Illinois Undergraduate Research Week

2015
Events
April 19-25
University of Illinois at Urbana-Champaign
Welcome to Undergraduate Research Week, a celebration of student excellence in research across campus. The signature event is the eighth annual campus-wide Undergraduate Research Symposium (URS), held on Thursday, April 23rd. 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 scientific analysis to creative arts.

The 2015 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 Karen Rodriguez’G, Associate Director of the Office of Undergraduate Research (OUR), Mackenzie Kurth and Emma Grimes, interns for OUR, and OUR’s Advisory Board members.

Paul F. Diehl

Director, Office of Undergraduate Research

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## UNDERGRADUATE RESEARCH WEEK EVENTS

### Department of History Undergraduate Research Colloquium

**Illini Union 314A**  
**Saturday April 18, 2:00-4:00 PM**

**Access to Abortion After Roe v. Wade**  
**Alicia Goodchild,** Senior, History, LAS

**Political Culture of Post-Independence Malawi**  
**Nicholas Hopkins,** Senior, History, LAS

**The New Deal and the Making of Democratic Dominance in Chicago Politics**  
**Ned Rooney,** Senior, History, LAS

**Carlisle Indian School and Settler Colonialism**  
**Terry Foster,** Senior, History, LAS

**Mexican Baseball and the US Color Line**  
**Mariano Nava,** Senior, History, LAS

**Mothers Against Drunk Driving and the Political Imagination of Suburbia**  
**Ryan Fane,** Senior, History, LAS

**French Use of Torture in Algeria and American Public Reaction, 1955-1965**  
**Leanna Barcelona,** Senior, History, LAS

### Living-Learning Communities Researchers Initiative Poster Symposium

**Sunday, April 19, 4:00-6:00 PM**  
**Florida Avenue Residence Halls, Oglesby Pagoda**

**Building Strong Communities and Families: Insights from Studies of School Readiness and Adolescent Development and Parenting in the Inner City**  
**Nikta Athari Anaraki,** Freshman, Division of General Studies, DGS  
**Jacob Bowers,** Sophomore, Health Planning and Administration, AHS  
**Vinisha Doshi,** Sophomore, Molecular and Cellular Biology, LAS  
**Christine Wolfe,** Freshman, Community Health, AHS

**Understanding the Spread of Ebola through Stochastic Modeling**  
**Daniel Carbullal,** Sophomore, Computer Science, ENG

**Effects of Tree Mortality on Below Ground Carbon Storage**  
**Taylor Cascia,** Sophomore, Natural Resources and Environmental Sciences, ACES  
**Crystal Zhu,** Sophomore, Community Health, AHS

**Jews and Cape Verdeans: Crossed Diasporas**  
**Huiyi Chen,** Freshman, History and Economics, LAS

**Beng Community Fund**  
**Juliana Snarski,** Sophomore, Global Studies and Mechanical Engineering, LAS

**Documenting Selection of Territorial Habitat by Breeding Dickcissels over Finite Spatial and Temporal Scales**  
**Yanzhu Chen,** Freshman, Division of General Studies, DGS

**Nutrient Biomarker Patterns, Cognitive Function, and MRI Measures of Brain Aging**  
**Mary Figura,** Sophomore, Molecular and Cellular Biology, LAS  
**Kathleen Munoz,** Freshman, Molecular and Cellular Biology, LAS

**Technology-Assisted Vocal Exercise for Older Adults**  
**Anna Fischer,** Sophomore, Speech and Hearing Science, AHS

**Development of Fluorescent Molecules for Sensing Parkinson's Disease**  
**Hui Ting Iris Hou,** Sophomore, Molecular and Cellular Biology, LAS

**Patronization and Attitudes Towards Individuals with Disabilities**  
**Sarah Kapolnek,** Freshman, Material Science and Engineering, ENG  
**Diamond Kinemon,** Sophomore, Community Health, AHS

**Urban Environmental Equity Research**  
**Nuochen Lyu,** Freshman, Electrical and Computer Engineering, DGS  
**Kevin Zhu,** Freshman, Division of General Studies, DGS

**Impact of Shift Work on Attention: Initial Findings in a Rat Model**  
**Adriana Martinez,** Sophomore, Animal Sciences, ACES

**A Model of Sea Star Associated Densovirus Epidemiology**  
**Bridget Mueller-Brennan,** Freshman, Mathematics, LAS

**Using EEGs to Describe Dementia**  
**Nicole Hasamear,** Sophomore, Chemical Engineering, LAS  
**Kevin Wells,** Sophomore, Molecular and Cellular Biology, DGS

**Policing in a Multiracial Society Project**  
**Heena Pithadia,** Freshman, Psychology, LAS
Disability and Relevant Design: A Case Study on Experiential and Collaborative Design
Ran Zhou, Junior, Mathematics, LAS
Lydia Tanner, Freshman, Engineering: Undeclared, ENG
Jing Yu, Junior, General Engineering, ENG

Youth and Emerging Adults Civic Engagement Activities in the US and in Tanzania
Quan Trimble, Sophomore, Political Science, LAS

Organizing Aquatic Species Data for Broader Energy-Water Nexus Analysis
Viviana Guaman, Sophomore, Civil Engineering, ENG
Deeksha Singh Vijay Singh, Sophomore, Electrical and Computer Engineering, ENG

Role of Copper Towards Oxygen Reduction Reactivity of Myoglobin Based-Cytochrome C Oxidase Mimics
Shuyan Wang, Sophomore, Chemistry, LAS

Lab-on-a-Chip
Reuben Tan, Freshman, Computer Engineering, ENG

Development of a Time and Cost Efficient Synthetic Route for Symmetric Xanthones
Ryan Hoffman, Freshman, Chemical Engineering, LAS

School of Literatures, Cultures, and Linguistics Symposium
Tuesday, April 21, 4:00-5:00 PM
Foreign Language Building Atrium

Comparing the Morphosyntactic Features of Languages Based on Descriptive Grammars
George Jabbour, Junior, Linguistics, LAS
Ryan Grunow, Freshman, Mathematics, LAS
Kelsey Lac, Sophomore, Linguistics, LAS

Transcribing and Interpreting Experimental Spanish Recordings to Measure Age Effects
Michelle Patino, Sophomore, Linguistics, LAS
Leslie Del Carpio, Junior, Linguistics, LAS

Emblematic Project
Heidi Heim, Senior, Art History, LAS
Patricia Fleming, Junior, English, LAS
Melina Zavala, Junior, Psychology and English, LAS

Department of English Symposium
Tuesday, April 21, 5:00-7:00 PM
English Building Atrium

