:15–10:15 AM, Room 211

*Are Neglect Subtypes Necessary From a Mental Health Perspective?*

**Arianna Jenkins**, Junior, Psychology, LAS

*A Maternal Perspective of School Readiness*

**Anita Oladunni**, Senior, Human Development & Family Studies, ACES

*Different Types of Parental Involvement yet There is a Common Goal: School Readiness at Kindergarten Level*

**Jazmin Landa**, Senior, Kinesiology, AHSS

### Unexpected Productions

9:15–10:15 AM, Room 213

*Contemporary Works for Saxophone*

**Jeremy Loui**, Senior, Music Education, FAA

*Goat Song: An Unpublished Play by Tennessee Williams*

**Ryan Smetana**, Senior, Acting, FAA

**Jordan Pettis**, Senior, Acting, FAA

**Ellen Magee**, Senior, Acting, FAA

**Susan Schuld**, Assistant Professor, Acting, FAA

*The Social Support and Sexual Health of Latino Gay Men who Have Sex with Men*

**Xavier Ramirez**, Senior, Social Work, SSW

### Questions of Global Scale

9:15–10:15 AM, Room 215

*Inequality from a Historical Perspective*

**Monica Ngo**, Senior, Mechanical Engineering, ENG

**Courtney Delaney**, Freshman, Agribusiness, Markets and Management, ACES

**Taylor Cygan**, Freshman, Undeclared, DGS

*The EU, the Schengen Area, and the Refugee Crisis*

**Marshall Janevicius**, Senior, French, LAS

## Cultivating Community

**10:45–11:45 AM, Room 209**

*Newman: Faith as a Root in Community*

**Ariel Majewski**, Freshman, Journalism, COM

*Facilitators and Barriers of Community Gardens in the Chicagoland Area*

**Abigail Petersen**, Senior, Natural Resources & Environmental Sciences, ACES

## Society & Health

**10:45–11:45 AM, Room 211**

*Social Determinants of Free Clinic Patients*

**Kirin Upadhyay**, Junior, Community Health, AHS

**Kaila Mitchell**, Senior, Community Health, AHS

**Ali Alagha**, Junior, Community Health, AHS

*Barriers to Cancer Care for Rural Populations*

**Kaila Mitchell**, Senior, Community Health, AHS

**Vivian Bui**, Junior, Community Health, AHS

**Cindy Hou**, Senior, Community Health, AHS

*Charitable Care in Hospitals*

**Shannon Casey**, Senior, Community Health, AHS

**Kaylee Arnold**, Senior, Health Planning & Administration, AHS

**Justice Hammers**, Junior, Community Health, AHS

**Sarah Klimchuk**, Senior, Community Health, AHS

## Elementary Literacies

**10:45–11:45 AM, Room 213**

*Teaching Nature of Science in Schools*

**Aniruddha Aggarwal**, Junior, Mathematics, LAS

*Developing Environmental Literacy in Milwaukee Youth: The Effects of Age and Frequency of Participation*

**Jordan Williams**, Senior, Natural Resources & Environmental Sciences, ACES

## 'Body' Politics

**1:45–2:45 PM, Room 209**

*Unknown Name, Unknown Age: On Necropolitics, Transgender Suicide, and the Politics of Refusal*

**Stephanie Skora**, Senior, Gender & Women's Studies, LAS

*Baldwin and the Performance of Subjectivity*

**Evan Duncan**, Senior, English, LAS

*Diversity as a Crutch: Black Students and Inclusive Practices at Predominately White Institutions*

**Aaminah Long**, Junior, Psychology, LAS

## Marginalized Populations

**1:45–2:45 PM, Room 211**

*Laboring in the Shadows: Latina Domésticas and the Politics of Employment*

**Amanda Lane**, Senior, Anthropology, LAS

*What Do They See? A Look at the Appeal of ISIS to Young Muslim Women Raised in Great Britain*

**Rebecca Davis**, Senior, Global Studies, LAS

*South Chicago Black Mothers' Project*

**Osazomon Imarenezor**, Senior, Chemistry, LAS

**Lakrista Cummings**, Senior, Sociology, LAS

## Parental Involvement and Student Success

**1:45–2:45 PM, Room 213**

*The Importance of Parental Involvement in Regards to Low-Income African-American Children's Potential Educational Attainment*

**Theola Maxon**, Senior, Human Development & Family Studies, ACES

*Parent-Teacher Conferences: Contribution of Ethnicity in Parent-Teacher Communication*

**Tracy Reyes**, Junior, Psychology, LAS

## Form and Timing

**3:15–4:15 PM, Room 209**

*Form Follows Future: Theatre Epistemologies of The New Brown Vortex*

**Mateo Hurtado**, Senior, Latina/Latino Studies, LAS

*Your Affectionate Tom*

**Mindy Shore**, Senior, Acting, FAA

**Samuel Babick**, Senior, Acting, FAA

**Dylan Connelly**, Senior, Acting, FAA

**Alexis DawTyne**, Senior, Acting, FAA

*The History of Chinese Students at the University of Illinois of Urbana-Champaign*

**Jiayi Li**, Senior, History, LAS

**Mindi Zhang**, Junior, LAS

**Xingjian Sun**, Senior, COM

**Junyi Tang**, Junior, LAS

## Dance as Discourse

3:15–4:15 PM, Room 211

*The Maternal Body's Physical Habits and the Surrounding Social Environment within Performance*

**Katherine Williams**, Senior, Dance, FAA

*Conversations with an Audience*

**Thomas Welsh-Huggins**, Junior, Dance, FAA

*Dance in Society*

**Danielle Mastricola**, Freshman, Dance, FAA

## Microbes and Cellular Processes

3:15–4:15 PM, Room 213

*Rapid Mass-spectrometry-based Screening of an Antibiotic Variant Enabled by Synthetic Biology*

**Wen Ren**, Senior, Chemical & Biomolecular Engineering, LAS

*Inferring Microbial Community Structure from Time Series Data*

**Zachary Cohen**, Junior, Integrative Biology, LAS

*Characterization of Helicobacter pylori VacA Association with Host Cells*

**Jiayi Luo**, Junior, Biochemistry, LAS

## POSTER PRESENTATIONS

### PA Session – Food, Plants, and Animals

9:00–10:15 AM, Illini Room A

*Dietary Peptides from Phaseolus vulgaris L. Decreased Angiotensin II-dependent Proliferation in HCT116 Human Colorectal Cancer Cells*

**Katie Liang**, Junior, Molecular & Cellular Biology, LAS

*A Stability Study of Purple Corn Anthocyanin Extracts in a Commercial Beverage*

**Helen Bengtson**, Senior, Food Science, ACES

*The Hunger Free Summer for Kids 2015: A Policy Analysis*

**Elizabeth Berton**, Senior, Psychology, LAS

*Stable Asexuality in Whiptail Lizards and Bdelloid Rotifers Explored in an Evolving Foraging Decision Model*

**Paul Bogdan**, Junior, Molecular & Cellular Biology, LAS

*The Evolution of the Lens: Functional Transitioning from Sea to Land*

**Angela Cruz**, Senior, Biology, LAS

*Factors Affecting Nest Survival of Dickcissels*

**Alexander Di Giovanni**, Junior, Natural Resources & Environmental Sciences, ACES

*A Bioinformatic Analysis Reveals Common Genes Involved in Heat and Nitrogen Signaling Networks in Arabidopsis thaliana*

**Clayton Dilks**, Junior, Integrative Biology, LAS

*Effects of Sun Shading on Leaf Traits of Tree Species in Trelease Woods*

**Alex Duman**, Junior, Integrative Biology, LAS

**Andrew Tran**, Junior, Integrative Biology, LAS

*Consequences of Alternate Prey Options on Prey Selection of a Freshwater Copepod Predator*

**Lauren Emerson**, Senior, Integrative Biology, LAS

*High Throughput Phenotypic Classification of Maize Ears*

**Nicholas Hayden**, Junior, Crop Sciences, ACES

*Characterization of Toll-like Receptor Genes in Eastern Box Turtles (Terrapene carolina carolina)*

**Stephanie Heniff**, Senior, Integrative Biology, LAS

*Comparing Transcriptome Responses to N type in Tissues*

**Katerina Holan**, Senior, Crop Sciences, ACES

*Wing Interference Patterns (WIPs) of Neotropical Parasitoid Wasps (Braconidae: Microgastrinae)*

**Shuyang Jin**, Senior, Integrative Biology, LAS

*Shape-shifting: Predators, Parasites, and Plasticity in Daphnia*

**Samantha Kopec**, Senior, Integrative Biology, LAS

*Developing a Genomic Protocol for Identification of Tick-borne Pathogens in Laikipia, Kenya*

**Katherine Lincoln**, Senior, Integrative Biology, LAS

*CRISPR/CAS9 Genome Editing System for Increased Crop Production in Eudicots by Transient-Gene Expression by Agrobacterium tumefaciens*

**Helen Liu**, Sophomore, Plant Biotechnology and Molecular Biology, ACES

*The Root of the Matter: The Effects of Acculturation on Legume Consumption*

**Jocelyne Lopez**, Sophomore, Biology, LAS

**Octavio Herrera**, Junior, Molecular & Cellular Biology, LAS

*The Monitoring of Genes Involved in Nitrogen Remobilization in Miscanthus x giganteus*

**Jessica Mattick**, Senior, Biochemistry, LAS



*Potential of Maternal Imprinting to Suppress Symptoms of Fescue Toxicosis*

**Lyndzi Miller**, Senior, Animal Sciences, ACES

*Aggressiveness in Northern Australian Ants against Invasive Species*

**Katherine O'Connor**, Senior, Agri-Accounting, ACES

*Comparison of Desmin in Cooked and Raw Pork Chops*

**Elaine Richardson**, Junior, Animal Sciences, ACES

*Effects of Foliar Fungicide Application on the Growing Corn Plant*

**Karli Robinson**, Senior, Animal Sciences, ACES

*Effects of Arthropod Abundance within Dickcissel (*Spiza americana*) Territories on Nestling Body Condition.*

**Katherine Rola**, Senior, Natural Resources & Environmental Sciences, ACES

*Genotyping Maize Inbreds for Glossy-15*

**Parrish Smith**, Sophomore, Crop Sciences, ACES

*The Effect of Garden Plant Diversity on Mosquito Species that Act as Infectious Disease Vectors in Central Illinois*

**Nathan Stables**, Senior, Integrative Biology, LAS

*Loss of Canonical Notch Signaling Results in Altered Development of Hypothalamic Regions Controlling Reproduction*

**Robert Thompson**, Senior, Molecular & Cellular Biology, LAS

*The Octopus: Eight Arms or Eight Minds?*

**Andrew Tran**, Junior, Biology, LAS

**Alex Duman**, Junior, Biology, LAS

*An Analysis of Broomcorn Diversity*

**Abigail Vanderkloot**, Junior, Crop Sciences, ACES

*Effects of Prairie Management on Soil Characteristics and Bees*

**Christina Vercillo**, Junior, Integrative Biology, LAS

*Effect of Nisin and Lysozyme on Fermented Ciders Contaminated by Lactic Acid Bacteria*

**Joshua Warren**, Senior, Food Science, ACES

*Structural Rearrangements between the Dog and Red Fox Genomes*

**Naomi Won**, Sophomore, Molecular & Cellular Biology, LAS

*How Cover Crops Affect the Soil Nitrogen Pool*

**Tianyu Ying**, Senior, Natural Resources & Environmental Sciences, ACES

*Quantitative Trait Loci (QTL) Analysis of the Genes Controlling the Size of the Seed Head (panicle) under Wet Versus Dry Conditions in the Model C4 Grass, *Setaria**

**Finey Ruan**, Senior, Integrative Biology, LAS

*Development of Microsatellite Markers for the Characterization of Y-Haplotypes in the Red Fox*

**Jeremy Stutchman**, Sophomore, Animal Sciences, ACES

*Determining the Identity and Possible Origin of a Collembola Pest of Lettuce and Tree Seedlings*

**Alejandra Flores**, Senior, Molecular & Cellular Biology, LAS

## **PB Session – Education, Social Science & Human Behavior**

**9:00–10:15 AM, Illini Room C**

*Effects of Student-faculty Interactions on African American Males in Higher Education*

**Brandon Boston**, Senior, Communications, LAS

*Undergraduate Research Apprenticeship Program*

**Miroslava Osorio**, Sophomore, Political Science, LAS

*From the Washington to the Beijing Consensus: China's Economic Rise and the IM*

**John Knoblett**, Senior, Political Science, LAS

*Using Modified Science Trade Books to Enhance Elementary Science Instruction*

**Grace Liu**, Freshman, Elementary Education, EDU

*Community-Based Instruction: What Happens to Students with Disabilities After High School?*

**Stefanie Ayala**, Freshman, Special Education, EDU

*The Effects of Questioning as Educational Scaffolding in Writing Center Conferences*

**Laura Bjankini**, Freshman, English, LAS

*The Importance of Literacy in Spanish-Speaking Homes and their Communities*

**Gabriella Mizgala**, Sophomore, Elementary Education (Grades 1-6), EDU

*Factors that Motivate UIUC Engineering Students in Their In-Class Performance*

**Oi Lam Fung**, Junior, Electrical Engineering, University of Macau

**Alexandre Lourenco**, Junior, Electrical Engineering, University of Macau

*How Does "Flipped Classroom" Affect UIUC Students' Academic Performance and Learning Attitudes?*

**Sin Tong Lam**, Junior, Communication, University of Macau  
**Wai I Lam**, Junior, Recreation, Sport and Tourism, University of Macau

*Can Parent's Talk About Success and Failure in Math Influence their Child's Math Ability?*

**Samantha Shah**, Senior, Psychology, LAS

*Which Princess are You? Language and Gender in Children's Books*

**Ciara Reilly**, Senior, Anthropology, LAS

*Use of Technology and Movement in the Classroom to Improve Understanding*

**Jacqueline Shannon**, Freshman, Elementary Education (Grades 1-6), EDU

*EZ Investment*

**Jinghua Xing**, Junior, Accountancy, BUS  
**Xinlu Tu**, Senior, Finance and Statistics, BUS/LAS

*Oppression of the Devoted*

**Janice Lin**, Senior, Political Science, LAS

*Synthesis and Characterization of Hollow Polydimethylsiloxane Microspheres*

**Samantha Fuchs**, Senior, Chemistry, LAS

*A Longitudinal Comparison of the Speech Rate of Active Declarative Sentences vs Repeated Sentences in Preschool Children*

**Bridget Maloney**, Junior, Audiology, AHS  
**Brittany Greig**, Senior, Junior, Audiology, AHS

*Luxury in the Making*

**Hannah Russell**, Senior, Urban Planning, FAA  
**April Swanson**, Senior, Urban Planning, FAA

*A Comparison of Early Childhood Screening Instruments: The Denver-II vs. the Bayley-III*

**Alexis Cirrincione**, Senior, Human Development & Family Studies, ACES  
**Molly Harmon**, Senior, Human Development & Family Studies, ACES

*Bridging the Gap: Domestic, Native-English Speakers & the Writers' Workshop*

**Matthew Ruby**, Junior, Global Studies, LAS

## PC Session - Science & Mathematics

9:00-10:15 AM, South Lounge

*High-efficiency Method for Building a Multi-gene Rubisco activase Construct Library to Evaluate and Tune Performance of Schemes to Improve Rubisco activase Activity*

**Richard Field**, Junior, Crop Sciences, ACES

*Co- and Ni-based Perovskite Nano-Cubes as Electrocatalyst in Water Splitting Reaction; LaxNi<sub>2</sub>O<sub>3</sub>, LaxCo<sub>2</sub>O<sub>3</sub>*

**Xuxia Chen**, Senior, Chemical & Biomolecular Engineering, LAS

*Development of a Control System and User Interface for the Quanser Shake Table II*

**Vivian Wen Hui Wong**, Junior, Civil & Environmental Engineering, ENG

*Is Big Data a Good Investment?*

**Megan Zheng**, Senior, Agricultural & Consumer Economics, ACES

*Alteration of Host Cell Autophagic Response by a Tripartite Bacterial Genotoxin*

**Hanlin Mok**, Senior, Molecular & Cellular Biology, LAS

*Development of a Comprehensive Curricular Module That Integrates Hands-on Physical Tests with Model-Based Design: Gear Design and Test Activity for GE 410*

**Junwu Zhang**, Junior, Mechanical Engineering, ENG  
**Dhruv Kanwal**, Senior, Computer Engineering, ENG

*Ultrasonication-assisted Water Extraction of Nitrogen-containing Compounds in Algal Biocrude Oil*

**Karalyn Scheppe**, Senior, Agriculture & Biological Engineering, ENG

*Characterization of the Pilocarpine-induced Epilepsy Model in Mice*

**Vincent Abejuela**, Senior, Molecular & Cellular Biology, LAS

*Application of Deep Learning on Cosmological Time Series Data*

**Sushma Adari**, Sophomore, Computer Science & Astronomy, LAS

*Novel Mouse Model for Studying the Function of New Neurons in Behavior*

**Madison Barker**, Senior, Molecular & Cellular Biology, LAS

*Effects of Vocoder Carrier Bandwidth on Binaural Fusion*

**Abigail Buente**, Senior, Audiology, AHS

*Investigating the Binding Selectivity of Small Molecules that Target d(CTG) Trinucleotide Repeats*

**Luis Curet**, Sophomore, Chemistry, LAS

*Reinforcement of Collagen-GAG Scaffolds via Polycaprolactone Frame*

**Kevin Erning**, Senior, Chemical & Biomolecular Engineering, LAS

*Seismic Velocity of Augite through Brillouin Scattering*

**Paul Ginsberg**, Senior, Geology, LAS

*Numerical Simulation of Highly Pulsatile Blood Flow through Idealized Femoral Artery Bifurcations*