Welcome
Dale M. Bauer, Professor of English, Director of Undergraduate Studies
Wendy Truran, Assistant Director of ESC Studies in British and Irish Literature

Conquest, Revenge, and Resistance: Literal and Symbolic Rape in Shakespeare’s Titus Andronicus
Ha (Sarah) Le, Senior, English, LAS

The Invisible (S)elf
Gary Montesinos, Senior, English, LAS

Audience Perception of Revenge and Sanity in Elizabethan Era Revenge Tragedies
Bryan Boccelli, Senior, English, LAS

Bodily Function in Literature
Kirby Gamsby, Senior, English, LAS

Studies in America, Latin America, and South Asian Studies

Divorce in American Literature, 1890-1940
Logan Lippert, Senior, English, LAS

Sexuality, Marriage, and Negro Womanhood
Tumaini Ussiri, Senior, English, LAS

Sexual Ambivalence in Marriage in Women’s Modernist Novels
Brittany Frost, Senior, English, LAS

Fractured Fictions: Subalternity and Rhetorical Rupture in ‘El hablador / The Storyteller’ and ‘In an Antique Land’
Nick Millman, Senior, English and Global Studies, LAS

The Dung Heap of History: Progress
Nate Kelly, Junior, English, LAS

Re:Search, the Undergraduate Literary Criticism Journal: Undergraduate Research and Academic Publishing
Logan Lippert, Senior, English, LAS
Marilyn MacNamara, Sophomore, English, LAS
Audrey Majors, Senior, English, LAS
Kevin Mallin, Senior, English, LAS
Nick Millman, Senior, English and Global Studies, LAS
Melisa Puthenmadom, Junior, English, LAS
Department of Anthropology
Capstone Conference

Tuesday April 21, 6:00-9:00 PM
Noyes Lab 161

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!

Ethnography of the University Initiative (EUI) Biannual Student Conference

Wednesday, April 22, 4:00-8:30 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. During this academic year, there were 10 courses affiliated with EUI, serving approximately 250 students. 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). For the Spring 2015 conference, high school students from Oak Park River Forest High School in the Chicago area—a new regional high school partnership with EUI, will also present their work for the first time. The EUI program is supported through a partnership between the Office of Undergraduate Research and the Department of Anthropology.

Department of Political Science
Honors Poster Day

Saturday, May 2, 11:30 AM-1:00 PM
ACES Library Heritage Room

A Perpetuating Negative Cycle: The Effects of Economic Inequality on Voter Participation
Jenine Saleh, Senior, Political Science, LAS

Differences in Memory and Credibility Across Media Platforms
Christina Lorey, Senior, Political Science, LAS

Implicit Racial Messages and Citizens’ Attitudes
Darrah Perryman, Senior, Political Science, LAS

Don’t Bank On It: The Incomplete Truth of Money in Congressional Elections
Patrick Flavin, Senior, Political Science, LAS

The Head of State Effect: Discovering the Role of the Head of State in Cabinet Longevity
Quinn Marschik, Senior, Political Science, LAS

Political Violence, Ethnic Fractionalization, and the Ratification of Human Rights Treaties
Ada Karacal, Senior, Political Science, LAS

Members of Congress and Congressional Staff Allocation
John Flach, Senior, Political Science, LAS

Progressive Ambition and Gender in Congress
Sarah Gortowski, Senior, Political Science, LAS

State’s Attorney Gender and Rape Convictions
Richard Sledz, Senior, Political Science, LAS

Personality and the Environment: How Internal Motivations Affect Environmental Decisions
Lauren Krone, Junior, Political Science, LAS

Can Anti-corruption Aid Reduce Corruption?
Ricardo Alvarez, Senior, Political Science, LAS

Supreme Court Justices’ Response to Public Opinion
Ejulius Adorno, Senior, Political Science, LAS

Antecedents of Victimization in the Americas
Jacob Lubben, Senior, Political Science, LAS
ORAL PRESENTATIONS

The Implications of Information Technology
10:00-11:00 AM, Room 209

How Facebook Changes Our Way of Sharing Information
Pak Nin Lei, Junior, English Education, University of Macau
Chan Tat Ng, Junior, Biochemical Sciences, University of Macau

Enhancing Comprehension of Electronic Health Record Patient Portals
Cheryl Cheong, Junior, Psychology, LAS

Changing Neighborhoods
10:00-11:00 AM, Room 217

Bronzeville Community Revitalization
Hannah Cusick, Junior, Landscape Architecture, FAA

Guifi as The Talk of the Town: Catalonia’s Wireless Community Network’s Growth
Michael V. Ochoa, Senior, Sociology, LAS

Issues in Latino Health
11:00 AM-12:00 PM, Room 209

Promotora Model as a Method of Health Intervention in US Latino Immigrant Populations
Ramona Montez, Senior, Food Science and Human Nutrition, ACES

Interaction Between Latino Specific Belief and Structural Factors in Latina’s Breast-Cancer Prevention Engagement
Laura Hanley, Senior, Interdisciplinary Health Sciences, AHS
Haley Fox, Senior, Social Work, SSW

The Social Support and Sexual Health of Latino Gay Men who Have Sex with Men
Xavier Ramirez, Senior, Social Work, SSW

FAA Performances - Dance Dynamics
11:00 AM-12:00 PM, Room 215

Slats
Katherine Williams, Junior, Dance, FAA
Charles Gowin, Senior, Dance, FAA

[Untitled] Form
Justin Yeung, Senior, Dance, FAA
The Outbreak of Violent Conflict

1:30-2:30 PM, Room 215
Path To War: Austria-Hungary and Russia WWI
Michael Colucci, Senior, Political Science, LAS

What Caused the First World War: A Dyadic Approach to Explaining the Outbreak of the War in Light of the Rivalry between Austria-Hungary and Russia
Moksha Muthukrishnan, Sophomore, Political Science, LAS

The Effects of Successful Democracy on the Proliferation of Ethnic Conflict in West Africa: A Case Study of Mali and Senegal
Morgan Hollie, Senior, Global Studies, LAS

Issues in Culture and Behavior

1:30-2:30 PM, Room 209
Mistreatment to Shame: A Call for Change in Public Policy
Dessiree Malone, Junior, Sociology, LAS

Exclusion within Inclusion: The Alienation and Retention Effects of Black Students on Campus
Aaminah Long, Sophomore, Psychology, LAS

Receptors and Transmitters

1:30-2:30 PM, Room 217
Effects of SERCA Inhibitors on Reversing Epileptic Encephalopathy Mutations
Dhruv Joshi, Senior, Molecular and Cellular Biology, LAS