**Francisco Gonzalez**, Senior, Aerospace Engineering, ENG

*Development of New Drug Targets - IspH*

**Armaan Haleem**, Junior, Molecular & Cellular Biology, LAS

*Supramolecular Enthalpy Gradients for the Directed Transport of Chemical Agents*

**Mary Haugen**, Junior, Chemistry, LAS

*Tropical Cyclone Induced Sea Surface Temperature Anomalies in the Eastern Pacific*

**Andrew Huang**, Junior, Atmospheric Sciences, LAS

*Near-axis Seamounts as Probes of Mantle Melting at the East Pacific Rise*

**Ashly Hunt**, Senior, Geology, LAS

*Cloning, Overexpression, Purification and Characterization of Putative Bile Acid 7<sup>a</sup>-dehydratases from Clostridium leptum and Clostridium sordellii in Escherichia coli*

**Morgan Ivy**, Senior, Molecular & Cellular Biology, LAS

*Thin Outer Nuclear Layer and Retinal Volume Measurements with Automated Segmentation on Optical Coherence Tomography Supports Hydroxychloroquine Toxicity*

**Akshay Jain**, Senior, Molecular & Cellular Biology and Chemistry, LAS

*Synthesis of Diiron thiolate Complexes*

**Rhiannon Jones**, Junior, Chemistry, LAS

*Using Microwells for Controlled Intestinal Differentiation of hiPS Cells*

**Elijah Karvelis**, Sophomore, Chemical & Biomolecular Engineering, LAS

*Measuring D-amino acids in Neuropeptides via Mass Spectrometry*

**Bora Kim**, Senior, Chemistry, LAS

*Astrocytic Modulation of Synaptic Inhibition using Optogenetics*

**Jason Lamano**, Senior, Molecular & Cellular Biology, LAS

*A Genetically Encoded System for Programmable Cell Assembly Using Surface-displayed DNA Oligonucleotides*

**Yuhao Min**, Sophomore, Chemistry, LAS

*Characterization of a Cortisol Transport Protein from Clostridium scindens ATCC 35704 in Escherichia coli*

**Sean Mythen**, Senior, Animal Sciences, ACES

## PD Session – Social Sciences & Human Behavior

10:45 AM–12:00 PM, Illini Room A

*How Much Does the Public Care about Conservation Policy in China? Empirical Evidence from Weibo (Chinese Twitter) "Big Data"*

**Shiyuan Dong**, Senior, Natural Resources & Environmental Sciences, ACES

*Defining Friendship: The Relational Cognitive Dissonance Approach*

**Paul Bogdan**, Junior, Molecular & Cellular Biology, LAS

*The Sense of Belonging of Students from Illinois and International Students in UIUC*

**Hio Leng Lei**, Senior, Political Science, University of Macau

**Sin Man Io**, Senior, Political Science, University of Macau

*Gender and Committee Assignments in the U.S. House of Representatives*

**Marie Johnson, Senior**, Political Science, LAS

*Nature's Role on Family Interactions: Promoting Positive Relationships and Cohesiveness between Mothers and Daughters*

**Danette DeWeese**, Senior, Human Development & Family Studies, ACES

*Rapport Study*

**Caitlin Nagle**, Freshman, Special Education, EDU

**Kelsey Linnig**, Freshman, Special Education, EDU

*Explicit and Implicit Knowledge of English Articles in Second Language Acquisition*

**Elizabeth Nowicki**, Senior, Linguistics, LAS

*SWOT Analysis of Bevier Cafe and its Marketing Options*

**Seul An Kim**, Senior, Agriculture & Consumer Economics, ACES

*The Role of Attractiveness in Opinion Convergence Online*

**Sarah Lord**, Junior, Computer Science and Linguistics, ENG/LAS

*Misrepresentations of Plurality in Language Processing*

**John Dempsey**, Senior, Linguistics, LAS

*The President vs. Congress: Agency Compliance and Control*

**Michelle Gong**, Senior, Political Science, LAS

*People's (Inconsistent) Attitudes about Foundational Moral Beliefs*

**Madeline Reinecke**, Junior, Psychology, LAS

*Catalog Community*

**Cameron Letterly**, Senior, Architectural Studies, FAA

*Harmonia Project Part 1*

**Shannon Sledz**, Junior, Statistics, LAS  
**Benjamin Olson**, Junior, Statistics, LAS  
**Alex Kay**, Senior, Statistics, LAS

*Content Contradictions: How Ad-content Congruity Affects Brand Favorability and Purchase Intention?*

**Nicolette Highland**, Junior, Advertising, COM  
**Mitchell Kahl**, Junior, Advertising, COM  
**Lauren Cowin**, Sophomore, Advertising, COM  
**Natalie Ang**, Sophomore, Advertising, COM

*Call for a Systematic Review of Survey Methodologies: Open-Ended vs Close-Ended Research Questions in Analyzing Coursera Respondent Data*

**Emily Forbes**, Junior, Sociology, LAS  
**Sandra Franco**, Senior, Linguistics, LAS  
**Yixin Zou**, Junior, Advertising, COM

*Understanding the Media Journey of Local Issues: The Case of the Flint Water Crisis*

**Wes Bremme**, Senior, Media & Cinema Studies, COM

*Development and Globalization: A Dissemblance of East-West Perceptions*

**Hung Lang**, Junior, Communication, LAS

*Gender Stereotyping Within the Education System*

**Brittany Barajas**, Freshman, Special Education, EDU

*The Disney Effect: Parents' Ambivalence Toward Commercialization in Children's Books*

**Simran Devidasani**, Junior, Advertising, COM

*Stereotypes of Duo in a Work Group*

**Siqi Wu**, Senior, Accountancy, BUS

*Evaluating the Effect of Environment vs Genetics on the Development of Hyperactivity in a Novel Mouse Model of ADHD*

**Elizabeth Grogan**, Senior, Molecular & Cellular Biology, LAS

*Test-retest Reliability and Participant Feedback on a Novel Measure of Emerging Adult Reasons for Substance Use*

**Emily Hartung**, Junior, Social Work, SSW  
**Olivia Pinsof**, Junior, Social Work, SSW

*The Narrative Behind Avicenna Community Health Center: Reducing Healthcare Disparities and Promoting Wellness in Champaign County*

**Chitra Iyer**, Senior, Molecular & Cellular Biology, LAS  
**Janki Thakkar**, Senior, Molecular & Cellular Biology, LAS  
**Claire Daniel**, Senior, Molecular & Cellular Biology, LAS

*Stress and Coping Among Middle Childhood Youth*

**Erin LePoire**, Senior, Child & Adolescent Development, ACES

*The Effects of Varying Rental Arrangements on a Central Illinois Grain Farm*

**Kolten Postin**, Senior, Agribusiness, Markets & Management, ACES

*Impact of Grammatically Gendered Language in the Stock Market*

**Ziang Xiao**, Senior, Psychology, LAS

*Examining the Politicization of Indigenous People: Perceived Government Deliverance and Participation in Latin America*

**Alexandra Turcios**, Senior, Political Science, LAS

**PE Session - Science & Mathematics**

**10:45 AM-12:00 PM, Illini Room C**

*Preparing Lacticin 481 Mutant via Leader Peptide-directed Bioengineering*

**Shivaliben Patel**, Junior, Molecular & Cellular Biology, LAS

*Introduction to Stochastic Simulation Algorithms*

**Zhou Ran**, Senior, Mathematics, LAS  
**Zhou Ran**, Senior, Mathematics, LAS  
**Yunxiang Zhang**, Senior, Mathematics, LAS  
**Tianyu Liang**, Senior, Mathematics, LAS

*Developmental Reprogramming of the Transcriptome is an Essential Component of Liver Regeneration*

**Edrees Rashan**, Senior, Biochemistry, LAS

*Surface Modification of Silicon Photonic Microring Resonators for Chemical Transport and Sensing*

**Nate Reed**, Senior, Chemistry, LAS

*Cellular Localization of SHANK1 in Mouse Hippocampus throughout Development*

**Samantha Reed**, Senior, Molecular & Cellular Biology and Psychology, LAS

*Preparation of Enzymatic Redox-responsive Hydrogels as Cell Culture Platforms*

**Lillian Roderick Buescher**, Sophomore, Chemical & Biomolecular Engineering, LAS

*Sulphidation Mechanism of ZnO Nanoparticles*

**Ryan Sanders**, Senior, Chemical & Biomolecular Engineering, LAS

*Amino Acids Excite Orexin Neurons*

**Anna Serrano**, Senior, Horticulture, ACES

*Substrate Stiffness and Matrix Composition Coordinately Control the Differentiation of Liver Progenitor Cells*

**Benjamin Streeter**, Senior, Bioengineering, ENG  
**Nicholas Cornell**, Junior, Bioengineering, ENG

*Elastic Block Modeling of Fault Slip Rates across Southern California Using Updated GPS Velocity Data From the San Bernardino Mountains and Vicinity*

**Tiffany Vlahopoulos**, Senior, Geology, LAS

*Designing a Fiber Reinforced Biomaterial Platform to Increase Mechanical Properties and Bioactivity for Multi-Tissue Regeneration*

**Alan Vucetic**, Junior, Chemical & Biomolecular Engineering, LAS

*Chromium in the Vadose Zone of the Eel River Critical Zone Observatory, Northern California*

**Jia Wang**, Junior, Geology, LAS

*MSL Fraternity and Sorority Analysis*

**Xiaoqing (Mia) Xin**, Junior, Agribusiness, Markets & Management, ACES

**Ismael Correa**, Senior, Economics, LAS

*Bacteroides vulgatus - Viral Interactions Analyzed Via Gene Deletions*

**Nicholas Zanghi**, Senior, Molecular & Cellular Biology, LAS

*Examining the Maximum Entropy Production Principle through Nanotube Self-assembly*

**Erik Kountz**, Senior, Physics, LAS

*Selective Upgrading of Biomass Fuels Using Homogeneous Catalysis*

**SiiHong William Lau**, Senior, Chemical & Biomolecular Engineering, LAS

**Yasheen Jadidi**, Junior, Chemical & Biomolecular Engineering, LAS

*Combining CO<sub>2</sub> Capture with Electrochemical Conversion using Deep Eutectic Solvents*

**Xun Lu**, Sophomore, Chemical & Biomolecular Engineering, LAS

*The Dose-Response Relationship of a Physical Activity Intervention on Congruency Sequence Effects in Preadolescent Children*

**Mario Pacheco**, Senior, Integrative Biology, LAS

*Improving Quality and Quantity of Salivary Genomic DNA*

**Daniel Shlyak**, Senior, Kinesiology, AHS

*Molecular Effects of CYP27B1 Mutations on Vitamin D Synthesis*

**Jessica Strzepka**, Senior, Molecular & Cellular Biology, LAS

*Evaluating the Relationship of Volumetric Soil Moisture and Low-Level Cumulus Clouds during the CLASIC Field Campaign*

**Charles White**, Senior, Atmospheric Sciences, LAS

*Bariatric Surgery: Roll Up your Sleeves; Let's Get Physical*

**Michael White**, Senior, Molecular & Cellular Biology, LAS

**Daniel Shlyak**, Senior, Kinesiology, AHS

## PF Session - Health & Wellness

10:45 AM-12:00 PM, South Lounge

*Analysis of Protein and Fiber Contents at Chain Restaurants Shows Healthy Items in Some Restaurants*

**Natasha Bhagat**, Senior, Human Nutrition, ACES

*The Feasibility of Healthy Eating: Meal Preparation and Family Dynamics Among Hispanic Families*

**Erin LePoire**, Senior, Child & Adolescent Development, ACES

**Maricarmen Lopez**, Sophomore, Speech Language Pathology, AHS

*Hybrid Lipid Films for Drug Encapsulation and Controlled Drug Delivery*

**Aneysha Bhat**, Senior, Bioengineering, ENG

*Potential Reduction in the Absorption of Dietary Cholesterol by Legume Peptides Disrupting Niemann-Pick C1-Like 1 (NPC1L1) Intestinal Receptors*

**Luis Real Hernandez**, Senior, Chemistry, LAS

*Preventative Effects of Broccoli on Liver Cancer in Young Male Mice*

**Jennifer Kaczmarek**, Senior, Dietetics, ACES

*The Cholesterol Metabolite, 27-Hydroxycholesterol, Induces Interleukin 6 Secretion in Breast Tumor Associated Macrophages*

**Ashabari Mukherjee**, Senior (Graduated Fall 2015), Biology, LAS

*Breast Milk Composition, Milk Intake, and Their Relationship to Infant Weight Gain*

**Claire Varney**, Senior, Human Nutrition, ACES

*Targeting Drug-Resistant Bacteria: Deoxybomycin Derivatives*

**Olivia Pattelli**, Senior, Molecular & Cellular Biology, LAS

*Breast Cancer Advancement is Increased by Toxicants Found in Thermally Abused Oil (TAO) of Fried Foods*

**Caleb Pflederer**, Senior, Molecular & Cellular Biology, LAS

**Samantha O'Connor**, Senior, Molecular & Cellular Biology, LAS

**Travis Pflederer**, Sophomore, Molecular & Cellular Biology, LAS

*Analysis of the Ability of Staphylococcus aureus to Use Glycerol-3-phosphate as a Phosphate Source*

**Kevin Grudzinski**, Senior, Molecular & Cellular Biology, LAS

*Effects of Exercise Training on Statin-Induced Skeletal Muscle Myopathy*

**Alay Parikh**, Senior, Molecular & Cellular Biology, LAS

*Association Between Income and Depressive Symptoms Among Postnatal Mothers in a WIC Supplemental Nutrition Program*

**Devaki Belwalkar**, Sophomore, Food Science & Human Nutrition, ACES

*Investigating the Relationship between Global Measles Incidence and Socio-determinants of Health*

**Maria Bohri**, Health, Major, AHS

*Effect of Vitamin and Mineral Supplementation on Childhood Obesity*

**Zhangying Chen**, Junior, Integrative Biology, LAS

**Kevin Tom**, Junior, Economics, LAS

**Oveyaa Vignesh**, Senior, Interdisciplinary Health Sciences, AHS

**Jessica Bustamante**, Senior, Psychology, LAS

*Family Factors in Childhood Obesity: Parental Health Literacy and Child's BMI*

**Ruyu Liu**, Junior, Dietetics, ACES

**Jenna Bhatt**, Junior, Integrative Biology, LAS

**Amy Malinowski**, Junior, Human Development & Family Studies, ACES

*Bariatric Procedures: The Impact of Pre-operative Diets on Post-operative Outcomes*

**Rebecca Magnuson**, Senior, Dietetics, ACES

*Changes in Medication after Bariatric Surgery*

**Charlie Knox**, Senior, Human Nutrition, ACES

*The Social and Cultural Barriers that affect Hispanic Families, especially Mexican Families, to Make Health Changes*

**Daria Gonzalez**, Senior, Human Development & Family Studies, ACES

**Stephanie Gil**, Sophomore, Community Health, AHS

*Physical Activity Patterns among Hispanic Families*

**Nicauly Martinez**, Sophomore, Creative Writing, LAS

**Michelle Favela**, Sophomore, History, LAS

*Vitro Evaluation of Cartilage Properties Due To Targeted Wear of the Tibial Plateau*

**Megan Fritz**, Junior, Mechanical Engineering, ENG

**Nicholas Runge**, Senior, Chemistry, LAS

*Project GEMS: Guidelines for Exercise in Multiple Sclerosis; A Home Based Behavioral Intervention Study*

**Maria Bohri**, Senior, Community Health, AHS

*Studies on the Interaction of Health Professionals with the U.S. Latino/a Population*

**Maura Benson**, Senior, Spanish, LAS

*Hepatic Fibrosis in Developmental and Postnatal Exposure to High-fat Diet*

**Paul Dudek**, Senior, Molecular & Cellular Biology, LAS

*Investigating the Role of Extracellular Matrix (ECM) Remodeling during Wing Disc Regeneration in Drosophila*

**Amanda Sul**, Senior, Molecular & Cellular Biology, LAS

*An Analysis of the Financial Health of Critical Access Hospitals in Illinois*

**Justice Hammers**, Junior, Community Health, AHS

**Jacob Bowers**, Junior, Health Planning & Administration, AHS

**Connie Yu**, Senior, Community Health, AHS

**Sarah Klimchuk**, Senior, Community Health, AHS

## Featured Presentations

### Lunch: 12:00–1:15 PM, Illini Room B

*The Beauty of Diversifying Your Research*

**Osazomon Imarenezor**, Senior, Chemistry, LAS

*Design and Sensory Feedback in Prosthetic Hands*

**Patrick Slade**, Senior, Mechanical Engineering, ENG

*Energy Security and State Vulnerability: A Case Study from Taiwan*

**Leah Matchett**, Senior, Global Studies and Geology, LAS

## PG Session - Science & Mathematics

### 1:30–2:45 PM, Illini Room A

*Detecting microRNA Signatures to Differentiate Tissue Type by Developing a Signal Enhancement Strategy for Use on Silicon Microring Resonators*

**Christopher Para**, Senior, Chemistry, LAS

*The Manganese Importer MntABC Enhances the Ability of Staphylococcus aureus to Resist Host-imposed Metal Starvation*

**Jamie Zhu**, Senior, Molecular & Cellular Biology, LAS

*Experimental Search for Determinants of ACL Health*

**Edden Rabin**, Senior, Mechanical Engineering, ENG

*Data Resolution Effects on Avalanche Statistics in Bulk Metallic Glass*

**Aya Nawano**, Senior, Physics, LAS

*Nested Simulations for Financial Reporting*

**Qianyu Cheng**, Senior, Actuarial Science, LAS

**Tianyi Xing**, Senior, Actuarial Science, LAS

**Yitong Huang**, Senior, Actuarial Science, LAS

*Coadapted Genetic Algorithm for Solving the String Match Problem*

**Filip Gajowniczek**, Senior, Mechanical Engineering, ENG

*Coordinating Multiple Representations: A Comparison of Eye Gaze Patterns of High School Students Who Enroll in Calculus*