Activity-Dependent Changes in K+ Channel Expression during Homeostatic Intrinsic Plasticity
Seungbae Lee, Senior, Molecular and Cellular Biology, LAS

Decreased DA D2 Receptors in the Striatum of High Alcohol Preferring Mice
Dimeji Williams, Junior, Chemistry, LAS

Understanding the Body

2:30-3:30 PM, Room 217
Sensory Feedback and Mechanical Design in Prosthetic Hands
Patrick Slade, Junior, Mechanical Engineering, ENG

Effect of Ankle Immobilization on Able-Bodied Gait as a Model for Understanding Bilateral Transtibial Gait
Antonia Nepomuceno, Senior, Bioengineering, ENG

Role of Muscleblind-Like Protein 1 in Alternative Splicing Transitions of Adult Mouse Liver
Kevin Yum, Senior, Biochemistry, LAS

Insects in the Modern World

3:00-4:00 PM, Room 209
Morphological Defects in Fruit Fly Compound Eyes
Samuel Taylor, Senior, Mechanical Engineering, ENG

Determining the Identity and Possible Origin of a Collembola Pest of Lettuce and Tree Seedlings
Alejandra Flores, Junior, Molecular and Cellular Biology, LAS

Pesticide Synergism Effects on the Navel Orange Worm
Brooks Hauser, Freshman, Biology, LAS

Writers Workshop: Researching Our Practice: What Do We Know About Writers and Writing?

3:30-4:30PM, Room 217
Writing in Undergraduate Philosophy
Ryan Woods, Sophomore, Philosophy, LAS

Issues in Tutoring ESL Writers
Allyson Cubr, Junior, History, LAS

The Impact of Expectations in Tutoring Sessions
McCall Macomber, Junior, English, LAS

POSTER PRESENTATIONS

PA Session – Food, Plants, and Animals
9:00-10:15 AM, Illini Room A
The Social Status of Urban Agriculture in Champaign-Urbana
Carly Norris, Senior, Natural Resources and Environmental Sciences, ACES

Investigating the Effect of Using Native Illinois Grasses on the Yield, Growth, & Nutritional Content of Oyster Mushrooms
Li Xin Wong, Senior, Food Science and Human Nutrition, ACES

Hox Gene Expression in Mammalian Limb Development
Paige Oboikovitz, Senior, Integrative Biology, LAS

Effects of Different Pretreatments and Drying Methods on Quality and Nutrient Retention of Elm Oyster Mushrooms (Hypsizygus Ulmarius)
Cheng Lu, Junior, Food Science and Human Nutrition, ACES
The Effects of Supplementation on Spring Grazing Cows  
Kankanit Doungkamchan, Senior, Animal Sciences, ACES

Behavioral Freeze Avoidance Strategy in an Antarctic Fish  
Mateusz Grobelny, Senior, Integrative Biology, LAS

Soybean Amino Acids Excite Orexin Neurons  
Anna Serrano, Junior, Horticulture, ACES

Converging Wildlife Corridor  
Jingxia Ma, Senior, Landscape Architecture, FAA  
Mengzhen Liu, Senior, Landscape Architecture, FAA

Efficacy of Common Disinfectants Against Ophidiomyces Ophiodiicola, the Causative Agent of Snake Fungal Disease  
Marta Rzadkowska, Senior, Integrative Biology, LAS

Determination of Reduced-Moisture pH in Beet and Cane Sucrose Sources  
Haena Yun, Junior, Food Science and Human Nutrition, ACES

Application of Tobacco Rattle Virus-Based Virus-Induced Gene Silencing (VIGS) to Characterize Photorespiratory Transporters  
Caroline Keller, Senior, Plant Biotechnology and Molecular Biology, ACES

Ultrasonic Application in Dark Chocolate Formulation  
Melissa Wang, Senior, Food Science and Human Nutrition, ACES

Nutritive Evaluation of Sow’s Milk  
Stacey Johnson, Senior, Animal Sciences, ACES

Evaluation of the Effects of a Clay Product (EcoMix) After a Grain Challenge on Rumen Health and Blood in Holstein Cows  
Caroline Kalebich, Senior, Animal Sciences, ACES

Multicultural Advocates in Nutritional Needs and Agriculture as Future Leaders  
Ramona Montez, Senior, Food Science and Human Nutrition, ACES

Impact of Maternal Colostrum on the Pro-Inflammatory Status of Newborn Calves  
Sandra Jimenez Poveda, Senior, Animal Sciences, ACES

Habitat Associations of Fish in the Kaskaskia River in Illinois  
Claire Watson, Senior, Fish and Wildlife Conservation, ACES

Antioxidant Testing of Blueberries in Dark Chocolate  
Srushti Acharekar, Sophomore, Agriculture and Biological Engineering, ACES

Too Connected to Fail: The Effect of Alliance Network Structure on Farm Survival  
James Ozols, Senior, Agriculture and Consumer Economics, ACES

Prescribed Fire Effects on Tree Fitness and Mycorrhizal Relations  
Kevin Mills, Sophomore, Natural Resources and Environmental Sciences, ACES

Optimal Harvest of White-tailed Deer in Texas  
Amanda Ang, Senior, Agriculture and Consumer Economics, ACES

Behavioral and Spatial Dynamics of Male Dickcissels (Spiza americana) Throughout the Nesting Cycle  
Devin Jen, Senior, Agri-Accounting, ACES

Cooled Stallion Semen Motility when Exposed to E-Z MIXIN CST and INRA 96 Extenders for Greater than 48 Hours  
Taylor Rietveld, Senior, Animal Sciences, ACES

Relationship Between Chlorophyll Content and Leaf Optical Properties in Senescing Tobacco Leaves  
Elliot Brazil, Senior, Chemistry, ACES

Avian Mortality at Solar Energy Facilities in Southern California  
Stephanie Meyers, Senior, Earth, Society and Environmental Sustainability, LAS

Boar Urine Pheromone Exposure Modifies Estrous Cycle Length and Regularity in Same-Sex Housed Female Red River Hogs (Potamochoerus Porcus)  
Monica Jarboe, Senior, Animal Sciences, ACES

Master Gardeners: Why They Work and What They Receive in Return  
Shelby Cooper, Junior, Agricultural Science Education, ACES

PB Session–Science and Mathematics  
9:00–10:15 AM, Illini Room C

Modular Analysis Software for the ALMA Front End Test and Measurement System  
Aaron Beaudoin, Senior, Astronomy, LAS

Helping Fatima Help Itself  
Francisco Battiti, Freshman, Chemical Engineering, LAS