**Emily Gajos**, Sophomore, Elementary Education (Grades 1-6), EDU

*IoT Traffic Simulation: Data Pipeline*

**Anchal Agrawal**, Senior, Computer Science, ENG

*Using Petrophysics to Determine the Presence of Residual Oil Zones in the Thick Cypress Sandstone at Noble Field, Southeastern Illinois*

**Joshua Arneson**, Senior, Geology, LAS

*Differentiation of Liver Stem Cells*

**Lily Barghi**, Sophomore, Bioengineering, ENG

*Grating Project: Regarding the Demonstration of the Technology*

**Jose Beserra**, Junior, Chemistry, LAS

*Local and Global Randomness in the Leading Digits of Arithmetic Sequences*

**Zhaodong Cai**, Junior, Mathematics, LAS

**Matthew Faust**, Sophomore, Computer Engineering, ENG

**Shunping Xie**, Junior, Computer Science, ENG

*IoT Traffic Simulation: Predictive Analysis*

**Neeraj Asthana**, Senior, Computer Science, ENG

*Statistical Analysis of Historical Climate and Forecast Data from Illinois and Other Locations*

**Mario Cannamela**, Senior, Mathematics, LAS

**Sijia Huo**, Sophomore, Mathematics & Computer Science, LAS/ENG

**Yantong Zheng**, Junior, Statistics, LAS

*Distillation of Biocrude Oil Converted from Biowaste via Hydrothermal Liquefaction*

**Bianca Chan**, Freshman, Agriculture & Biological Engineering, ACES

**Alice Lin**, Freshman, Agriculture & Biological Engineering, ACES

*Cross Cylinder Calculation Agreement amongst Toric IOL Calculators and UniversIOL*

**Zhangying Chen**, Junior, Integrative Biology, LAS

*Development and Calibration of a Microwave-based Plasma Heating Source for the HIDRA Toroidal Fusion Device*

**Nirbhav Chopra**, Sophomore, Engineering Physics, ENG

**Jin Young Park**, Sophomore, Civil Engineering, ENG

**Benjamin Anderson**, Sophomore, Mechanical Engineering, ENG

**Daniel Johnson**, Sophomore, Engineering Physics, ENG

*Tough-Bonding Hydrogels on Silicon Photonic Mirroring Resonators for Molecular Sensing*

**Amanda Cowfer**, Sophomore, Undeclared, DGS

*The Development of a Custom Smartphone Cradle for Multimodal Spectral Analysis*

**Sonya Dave**, Senior, Chemistry, LAS

*The Effects of Bisphenol A on the Early Development of Xenopus Embryos*

**Erin Duffy**, Senior, Animal Sciences, ACES

*Investigating Volcanic Unrest and Eruption Potential at the Three Sisters Volcanoes in the Oregon Cascades*

**Sean Griffin**, Junior, Geology, LAS

*Activity-dependent Changes in Proteins at the Neuronal Axonal Initial Segments during Homeostatic Plasticity of Intrinsic Excitability*

**Zhuoli Huang**, Junior, Biochemistry, LAS

*Bayesian Estimation of the Generalized NIDA Model with Gibbs Sampling*

**Aaron Hudson**, Senior, Statistics, LAS

*IOT Traffic Simulation: Synthetic Modeling*

**Rishabh Jain**, Junior, Computer Science, ENG

**Vaishali Khandelwal**, Junior, Computer Science, ENG

*Spatial Patterning of Cholangiocytic Differentiation of Liver Progenitor Cells*

**Sameed Jamil**, Junior, Bioengineering, ENG

*Tongue-twister Error Variation: Place of Articulation and Individual Variability*

**Carolyn Jeon**, Senior, Audiology, AHS

**Mia Teehan**, Senior, Speech & Hearing Science, AHS

**Kristin Ogle**, Junior, Speech & Hearing Science, AHS

**Edith Ayala**, Junior, Speech & Hearing Science, AHS

*A New Method to Generate Cryptographically Secure Random Numbers*

**Malhar Jere**, Junior, Electrical Engineering, ENG

*Development of Virtual Labs, Games and Training Tools at the University of Illinois for 3D Immersive Exercises*

**Justin Joseph**, Junior, Nuclear, Plasma & Radiological Engineering, ENG

**Gavin Mattingly**, Senior, Nuclear, Plasma & Radiological Engineering, ENG

**Daniel Chun**, Senior, Nuclear, Plasma & Radiological Engineering, ENG

**Eric Riewski**, Junior, Nuclear, Plasma & Radiological Engineering, ENG

*The Harmonia Project Part 2*

**Rahul Kalluri**, Junior, Economics, LAS

**Varun Bhoopalam**, Junior, Statistics, LAS

*Machine Learning and Cosmological Simulations*

**Harshil Kamdar**, Senior, Physics, LAS

*Cavitation Fracture of Soft Materials*

**Woo Jae Kim**, Senior, Mechanical Engineering, ENG

**Steven Yang**, Senior, Agriculture & Biological Engineering, ENG

*Characterizing Cell to Cell Signaling Molecules in Pseudomonas Aeruginosa Biofilms Using Secondary Ion Mass Spectrometry*

**Kyungwon Ko**, Senior, Chemistry, LAS

*Bacterial Genotoxin Induced DNA Damage Response Modulates Autophagy*

**Jordan Kryza**, Senior, Molecular & Cellular Biology, LAS

*Construct Development and DNA Methylation of FKBP5 Intron 7 to Assess Functional Effects Using In Vitro Models*

**Joseph Leasure**, Senior, Molecular & Cellular Biology, LAS

*Image Processing Algorithms for Haze(PM2.5) Mapping*

**Nuochen Lyu**, Sophomore, Electrical Engineering, ENG

**Qin Li**, Sophomore, Electrical Engineering, ENG

## PH Session - Food, Plants & Animals

1:30–2:45 PM, Illini Room C

*Root System Response to Ozone Exposure for B73 and Mo17 Maize Inbred lines and the Hybrid*

**Nicole Choquette**, Senior, Earth, Society & Environmental Sustainability, LAS

*Structure and Function of CYP6Z1 and CYP6Z2 in Anopheles gambiae*

**Melissa Grana**, Senior, Molecular & Cellular Biology, LAS

*Increasing the Accuracy of Leaf Models of Photosynthesis Through Improved Compensation Point Measurements*

**Jessica Ayers**, Senior, Integrative Biology, LAS

*Adult Shrub-land Bird Behavior during Handling of Offspring along an Urban Rural Gradient*

**Elizabeth Baehl**, Senior, Animal Sciences, ACES

*The Impact of Processing Stages on Stability of Vitamin D3 Fortified into Corn Flakes Using Nanoemulsions*

**Yu-ju Chen**, Senior, Dietetics, ACES

*Diversity and Density of Insects in Alternative Agriculture*

**Elizabeth Dabek**, Sophomore, Crop Sciences, ACES

*Tough Trees for Tough Times*

**Rene Gonzalez**, Junior, Landscape Architecture, FAA

**Carlos Andrade**, Junior, Landscape Architecture, FAA

**Yuxi Wan**, Junior, Landscape Architecture, FAA

*The Taxonomic Status of Biscuit-roots, Wave-wings and Spring-parsleys in Western North America*

**Erica Hernandez**, Junior, Integrative Biology, LAS

**Ari Wolfe**, Sophomore, Integrative Biology, LAS

*Biological Potential of Black Bean Anthocyanin Rich Extract and Protein Fractions to Inhibit Enzymes Related to Type-2 Diabetes*

**Riley Jackson**, Senior, Food Science, ACES

*Effects of Eprinomectin on Heifers Grazed on Endophyte Infected Tall Fescue*

**Jessica Kordas**, Junior, Animal Sciences, ACES

*A Landscape Study in Sierra Leone: Status of Women, Nutrition and Agriculture in Extension System*

**Ruiting Liang**, Senior, Agriculture & Consumer Economics, ACES

*The Effects of Food Insecurity on Pregnant Women in the United States*

**Viridiana Luna**, Senior, Molecular & Cellular Biology, LAS

*Sodium Content in Convenience Soups: A Tale of Two Countries*

**Ahrianna Mitchell-Sodipe**, Senior, Food Science & Human Nutrition, ACES

*Development of a Cre-Lox Optogenetics Mouse Model to Study the Functional Role of New Neurons*

**Heinrich Pinardo**, Senior, Molecular & Cellular Biology, LAS

*Prevalence, Impacts, and Implications of Odorous House Ant Colonies within Active American Robin Nests*

**Danish Qazi**, Senior, Integrative Biology, LAS

*Effects of Fire-driven Vegetation Change on Mycorrhizal Abundance, Colonization and Host Tree Fitness*

**Valarie Repp**, Senior, Natural Resources & Environmental Sciences, ACES

*Motility of Stallion Spermatozoa after Centrifugation and Cooling in INRA96® or Walworth Extender*

**Gabrielle Riccio**, Senior, Science, ACES

*Molecular Basis for Genetic Resistance of Fusarium virguliforme, the Causal Agent of Sudden Death Syndrome in Soybean (Glycine max)*

**Chloe Siegel**, Sophomore, Crop Sciences, ACES

*Chronic Wasting Disease and Prion Protein Gene Sequence Variation of White-tailed Deer in Ogle County, Illinois*

**Lauren Walling**, Senior, Molecular & Cellular Biology, LAS

*Evidence of Selection for Better Dispersal Ability in Western Red Cedar over Migration Route since the Last Glacial Period*

**Haolin Zeng**, Senior, Crop Sciences, ACES

*Phylogenetic and Genomics Study of the Pineapple Cysteine Protease Family Bromelain*

**Megan McKeon**, Senior, Integrative Biology, LAS

*Methodology for Assessment of Reproductive Status in Swine*

**Audrey Walker**, Senior, Animal Science, ACES



## PI Session - Education, Social Science & Human Behavior

1:30–2:45 PM, South Lounge

*Understanding the Use of First- and Second- person Pronouns on Complaining Behavior and Mood*

**Ashana Badlani**, Senior, Psychology, LAS

*Identifying the Relationship between Preschool Teachers' Beliefs and their Practices*

**Jinwen Ye**, Senior, Human Development & Family Studies, ACES

*Analysis of Daily Illini College Football Predictions: Accuracy of Forecasters ersus Betting Line and Random Predictions*

**Yayu Zhou**, Junior, Mathematics, LAS

**Qing Ma**, Senior, Mathematics, LAS

*The Effects of Political Strategy on the United States' Aid Allocation*

**Naveed Cheraghchi**, Senior, Political Science, LAS

*Energy Security and State Vulnerability: A Case Study from Taiwan*

**Leah Matchett**, Senior, Global Studies, LAS

*How Message and Music Mood Affects Memorability in Advertising*

**Annie Keller**, Junior, Advertising, COM

**Parichay Swarup**, Junior, Advertising, COM

**Simran Devidasani**, Junior, Advertising, COM

**Alexander Studer**, Junior, Advertising, COM

**Connor Goetten**, Sophomore, Advertising, COM

*An American Evolution of LGB Public Opinions*

**Jack Carrera**, Senior, Political Science, LAS

*First-Visit Undergraduate Students' Pre- and Post-Tutorial Perceptions of the University of Illinois Writing Center*

**Olivia Buck**, Junior, Creative Writing, LAS

*Student Revision of Personal Statements After an Appointment in the University of Illinois Writers' Workshop*

**Renee Tillman**, Sophomore, Speech & Hearing Science, AHS

*Development and Conservation*

**Ashley Imyak**, Freshman, Elementary Education (Grades 1-6), EDU

**Jamie Gorden**, Freshman, Elementary Education (Grades 1-6), EDU

*The Geometry of Voting: From Lincoln's Presidential Election to College Football Polls*

**Aubrey Laskowski**, Freshman, Mathematics and Computer Science, LAS/ENG

**Yukun Tan**, Sophomore, Mathematics, LAS

**Vivek Kaushik**, Freshman, Mathematics, LAS

**Mengzhou Tang**, Senior, Mathematics, LAS

*Big Interest Groups Making a Big Difference: Studying the Impact of Interest Groups on Agency Policymaking*

**Meredith Heim**, Senior, Political Science, LAS

*Where, Who and Why: Literacy Intervention in Communication Sciences and Disorders*

**Theresa Versaci**, Senior, Speech & Hearing Science, AHS

**Katie Appel**, Senior, Audiology, AHS

**Sierra Soland**, Senior, Audiology, AHS

*About a Boy, AAC, & Grown-ups: Using Mixed Methods to Study Communication Disorders*

**Paige Smiles**, Junior, Speech & Hearing Science, AHS

**Lauren De Vries**, Sophomore, Speech & Hearing Science, AHS

**Eve Zumwalt**, Junior, Speech & Hearing Science, AHS

*Campaign Finance: Effects on Voter Behavior and Opinion*

**Thomas Conroy**, Senior, Political Science, LAS

*Trends in Academic Qualifications of University of Illinois Education Students*

**Emily Katz**, Sophomore, Elementary Education (Grades 1-6), EDU

**Hannah Bohn**, Sophomore, Elementary Education (Grades 1-6), EDU

*Party Loyalty in Closed List Proportional Representation Systems*

**Ana Mafalda Fernandes**, Senior, Political Science, LAS

*"To me she is perfect": Perceptions of Self-Body Image among Mexican Kindergarten-aged Children and their Mothers*

**Raha Hosseini**, Senior, Human Nutrition, ACES

**Lyana Delgado**, Senior, Community Health, AHS

**Evelyn Zepeda**, Sophomore, Interdisciplinary Health Sciences, AHS

*Creating Supportive Environments for Children Who have been Exposed to Traumatic Events*

**Samantha Addante**, Junior, Human Development & Family Studies, ACES

*Memory for Speech Categories*

**Ben Somers**, Freshman, Global Studies, LAS

**Naif Mansury**, Sophomore, Molecular & Cellular Biology, LAS

## PJ Session - Science & Mathematics

3:15–4:30 PM, Illini Room A

*Putative Regulatory Role of GlyS Small Antisense RNA in an Uncultivable Obligate Insect Symbiont Buchnera aphidicola*

**Siyuan (Lily) Cheng**, Junior, Integrative Biology, LAS

*Verbal Play as a Communicative Resource in Aphasia Treatment*

**Tara Marcowski**, Senior, Speech & Hearing Science, AHS

**Claire Smego**, Junior, Speech & Hearing Science, AHS

*Processing and Mechanical Characterization of cyclic Polyphthalaldehyde***Edgar Mejia**, Junior, Mechanical Engineering, ENG*Microphysical Structure of Elevated Convection in Winter Cyclones***Amanda Murphy**, Senior, Atmospheric Sciences, LAS*Characterization of the Protein-binding Domains of Eukaryotic Translation Initiation Factor eIF4G2 by a Pull-down Method***Xueting Nie**, Sophomore, Biochemistry, LAS*Petrographic and Geochemical Analysis of Igneous Dikes and Keiths Dome Pluton in the Grass Lake Area in the Mount Tallac Roof Pendant; Eldorado County, California***Samuel Noethe**, Senior, Geology, LAS*Synthesis of High-valent Nickel Complexes Supported by Electron Rich CCC Pincer Ligand Platform***Cristian Ocampo**, Junior, Chemistry, LAS*Ecology of Stormwater Ponds***Xorla Ocloo**, Senior, Integrative Biology, LAS*Geomagnetic Disturbance Mitigations on the Electric Grid via Topology Control Analysis***Jamie Padilla**, Senior, Electrical Engineering, ENG*Effect of Removing Each of Three Adaptation Mechanisms on *Bacillus subtilis* Chemotaxis***Michael Pajor**, Senior, Molecular & Cellular Biology, LAS*Computational Modeling of Generalized RTK Dimerization Kinetics***Alexandra Palasz**, Senior, Bioengineering, ENG*Polarized Synchrotron Emission and Absorption Coefficients for Thermal, Nonthermal, and Kappa Electron Distributions***Alexander Pandya**, Junior, Physics, LAS*Detecting microRNA Signatures to Differentiate Tissue Type by Developing a Signal Enhancement Strategy for Use on Silicon Microring Resonators***Christopher Para**, Senior, Chemistry, LAS*An Engineered Hydrogel Platform Identifies Brain Tumor Categories Characterized by Response to Extracellular Hyaluronic Acid Concentration***Amanda Pritchard**, Senior, Chemical & Biomolecular Engineering, LAS*Exploring the Organization of White Matter Tracts in Tinnitus Patients Using Diffusion Tensor Imaging***Ariana Romero**, Senior, Speech & Hearing Science, AHS*Analysis of the Substrate Metabolism and Biochemical Properties of Cytochrome P450 725A4 in Nanodisc***John Rouck**, Senior, Molecular & Cellular Biology, LAS*Multi-compartment Biomaterial Scaffolds to Promote Mesenchymal Stem Cell Differentiation and Proliferation at Tendon Bone Junction***Shayta Roy**, Senior, Chemical & Biomolecular Engineering, LAS*Effects of a Novel  $\alpha 7$  Nicotinic Acetylcholine Receptor Agonist on Neuronal Activity Evaluated by Multi-electrode Electrophysiology***Nainika Roy**, Junior, Molecular & Cellular Biology, LAS*Understanding the Molecular Basis of the Interaction between *Helicobacter pylori*'s Vacuolating Cytotoxin and its Cellular Receptor***Wilhelm Salmen**, Senior, Molecular & Cellular Biology, LAS*Calibration and Optimization of Microfluidic Spiral for Clinical Pathology***Kinsey Schultheis**, Sophomore, Bioengineering, ENG  
**Reema Patel**, Junior, Molecular & Cellular Biology, LAS*Rapid Evolutionary Adaptation of *Escherichia coli* to Step-Wise Increment in the Antibiotic Ciprofloxacin***Lauren Shechtman**, Junior, Chemistry, LAS*The Effect of Elevated Intensity on Consonant Recognition in Noise by Normal Hearing, Aged Subjects***Robert Shepard**, Senior, Molecular & Cellular Biology and Psychology, LAS*Kindle the Shadow of the eIF4G1 Transcription Model***Wenjun Song**, Junior, Molecular & Cellular Biology, LAS*Effect of Auditory Feedback on Speech Errors - Evidence from Tongue Twisters***Mia Teehan**, Senior, Speech & Hearing Science, AHS  
**Carolyn Jeon**, Senior, Audiology, AHS  
**Kristin Ogle**, Junior, Speech & Hearing Science, AHS  
**Edith Ayala**, Junior, Speech & Hearing Science, AHS*Nutrient Driven Intestinal Stem Cell Proliferation***Ashton Townsley**, Junior, Animal Sciences, ACES  
**Matthew Bertagna**, Junior, Animal Sciences, ACES*Pitch Matching and Loudness Matching of Tinnitus***Kelli Utz**, Junior, Molecular & Cellular Biology, LAS*Vibrational Behavior of Three-Dimensional Structures Assembled by Compressive Buckling***Gabe Velarde**, Senior, Materials Science & Engineering, ENG*HTL Biocrude Oil Physicochemical Properties***Zhenwei Wu**, Freshman, Agriculture & Biological Engineering, ENG