Intracellular Germination of Bacillus Anthracis Detected Using Terbium Fluorescence  
Aakaash Meduri, Junior, Molecular and Cellular Biology, LAS
Can Bergmann’s Rule Apply to Bees? Wing Size and Shape Differs over Climatic Gradients in a Mexican Bumble Bee Species, Bombus Ephippiatus

Christopher Petranek, Senior, IPS Entomology, LAS

Cell Surface Engineering of Embryonic Stem Cells with Modular Biomaterial Chemistries

Ravi Chandra Yada, Senior, Bioengineering, ENG

Deploying Big Data Applications to the Cloud

Anchal Agrawal, Junior, Computer Science, ENG

Data-driven Characterization of an Electric Motor

Nicholas Balko, Junior, General Engineering, ENG

Fractals, Patterns, and Randomness in Number Theory and Mathematical Physics: Unraveling the Mysteries of Number-Theoretic Fourier Series

Ryan Grady, Junior, Electrical Engineering, ENG

Yu Fu, Senior, Mathematics, LAS

Yuda Wang, Junior, Mathematics, LAS

Jia Yu, Junior, Mathematics, LAS

The Fake Randomness Project: How to Detect Fake Coin Flips and Made-up Data

Xusheng Zhang, Sophomore, Computer Science, ENG

Li Tong, Sophomore, Computer Science, ENG

Modeling Basic Financial Profitability of Businesses using Physical Mass-Spring System

Jigar Patel, Freshman, Industrial Engineering, ENG

Understanding the Relationship Between Diet, Fasting Blood Glucose, and Adiposity among Prepubertal Children

Madelyn Thanasouras, Senior, Dietetics, ACES

Investigating the Terminal Oxidase in V. Cholera—a Potential Drug Target

Andrew Plecki, Senior, Biochemistry, LAS

The Determination of Population Level Variation in Folding and Stability of Phosphoglycerate Kinase in Escherichia Coli by Using FRET between GFP and ReAsh

Timothy Chen, Sophomore, Chemical and Biomolecular Engineering, LAS

Orthogonal Patterning of 3D Cell Microenvironments Based on Hyperbranched Polyglycerols to Tune Stiffness Independently of Mesh Size

Amanda Pritchard, Junior, Chemical and Biomolecular Engineering, LAS

Synthesis and Characterization of Hollow Polydimethylsiloxane Microspheres

Samantha Fuchs, Senior, Chemistry, LAS

RNAi Knockdown: The Role of unc-25 in Mediating Nicotine Resistance in Caenorhabditis elegans

Andrew Tran, Sophomore, Integrative Biology, LAS

Emily Yaniz, Sophomore, Integrative Biology, LAS

Stephanie Martynenko, Sophomore, Integrative Biology, LAS

Community Inference

Zachary Cohen, Sophomore, Integrative Biology, LAS

Modeling Threat Assessment in Prey

Nicholas Sutton, Senior, Integrative Biology, LAS

Implementation of a Transposon Mutagenesis Library in the Model Hyperthermophilic Archaeon Sulfolobus Islandicus

Carlos Vega, Junior, Molecular and Cellular Biology, LAS

Brain Computer Interface Based on the N2pc Event-Related Potential

Nhan Huynh, Junior, Molecular and Cellular Biology, LAS

Michon Kyra, Senior, Molecular and Cellular Biology, LAS

Buried Pleistocene Channels in the Tonle Sap Lake, Cambodia: their Morphology and Significance

Mackenzie Marti, Senior, Geology, LAS

Partition in the Age of Digital Reproduction: an Architectural Study

Seth Kopk, Senior, Architectural Studies, FAA

Gideon Schwartzman, Senior, Architectural Studies, FAA

PC Session - Education

9:00-10:15 AM, South Lounge

Transition and Adjustment Experiences of College Students: How the Experience Differs Between First Generation and Non-First Generation Students

Joy Sugihara, Senior, Social Work, SSW

Identifying and Addressing Obstacles that may Hinder Successful Undergraduate Research Involvement

Timothy Callahan, Sophomore, Agricultural Leadership Education, ACES

Rachel Hazen, Senior, Agri-Accounting, ACES

She uses her words and talks: Importance of After-School Programs to Latino Youth and Families

Stephanie Medina, Sophomore, Human Development and Family Studies, ACES

Sexual Assault in Higher Education Institutions

Carly Kenny, Senior, Agriculture and Consumer Economics, ACES

Home Education and Religious Fundamentalism: Mental Health Outcomes for Homeschool Alumni

Sarah Anderson, Senior, Social Work, SSW
Measuring out of State Enrollment at the University of Illinois
Jonathan Alton, Senior, Agriculture and Consumer Economics, ACES

Childhood Obesity: Can Healthcare Providers Aid Parents in Prevention?
Lauren Amendola, Junior, Human Nutrition, ACES
Megan Devine, Junior, Chemistry, LAS

School Readiness in Lincoln Heights
Anita Oladunni, Junior, Human Development and Family Studies, ACES
Theola Maxon, Senior, Human Development and Family Studies, ACES

Manual for Working with Children with Autism
Shira Schwartz, Senior, Human Development and Family Studies, ACES

Is Ball Really Life, or is School life: Exploring the Outcomes of African American Males in Higher Education
Brandon Boston, Junior, Communication, LAS

The Economic and Professional Development of Muslim Women Who Wear the Headscarf in France
Aamina Khan, Senior, French, LAS

The Head Start Program
Elizabeth Badskey, Senior, Social Work, SSW

Cyberbullying Motivators and Outcomes in the Female Population
Claire Donahue, Freshman, Elementary Education, EDU
Ashley Lenzini, Freshman, Early Childhood Education, EDU

Exploring Mathematics in a Project-Based Classroom
Jennifer Jozwiak, Sophomore, Elementary Education (Grades 1-6), EDU

Students with Disabilities and Their Engagement in Technology-Based Computer Programming Games
Kathleen Myers, Sophomore, Special Education, EDU

A Cultural Comparison: Classroom Participation Structures
Samantha Cherry, Sophomore, Elementary Education, EDU
Chark Chong, Junior, Educational Psychology, EDU
Che Yan, Junior, EDU

Augmentative and Alternative Communication in Special Education Classrooms
Emily Hodges, Freshman, Special Education, EDU
Kristin Gleason, Freshman, Special Education, EDU

An Investigation of a Rural Bilingual Education Program
Melissa Boyce, Junior, Elementary Education, EDU

The Use of Visual Supports in Special Education Classrooms
Morgan Havel, Freshman, Special Education, EDU