*Genome-wide Screening for Improved Fatty Alcohol Production in Yeast Using a Biosensor*

**Yuying Wu**, Junior, Chemical & Biomolecular Engineering, LAS

*Detecting Non-randomness: A Suite of Statistical Tests to Detect Fake Coin Flips and Identify Patterns in Real-world Data*

**Jiarui Xu**, Senior, Mathematics & Computer Science, LAS/ENG

*Individual Genetic Variation in the Tumor Necrosis Factor Alpha gene (TNFA): Associations with Obesity and Metabolic Syndrome in Mexican College-age Students*

**Qian Zhang**, Senior, Statistics, LAS

## PK Session - Health & Wellness

**3:15–4:30 PM, Illini Room C**

*The Role of Reported Speech as an Integral Part of Communicative Environments during Animal Assisted Therapy (AAT)*

**Jennifer Gerry**, Senior, Speech & Hearing Science, AHS

**Carley Serena**, Senior, Speech & Hearing Science, AHS

*The Effects of Outdoor Play/Physical Activity on Upper-level Elementary School Students*

**Victoria Robert**, Sophomore, Elementary Education (Grades 1-6), EDU

**Lindsey Pingsterhaus**, Sophomore, Early Childhood Education (Birth - Grade 3), EDU

*Can Exercise Serve as an Intervention for the mPFC-associated Behavioral and Anatomical Maladaptation's Induced by Alcohol Exposure?*

**Ivy Hernandez Delgado**, Senior, Psychology, LAS

*The Effect of Acute Aerobic Exercise and High-intensity Interval Training on Inhibitory Control and working Memory in Young Adults*

**Camille Garcia**, Senior, Molecular & Cellular Biology and Psychology, LAS

**Jack Soneson**, Senior, Molecular & Cellular Biology and Psychology, LAS

*An Exploratory Examination of Parental Communication Processes Related to Children's Developmental Screenings*

**Molly Harmon**, Senior, Human Development & Family Studies, ACES

*De Novo Metavirome Assembly from Cystic Fibrosis Lung Samples*

**Angelo Blancaflor**, Senior, Molecular & Cellular Biology, LAS

*Impact of Caffeine on Macronutrient Metabolism: A Review of Literature*

**Hoiting Cheung**, Senior, Food Science & Human Nutrition, ACES

**Can Feng**, Sophomore, Food Science & Human Nutrition, ACES

**Kar Wing Chan**, Senior, Kinesiology, AHS

**Hoi Ting Cheung**, Senior, Food Science & Human Nutrition, ACES

*Channel BMI: How Does a Child's TV Use Affect BMI?*

**Audrey Hoene**, Sophomore, Interdisciplinary Health Sciences, AHS

**Passang Gonrong**, Junior, Interdisciplinary Health Sciences, AHS

**Kyle Hoang**, Junior, Chemistry, LAS

*Diet or Surgery: What Accounts for Weight Loss Following Sleeve Gastrectomy?*

**Leila Diab**, Junior, Dietetics, ACES

*Balancing the Scale: the Effects of Socioeconomic Status on a Child's Health*

**Emma Dahlberg**, Senior, Interdisciplinary Health Sciences, AHS

**Aisha Tepede**, Junior, Community Health, AHS

**Elizabeth Tran**, Junior, Molecular & Cellular Biology, LAS

**Jenny Chang**, Senior, Interdisciplinary Health Sciences, AHS

*Postpartum Depression and Maternal Obesity*

**Mehta Jeenal**, Sophomore, Biochemistry, LAS

*"We are Mexicans and We Like 'La Comida Rica'": Unhealthy Dietary Patterns among Hispanic Families*

**Andrea Huerta**, Senior, Food Science & Human Nutrition, ACES

**Amanda Ayers**, Senior, Dietetics, ACES

*Playing Safe: Patterns Influencing Physical Activity Among Hispanic Families*

**Kimberly Galvez**, Sophomore, Psychology, LAS

*Managing Self-Talk in Clinical Sessions: Implications for Speech-language pathology*

**Allison Virgilio**, Senior, Speech & Hearing Science, AHS

**Juliana Marks**, Senior, Speech & Hearing Science, AHS

*Incidence and Survival of Malignant Broad Ligament Cancer: A 40-year Population-based Analysis*

**Udit Nangia**, Junior, Molecular & Cellular Biology, LAS

**Cindy Hou**, Senior, Community Health, AHS

*Mimicking Complex Shoulder Motion using a Multi-DOF Actuator to Investigate Rotator Cuff Tears*

**Ben Slotarski**, Senior, Mechanical Engineering, ENG

**Blase Horn**, Senior, Mechanical Engineering, ENG

*Work Hard, Play Hard: A Study on Work and Leisure Activities in Romantic Relationships*

**Sydney Beck**, Senior, Human Development & Family Studies, ACES

*The Memeosity Approach to Words and Laughter*

**Paul Bogdan**, Junior, Molecular & Cellular Biology, LAS

*The Effects of Fluid Modulation on Changes in Hydration Status among Preadolescent Children*

**Lauren Schwerzler**, Senior, Food Science & Human Nutrition, ACES

*Sewage Treatment by Genetical Modified Microorganism*

**Wenjun Song**, Junior, Molecular & Cellular Biology, LAS

## PL Session - Education, Social Science & Human Behavior

3:15–4:30 PM, South Lounge

### Nuclear Confrontations

**Amrutha Prasad**, Senior, Political Science, LAS

### How Does the University of Illinois Help Hong Kong Exchange Students adjust Themselves in a New Living Environment?

**Hio Cheng Chang**, Junior, Elementary Education (Grades 1-6), University of Macau  
**Soi Kei Wan**, Junior, Learning & Education Studies, University of Macau

### Perceptions of Teacher Education Preparation Programs at the University of Illinois Urbana-Champaign

**Sydney Cooper**, Freshman, Elementary Education (Grades 1-6), EDU  
**Megan Balk**, Freshman, Elementary Education (Grades 1-6), EDU

### Students' Life in a Living-learning Community -- Global Crossroads as a Personal Choice Regarding Housing at UIUC

**Yue Hong Gao**, Junior, English Education, University of Macau  
**Mu Li**, Junior, Mathematics & Application, University of Macau

### How Adolescents Use Social Media to Cope with Parental Divorce

**Ashley-Tate Hollis**, Senior, Human Development & Family Studies, ACES  
**Rachel Smith**, Junior, Human Development & Family Studies, ACES  
**Kristen Herdegen**, Junior, Human Development & Family Studies, ACES  
**Alexandra Oliva**, Sophomore, Human Development & Family Studies, ACES  
**Sonia Marinez**, Senior, Human Development & Family Studies, ACES

### Unfulfilled Promises: Mexico and Mexican Immigration in the Late 20th Century

**Maria Valenzuela**, Sophomore, Latina/Latino Studies, LAS

### Technology Acceptance and US Small Businesses

**Malik Lee**, Junior, Information Systems & Information Technology, BUS

### How Expatriate Students (Non-native English Speakers) Respond to Rational and Emotional Advertisements Relative to Native English-speaking Americans

**Aphsara Islam**, Sophomore, Advertising, COM  
**Manisha Venkat**, Sophomore, Advertising, COM  
**Austin Herr**, Senior, Advertising, COM  
**Beth Lee**, Junior, Advertising, COM  
**Marissa Miller**, Senior, Advertising, COM

### Changes in Time: Influences on a Small Illinois Town

**Matthew Kluge**, Senior, Architectural Studies, FAA

### Rising Above The 'Nois: Identifying Effective Practices in Social Media

**Masic Chen**, Sophomore, Undeclared, DGS  
**Ruoxi Su**, Senior, Communication, LAS  
**Aliaputri Kamal**, Junior, Advertising, COM

### An Analysis on Eminent Domain and the Supreme Court

**Christopher Ponicki**, Senior, Economics, LAS

### When Does a Message Source's Race Impact How that Message is Received - Racial and Social Justice Knowledge, Prejudice, and the Belief in Racism as a Zero-sum Game

**Daniel Duan**, Senior, Advertising, COM

### Non-American = Naughty: Early Essentialism of National Identity Predicts Out-group Prejudice

**Jacqueline Beck**, Junior, Psychology, LAS

### Knowledge Without Virtue: Revisiting Plato's Republic Through Vladimir Bartol's Alamut

**Krupa Patel**, Senior, English, LAS

### Motivations for Undergraduate Engineering Students to Attend Writing Centers

**Jillian Davis**, Sophomore, History, LAS

### Parent Advocacy

**Hannah Curtis**, Junior, Elementary Education (Grades 1-6), EDU  
**Corey Bilger**, junior, Elementary Education (Grades 1-6), EDU

### The Effects of Gender, Class Year, and Mentoring on Long Term Leadership Self Efficacy Gains

**Timothy Callahan**, Junior, Agricultural Leadership Education, ACES  
**Sarah Wright**, Senior, Agri-Accounting, ACES  
**Nicole Yaklich**, Junior, Human Development & Family Studies, ACES

### Voting in Taiwan and China: A Comparative Analysis on the Impact of Educational Attainment on Voter Turnout in Taiwan and China

**Mekeneh Merrill**, Senior, Political Science, LAS

### Does Implicit Institutional Approval of American Indian Mascots affect Racial Attitudes?

**Hannah Swoboda**, Senior, Psychology, LAS

### Computer Science Integration in the Elementary Grades

**Amanda Bila**, Junior, Elementary Education (Grades 1-6), EDU

### Costs and Benefits of Greek Life on the UIUC Campus

**Madison Scanlan**, Senior, Public Policy & Law, ACES

### Teaching 5th Graders Consumerism Through Art

**Melanie Angarone**, Senior, Art Education (K-12), FAA

### Parental Experiences Navigating Early Childhood Autism Diagnosis and School Placement in Visakhapatnam, Andhra Pradesh, India

**Keerthana Hogirala**, Senior, Individual Plan of Study, LAS

*Examining Study Abroad Participation in Illinois Promise Students: Preliminary Study on Obstacles to Participation for Low-income, Minority Students*

**Jennifer Aguayo**, Senior, Community Health, AHS

## College of Engineering's Illinois Scholars Undergraduate Research (ISUR) Symposium

**Thursday, April 21, 4:00–6:00 PM**

104 Illini Union

The Illinois Scholar Undergraduate Research (ISUR) program is a two-semester research experience for a select group of engineering students. It is funded by the Semiconductor Research Corporation, Rockwell Collins, and Shell. Through this program, undergraduate scholars are offered a unique opportunity to expand their academic experience beyond the walls of the traditional classroom. Students are introduced to research by working closely with graduate student mentors and faculty sponsors on projects. The ISUR Research Poster Expo is open to the public.

*Surface Energy Effects on Thin Film Morphology for Solution Printed Organic Semiconductors*

**Rahman Afshar**, Sophomore, Chemical Engineering, LAS

*Microvascular Carbon Fiber Composites for Thermal Regulation*

**Philip Barnett**, Senior, Aerospace Engineering, ENG

*Vapor Diffusion for Fabricating Large Single Crystals for Flexible Electronics*

**Rebecca Boehning**, Junior, Chemical Engineering, LAS

*Modulating the Immune Response using Collagen Scaffolds Containing Amniotic Membrane Matrix*

**Amber Boyce**, Sophomore, Chemical Engineering, LAS

*Investigating Interpolation Methods for Improving New Spacecraft Trajectory Methods*

**Kristen Brusich**, Junior, Aerospace Engineering, ENG

*Improved Thermoelectric Properties in SiGe Quantum Dot Superlattices*

**Kevin Cruse**, Sophomore, Mechanical Engineering, ENG

*Creation and Validation of a Standard Materials Set for Tribological Experiments*

**Maribel DeLaTorre**, Sophomore, Mechanical Engineering, ENG

*Intrinsic Cavity Loss in Vertical Cavity Surface Emitting Lasers*

**Nicholas DeNardo**, Junior, Electrical Engineering, ENG

*Solution Based Method for Growing Metallic Nanowires*

**Siddhesh Dhanawade**, Junior, Mechanical Engineering, ENG

*Flow and Vortex Dynamics Past Tabs of Different Geometries Using Volumetric Velocimetry*

**Allison Gibson**, Junior, Mechanical Engineering, ENG

*Characterization of Clofazamine Salt Crystal Structures and Properties*

**Lucas Gonzalez**, Senior, Chemical Engineering, LAS

*Experimental Research on the Failure Modes of the Feature Tracker in PTAM*

**Paulous Haile**, Sophomore, Aerospace Engineering, ENG

*Microassembly of a Silicon Micro-House*

**Alex Nathan Kahn**, Senior, Mechanical Engineering, ENG

*Controlled Mechanical Buckling for 3D Micro/Nanostructures*

**Jung Hwan Kim**, Junior, Chemical Engineering, LAS

*It's Just a Matter of Perspective(s): Crowd-Powered Consensus Organization of Corpora*

**Andrew Kuznetsov**, Sophomore, Computer Science, ENG

*Developing a Water Desalination Membrane Using Two Dimensional Materials*

**David Lisk**, Sophomore, Mechanical Engineering, ENG

*Automatic Grip Selection for a Myoelectric Prosthetic*

**Bhargava Manja**, Senior, Computer Science, ENG

*Methods for Quantifying Hip Circumduction in Overground Walking*

**Emily Matijevich**, Senior, Bioengineering, ENG

*Feedback Controlled pN Force Sensor for Biological Study*

**Thomas McGrath**, Junior, Engineering Mechanics, ENG

*Electrochemical Delamination of CVD-Grown Graphene*

**Widianto Moestopo**, Junior, Mechanical Engineering, ENG

*The Fabrication of Neural Implantable Needles*

**Grace Pakeltis**, Junior, Materials Science & Engineering, ENG

*Guided Rendezvous of a Quadrotor*

**Mihir Patel**, Senior, Aerospace Engineering, ENG

*Impact of Height Heterogeneity on Canopy Turbulence*

**Matthew Sadowski**, Junior, Engineering Mechanics, ENG

*Synthesis via Steric Entrapment and the Characterization of the HfO<sub>2</sub>-TiO<sub>2</sub>-Ta<sub>2</sub>O<sub>5</sub> Phase Equilibria*

**Nicholas Sherman**, Senior, Materials Science & Engineering, ENG

*Fabrication of Vertical GaN Devices via Flow-Limited Field-Injection Electrostatic Spraying*

**John Simonaitis**, Sophomore, Electrical Engineering, ENG

*Design of an Advanced, Low-Cost Myoelectric Prosthetic Hand*

**Patrick Slade**, Senior, Mechanical Engineering, ENG

*Optical Characterization of Pathogenic Biofilms in the Human Upper Respiratory System*

**Veronika Sowers**, Junior, Bioengineering, ENG

*Biological Dynamics and Gene Expression*

**Erik Steinbrenner**, Senior, Chemical Engineering, LAS

*Benchmark X-ray Fluorescence & Luminescence Computed Tomography System: Prototype Therapeutic and Diagnostic Imaging*

**Dan Strat**, Senior, Nuclear, Plasma, & Radiological Engineering, ENG

*Salt Assisted Synthesis of Few Layer and Monolayer Molybdenum Disulfide / Synthesis of Acrylate Based Shape Memory Polymer*

**Satoshi Takekuma**, Senior, Materials Science & Engineering, ENG

*Effect of Wind Turbine Winglets on the Mean and Fluctuating Foundation Loadings*

**Charles Tierney**, Junior, Mechanical Engineering, ENG

*Copper Catalyst Design for Controlling Dehydrogenation and Esterification Selectivities*

**Mark Triezenberg**, Junior, Chemical Engineering, LAS

*Carbon Dioxide Capture using Polyamines*

**Regev Trigalo**, Junior, Chemical Engineering, LAS

*Vibrational Behavior of Three-Dimensional Structures Assembled by Compressive Buckling*

**Gabriel Velarde**, Senior, Materials Science & Engineering, ENG

*Development of Liquid Assay Cartridge for Handheld Smartphone Biosensor*

**Elizabeth Woodburn**, Sophomore, Bioengineering, ENG

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