The Relationship Between Mothers’ Mental State Talk and Children’s Language Development
Sarah Reeves, Senior, Speech and Hearing Science, AHS

Transcribing and Interpreting Experimental Spanish Recordings to Measure Age Effects
Michelle Patino, Sophomore, Linguistics, LAS
Leslie Del Carpio, Junior, Linguistics, LAS

PD Session – Health and Well-Being
10:45 AM-12:00 PM, Illini Room A

The Impact of Family Leisure Activities on Health Status
Amber Alton, Junior, Human Development and Family Studies, ACES

Non-CpG Methylation in Spontaneous Breast Cancer Models
Taylor Person, Senior Animal Sciences, ACES

Helping Fatima Help Itself
Francisco Battiti, Freshman, Chemical Engineering, LAS

Characteristics of Food Insecure Women in the United States
Viridiana Luna, Junior, Molecular and Cellular Biology, LAS

Anthrax Lethal Factor N-terminus (LFN) Mediated Anti-botulism Delivery
Bingyan Wu, Senior, Biochemistry, LAS

The Impact of Delivery Mode and Early Nutrition on the Colonization of Gut Microbiota
Connie Lam, Senior, Food Science and Human Nutrition, ACES

Characterizing a Firefighter’s Immediate Thermal Environment in Live-Fire Training Scenarios
Joseph Willi, Senior, General Engineering, ENG

Remote Acculturation and Dietary and Physical Activity Patterns in Jamaica: The Culture Health and Family Life Study
Melissa Bravo, Senior, Human Development and Family Studies, ACES

Impacts of BCO1 and BCO2 Loss on Hepatic Lipid Profiles
Connor Buchweitz, Senior, Food Science and Human Nutrition, ACES

Good for the Air, Bad for the Water, The Effect of Ethanol on Water Quality
Yu-Jen Chen, Senior, Policy, International Trade and Development, ACES

The Relationship Between Community Violence and PTSD in a Chicago Neighborhood
Aneisha Dunmore, Senior, Human Development and Family Studies, ACES
Changes in Family Cohesion and Links to Depression during the College Transition
Joao Guassi Moreira, Sophomore, Psychology, LAS

Under-referrals for Developmental Delays by Pediatricians: A Systematic Review
Molly Harmon, Junior, Human Development and Family Studies, ACES

Reversal Shift in Associative Learning of Phonotactic Constraints
Eric Holmes, Senior, Psychology, LAS

Evolutionary Perspectives Informing the Treatment of Major Depressive Disorder and Posttraumatic Stress Disorder
Paige Jamieson, Senior, Anthropology, LAS

Television Usage is Associated with Increased Adiposity and Caloric Intake among Preadolescent Children
Noel Konken, Senior, Dietetics, ACES

Illinois Hospitals – Women vs. Men CEOs
Kayla Moore, Senior, Community Health, AHS
Brittany Sanchez, Senior, Community Health, AHS

Relationship between Birth Weight, Age at Menarche, and Progesterone Levels in Adolescent Girls
Rachel Ogden, Senior, Anthropology, LAS

Gait Termination in Individuals with Multiple Sclerosis
Kathleen Roeing, Senior, Kinesiology, AHS

Tinnitus
Ariana Romero, Junior, Speech Language Pathology, AHS

Multimodality: What Does that Mean in the Field of Communication Sciences and Disorders Anyway?
Shanthi Sivasankaran, Senior, Speech and Hearing Science, AHS
Theresa Versaci, Junior, Speech and Hearing Science, AHS

The Effects of Amphetamine Exposure During Adolescence on Anxiety- and Depression-like Behavior in Young Adulthood
Mariah Wu, Senior, Psychology, LAS

Early Childhood Self-Regulation and Teenage Depression
Ziang Xiao, Junior, Statistics and Computer Science, LAS

The Attitudes and Perceptions of Asian Restaurant Managers/Owners Towards Healthy Menu Items
Chieh-Hui (Cindy) Yang, Senior, Human Nutrition, ACES

Effects of Corticosterone on Diet Preference
Haley York, Junior, Animal sciences, ACES

Breastfeeding Duration and BMI: A Study of the Relationship Between Breast Milk Exposure and Healthy Development
Michael Sheu, Senior, Molecular and Cellular Biology, LAS
Danielle Fontaine, Senior, Kinesiology, AHS
Robert Ferguson, Senior, Psychology, LAS

Community Engagement and Applied Research: Creating Sustainable Solutions for Improved Water Quality and Agricultural Development in Kapeeka, Uganda
Krish Ramadurai, Senior, Economics, LAS
Pratham Gandhi, Senior, Industrial Engineering, ENG
Kelsey Schreiber, Junior, General Engineering, ENG
Mary Rosenwinkel, Sophomore, Interdisciplinary Health Sciences, AHS

A Theoretical Examination of the Let’s Move Campaign Using the Health Belief
Kalina Jozefina Gajda, Sophomore, Global Studies, LAS

Golden Gate Cloning in Building Multigene Constructs for Photorespiration Bypass in C3 Plants
Helen Liu, Freshman, Crop Sciences, ACES

Analysis of Social Needs and Chronic Conditions of the Uninsured Utilizing a Free Clinic
Anuluwapo Osideko, Senior, Community Health, AHS

PE Session – Science and Mathematics
10:45 AM-12:00 PM, Illini Room C

Predicting G-quadruplex Formation
Jacob Calvert, Senior, Bioengineering, ENG

Artificial Wall Climbing Hold
Geoffrey Tang, Senior, General Engineering, ENG

Affordable Electrogoniometer for Rehabilitative Gait Analysis
Zonghe Chua, Senior, Mechanical Engineering, ENG

Three Dimensional Interactions Between Spherical Inclusions and PDMS Matrix for Digital Volume Correlation
Manue Martinez, Senior, Aerospace Engineering, ENG

Impact of Perturbations to Photorespiration on Rubisco Activation State
Beau Barber, Junior, Agriculture and Biological Engineering, ENG

Personalized 3D Printed Bio-Absorbable Drug-Eluting Stent for the Treatment of Vascular Disease
Joseph Kus, Senior, Bioengineering, ENG
Divya Tanskasa, Senior, Bioengineering, ENG
Ramya Babu, Junior, Bioengineering, ENG
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<tr>
<th>Project Title</th>
<th>Presenter(s), Department(s), School(s)</th>
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<tr>
<td>Early Force Regulation of Fibroblast through Time-Lapse Traction Force Microscopy</td>
<td>Heyuan Huang, Junior, Mechanical Engineering, ENG</td>
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<tr>
<td>PA-MBE Growth of GaN-based HEMT Devices</td>
<td>Gabriel Velarde, Junior, Material Science and Engineering, ENG</td>
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<td>Characterization of Sulfolobicsins within a Sympatric Population of Sulfolobus Islandicus</td>
<td>Kimberly Allen, Junior, Molecular and Cellular Biology, LAS</td>
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<td>Immunotoxic Effects of Bisphenol-A</td>
<td>Swetapadma Tripathy, Junior, Molecular and Cellular Biology, LAS</td>
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<tr>
<td>Phosphoprotein Expression Profiling of Tumor Samples for Cancer Sub-classification using Microring Resonator Arrays</td>
<td>Ruth Londono, Sophomore, Integrated Biology, LAS</td>
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<td>Molecular Evolution for the Chemoreceptor Gene Families in the Common Eastern Bumblebee, Bombus impatiens</td>
<td>Yihui Zhu, Senior, Integrative Biology, LAS</td>
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<td>DNA Fragment Length Heterozygosity PCR: Lab-on-a-Chip Method for Testing Bias in Prairie Root Metagenomics</td>
<td>Taylor Pederson, Senior, Integrative Biology, LAS</td>
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<tr>
<td>A Model of Sea Star Associated Densovirus Epidemiology</td>
<td>Bridget Mueller-Brennan, Freshman, Mathematics, LAS</td>
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<tr>
<td>Summing Divergent Series: From Euler and Abel to Dirichlet and Beyond</td>
<td>Yiwang Chen, Senior, Mathematics, LAS Huang Keran, Senior, Mathematics, LAS</td>
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<tr>
<td>Embedded-width, a Variation on Treewidth</td>
<td>Robert Weber, Senior, Mathematics and Computer Science, LAS</td>
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<td>Connectivity of Substantia Innominata and Inferior Colliculus in Auditory System of Mouse</td>
<td>Jinyu Li, Sophomore, Molecular and Cellular Biology, LAS Stacy Sons, Junior, Molecular and Cellular Biology and Psychology, LAS</td>
</tr>
<tr>
<td>Fruit and Vegetable Consumption and Body Mass Index of Children</td>
<td>Amanda Donald, Senior, Molecular and Cellular Biology, LAS Miles Mary, Senior, Interdisciplinary Health Sciences, AHS Samantha Addante, Sophomore, Human Development and Family Studies, ACES</td>
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<tr>
<td>SRSF1 and the Splicing Regulatory Network of NASH</td>
<td>Gandhar Datar, Junior, Molecular and Cellular Biology, LAS</td>
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<td>Reliable Hydrogen Detection Employing Palladium Fuzz</td>
<td>Casey Bryniarski, Junior, Electrical Engineering, ENG</td>
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<td>Accelerated 4D flow MRI Using a Shared Subspace Constraint</td>
<td>Miguel Moscoso, Senior, Electrical Engineering, ENG</td>
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<td>Sink for Electromagnetic Waves</td>
<td>Tom Kirsh, Sophomore, Physics, LAS</td>
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<td>Chaos Induced Transparency</td>
<td>Juheang Qin, Sophomore, Physics, LAS</td>
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<td>Machine Learning on Mock Galaxy Catalog</td>
<td>Harshil Kamdar, Junior, Physics, LAS Dingcheng Yue, Sophomore, Computer Science, ENG Rishabh Jain, Junior, Computer Science, ENG Christopher Chan, Junior, Computer Engineering, ENG</td>
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<tr>
<td>3D Printing Finishing Techniques</td>
<td>Kevin Hauger, Junior, Industrial Design, FAA</td>
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<tr>
<td>Understanding Geochemistry and Microbial Communities Inhabiting Oil Sands from Gros mont Carbonate Reservoir of North Alberta, Canada</td>
<td>Jiwon Kim, Senior, Molecular and Cellular Biology, LAS</td>
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<tr>
<td>PF Session – Social Sciences, Human Behavior, and Education</td>
<td>10:45 AM-12:00 PM, South Lounge</td>
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<td>WAR Career Trajectory Curves</td>
<td>Drew Jordan, Senior, Statistics, LAS</td>
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<td>Mental Practice and Speech</td>
<td>Steven Anderson, Senior, Psychology, LAS</td>
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<td>Using the Coping Strategies Index as a Measure of Food Security in Rural Honduras: A Preliminary Validation Study</td>
<td>Elise Ellinger, Senior, Human Nutrition, ACES</td>
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<td>The Role of Image Features on Social Media</td>
<td>Mayanka Amencherla, Senior, Electrical Engineering, ENG</td>
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<tr>
<td>Why Do American and Chinese Mothers Respond Differently to Children’s Performance?</td>
<td>Janice Ng, Senior, Psychology, LAS</td>
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<td>Collective Memory, National Humiliation, and Historical Ties: Effects of the Ming Tributary System on Modern Chinese Relations</td>
<td>Mallory Meade, Senior, Anthropology, LAS</td>
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<td>Study of Interpersonal Interactions on a Popular College Review Forum</td>
<td>Kaitlyn Taylor, Senior, Communication, LAS</td>
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<td>An Analysis on Gun Violence</td>
<td>Anna Lin, Senior, Psychology, LAS</td>
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<td>Policy Analysis of Public Act 95-1031</td>
<td>Stefany Loeza, Senior, Social Work, SSW</td>
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<tr>
<td>With Liberty and Theater for All: Revisiting Theatrical Skills in Community</td>
<td>Stephanie Svarz, Senior, Theatre Studies, FAA</td>
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<tr>
<td>The Knight and The Dragon: Exploring Representations in Video Games</td>
<td>Emilie Butt, Senior, Gender and Women’s Studies, LAS</td>
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<td>Violence Against Women in Mongolian Movies</td>
<td>Ganchimeg Ganzorig, Junior, Global Studies, LAS</td>
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<td>France, Germany, and 1914</td>
<td>Anthony Borrino, Sophomore, Global Studies, LAS</td>
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<td>The Health Care System in Chile</td>
<td>Nina Clark, Senior, Latin American Studies, LAS</td>
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<td>A Perpetuating Negative Cycle: The Effects of Economic Inequality on Voter Participation</td>
<td>Jenine Saleh, Senior, Political Science, LAS</td>
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<td>Differences in Memory and Credibility Across Media Platforms</td>
<td>Christina Lorey, Senior, Political Science, LAS</td>
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<tr>
<td>Don't Bank On It: The Incomplete Truth of Money in Congressional Elections</td>
<td>Patrick Flavin, Senior, Political Science, LAS</td>
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<td>Political Violence, Ethnic Fractionalization, and the Ratification of Human Rights Treaties</td>
<td>Ada Karacal, Senior, Political Science, LAS</td>
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<tr>
<td>Members of Congress and Congressional Staff Allocation</td>
<td>John Flach, Senior, Political Science, LAS</td>
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<td>Progressive Ambition and Gender in Congress</td>
<td>Sarah Gortowski, Senior, Political Science, LAS</td>
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<td>Can Anti-corruption Aid Reduce Corruption?</td>
<td>Ricardo Alvarez, Senior, Political Science, LAS</td>
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<td>Who Bullies Whom? The Role of Race/Ethnicity in Bullying Among Elementary School Students</td>
<td>Matt Graden, Senior, Psychology, LAS</td>
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<td>What Are The Odds? Using a Probability Judgment Task to Explore Individual Differences in Confidence</td>
<td>Carly Graham, Senior, Psychology, LAS</td>
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<td>Analysis on Welfare</td>
<td>Dorina Moore, Junior, Social Work, SSW</td>
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<td>Why Americans Prefer Texting to Other Chatting Apps?</td>
<td>Xie Li, Freshman, Undeclared, EDU</td>
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<td>Endocrine Disruptors in Plastics: What do Child Care Providers Know and What are They Doing to Limit Young Children's Exposure?</td>
<td>Emily Rohman, Sophomore, Community Health, AHS</td>
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<tr>
<td>Examining I-Promise Students: Preliminary Study on Why Minority Students Don't Study Abroad</td>
<td>Jennifer Aguayo, Junior, Community Health, AHS</td>
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<tr>
<td>Sketching and Self-Explanation: How They Aid Student Learning in Math and Science</td>
<td>Logan Walther, Sophomore, Elementary Education, EDU</td>
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<td>Very Superstitious: A Look at American and Chinese Taboos</td>
<td>Toni Wordlaw, Senior, Advertising, COM</td>
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<tr>
<td>Support, Hostility, and LGBTQ Well-being: The Role of Religion, Community, and Family</td>
<td>Sarah Anderson, Senior, Social Work, SSW</td>
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Featured Presentations

Lunch: 12:00-1:15 PM, Illini Union B

Things are Different: Bridging the Gap Between Parents and Teachers in a Chicago Head Start
Victoria Cross, Senior, Neuroscience, LAS

Einstein Meets Big Data: Searching for Exotic Objects with Bayesian Statistics
Sean McLaughlin, Senior, Physics, ENG

‘I Remember’ from Evening Primrose by Sondheim.

O mio babbino caro, Lauretta’s aria from Giacomo Puccini’s Gianni Schicchi,
‘I Could Have Danced All Night’ from My Fair Lady by Frank Loewe (lyrics by Alan Jay Lerner).

Katherine Bokenkamp, Senior, Music – Vocal Performance, FAA
Accompanied by Casey Baker, Graduate Student, Piano, FAA

PG Session: Science and Mathematics
1:30-2:45 PM, Illini Room A

Modeling The Flow Through a Low-Speed Wind Tunnel with Reynolds-Averaged Navier-Stokes Simulations
Kevin Kim, Senior, Aerospace Engineering, ENG

Parallelized 2D Vortex Panel Model of a Rotating Airfoil
Francisco Gonzalez, Junior, Aerospace Engineering, ENG

Splitter Plate Aerodynamics
Kevin Kang, Senior, Aerospace Engineering, ENG

Atmosphere and Plume Explorer of Europa
Christopher Lorenz, Junior, Aerospace Engineering, ENG

Geometric Effects on the Performance and Wake Development of a Multi-element Airfoil System
Aaron Perry, Senior, Aerospace Engineering, ENG

Hardware Development and Uncertainty Quantifications of a Seven Hole Pressure Probe
Leigh Honzatko, Sophomore, Aerospace Engineering, ENG

Genetic Analysis of Celllobiohydrolase I (cbhI) Gene Sequences and Production of Other Wood Degradation Enzymes in Tropical Aquatic Fungal Communities
Matthew Boyce, Senior, Integrative Biology, LAS

Monolithic Systems Applications
Hugo Freire, Senior, Industrial Engineering, ENG

Complex Magnetic Systems for High Power Pulsed Magnetron Sputtering
Matthew Cheng, Sophomore, Material Science and Engineering, ENG
Justin Weberski, Junior, Nuclear Plasma and Radiological Engineering, ENG

Interfacial Processes of Lithium Ion Batteries
Bogdan Dryzhako, Senior, Material Science and Engineering, ENG

Drying and Preservation Methods BetweenVarieties of Strawberries, Blueberries, and Raspberries
Janique Tyler, Senior, Food Science and Human Nutrition, ACES

The Role of Notch-Dependent Differentiation of Tumor Associated Macrophages in Mediating the Metastatic Effects of 27-Hydroxycholesterol
Ashabari Mukherjee, Junior, Molecular and Cellular Biology, LAS

Development of Dopaminergic Fibers during Adolescence in the mPFC of Male and Female Rats
Laura Cortes, Senior, Neuroscience, LAS

High Resolution DNA Melting Analysis for Identifying Biases in Prairie Root Community Metagenomics
Christopher Sligar, Sophomore, Biology, LAS

Kinetic Analysis of the Class II Lanthipeptide Synthetases ProCM
Yunhong Wang, Senior, Biochemistry, LAS

The Development of a Custom Smartphone Cradle for Multimodal Spectral Analysis and Biomolecule Detection
Sonya Dave, Junior, Chemistry, LAS

Single Polymer Studies Using Microfluidic Devices
Sarah Kuhl, Senior, Chemistry and Biomolecular Engineering, LAS

Development of a Preclinical Platform to Analyze Glioblastoma Specimens
Harshita Polishetty, Senior, Chemistry and Bimolecular Engineering, LAS

Gene Expression Profiles in Directed Cardiomyocyte Differentiation of HLHS Patient-Specific Induced Pluripotent Stem Cells
Kevin Erning, Senior, Chemistry and Biomolecular Engineering, LAS

Reinforcement of Collagen Scaffolds via Incorporation of Polycaprolactone Frame Enhances Mechanical Robustness
Kevin Erning, Senior, Chemistry and Biomolecular Engineering, LAS

Electrophysiological and Mass-Spectrometric Investigation of Aplysia L1-L7 Neurons
Feng Zhu, Senior, Integrative Biology, LAS
Elucidation of Dopamine's Influence in Peripheral Sensing in Pleurobranchaea.

Megan Flanagan, Junior, Integrative Biology, LAS
Andrew Tran, Sophomore, Integrative Biology, LAS

Improving the Accuracy of Photosynthetic Compensation Point Measurements

Jessica Ayers, Junior, Integrative Biology, LAS

Effects of Bile Acids on Adipogenesis

Akinrotimi Oludemilade, Senior, Molecular and Cellular Biology, LAS

Comparison between Automated Keratometer and Placido-Disc Topographer in Measuring Keratometry

Dorothy Pham, Senior, Molecular and Cellular Biology, LAS
Kevin Yum, Senior, Biochemistry, LAS
Jenny Baek, Sophomore, Human Nutrition, ACES

The Impact of Physical Activity on Circulating Fetuin-A in Healthy Adults

Michael Magnuson, Senior, Molecular and Cellular Biology, LAS

Toricity Ratio Analysis for Lens Selection in Advanced Refractive Cataract Surgery

Lauren Gabra, Sophomore, Molecular and Cellular Biology, LAS

PH Session - Health

1:30-2:45 PM, Illini Room C

A Test Methodology for Evaluating the Sensitivity of Wrist Ligament Strain to Fracture Reduction Tolerances

Brian Abarbanel, Senior, Mechanical Engineering, ENG
Katob Mohammad, Senior, Mechanical Engineering, ENG
Blase Horn, Junior, Mechanical Engineering, ENG

Effects of EHR System Change on Nurse and Physician Perceived Workload and EHR Usability in Urgent/Convenient Care Clinics

Roy Bidisha, Junior, Psychology, LAS

Effect of Hyaluronic Acid on Brain Cancer Development

Sarah Laken, Senior, Bioengineering, ENG

Biomechanical Characteristics of Bone

So Hyun Ahn, Senior, Bioengineering, ENG
Peter Shyu, Junior, Bioengineering, ENG
Aditi Warhekar, Sophomore, Bioengineering, ENG

Understanding The Functional Role Of Esrp2 In Postnatal Liver Maturation

Edrees Rashan, Junior, Biochemistry, LAS

Single Nucleotide Polymorphisms in Cholesterol Ester Transfer Protein (CETP) are Associated with Differences in the Lipid Profile of Young Mexican Adults

Michaela Margolis, Junior, Food Science and Human Nutrition, ACES

Technology's Impact on Sleep and Body Mass Index

Jordyn Fishman, Senior, Human Development and Family Studies, ACES
Kaitlin Keeley, Senior, Kinesiology, AHS

What Services Are You Receiving? African American Children with Autism Spectrum Disorders

Jasmine Brown, Junior, Human Development and Family Studies, ACES

ABCA1 Differences Between Determinants of Lipid Profile Phenotypes in Young Mexican Adults

Taneisha Griggs, Senior, Animal Sciences, ACES

Differential Association of Birth Weight and Cognitive Function among Preadolescent Female and Male Children

Joanna Manero, Senior, Dietetics, ACES

Chemotherapy Impairs Cognitive Performance and Reduces Neurogenesis, Independent of Nutritional Intervention

Andrew Sheriff, Senior, Psychology, LAS

Differential Effects of Approach and Avoidance Temperament on Risk-taking and Impulsivity

Leah Kling, Senior, Psychology, LAS

The Functional Significance of Neurogenesis in a Mouse Model of Fetal Alcohol Spectrum Disorder

Christopher Krebs, Senior, Psychology, LAS

Cardiovascular Fitness and Creativity in Children

Jason Steinberg, Senior, Psychology, LAS

Prenatal Fetal Alcohol Exposure Caused Decreased Amounts in Parvalbumin Interneurons in the mPFC

Ivy Hernandez, Junior, Psychology, LAS

A Systematic Review on the Comorbidity of Depression and Diabetes Among US Born Women

Caroline Quintanilla, Junior, Social Work, SSW

Volunteering as (Health) Intervention

Brian Summers, Sophomore, Social Work, SSW
Hayley Johnson, Senior, Social Work, SSW
Empowerment of Families of Children with Autism
Rebecca Cuculich, Junior, Special Education, EDU

Early Intervention in African American Families of Children with Autism Spectrum Disorder
Dana Hadley, Sophomore, Early Childhood Education, EDU

The Role of Spectral and Temporal Cues in Binaural Fusion
Corey Shayman, Senior, Audiology, AHS
Deepsa Suneel, Senior, Audiology, AHS

Psychophysiological Indices of Lexical Access in Hearing Learners of American Sign Language
Melissa Peterson, Senior, Speech and Hearing Science, AHS
Haley Powles, Junior, Speech and Hearing Science, AHS

Strategic Use of Complexity to Enhance Communication and Learning after Brain Injury
Amanda Rohde, Senior, Speech and Hearing Science, AHS
Carissa Ernat, Sophomore, Speech and Hearing Science, AHS

Breastfeeding vs Formula Feeding: The Role of Breastfeeding in Preventing Childhood Obesity
Marija Maretic, Senior, Interdisciplinary Health Sciences, AHS
Natasha Joy, Senior, Communication, LAS

TV Time and Sugary Drinks: How They’re Making Your Child Obese
Kelsi Ubbenga, Senior, Speech and Hearing Science, AHS
Michelle Moynihan, Senior, Speech and Hearing Science, AHS
Alaina Ceron, Junior, Sociology, LAS
Dior Chasanov, Junior, Interdisciplinary Health Sciences, AHS

Quality Measures of Long Term Care
Margaret Palermini, Senior, Health Planning and Administration, AHS

Analysis of Charitable Giving in Illinois Hospitals
Katie Sieloff, Senior, Community Health, AHS

The Impacts of Socio-Economic Factors on Birth Weights among African American and White American Women in the US
Iyabode Adejumo, Senior, Nursing, NUR

Reversing Tumor-induced Immune Suppression
Rebekah Landsman, Senior, Molecular and Cellular Biology, LAS

Bisphenol A has Divergent Effects on Embryonic and Postnatal Pituitary Proliferation
Nicholas Baur, Senior, Molecular and Cellular Biology, LAS

Culture and Visual Cognition
Nicole Hakim, Senior, Psychology and Spanish, LAS

Bronzeville Neighborhood Revitalization
Alfred Sus, Senior, Landscape Architecture, FAA

Tourist Airports: Chinchero Case Study
Nicholas Bartholomew, Junior, Urban Planning, FAA

Cultural Differences in Gift-Giving Between Eastern and Western Countries
Shuhan Yang, Junior, Elementary Education, EDU
Shijie Wen, Junior, EDU
Yilin Zhou, Junior, Actuarial Science and Statistics, LAS

Remix Urban Planning
Sarang Chung, Sophomore, Urban Planning, FAA

Causes and Outcomes of the Differences in US and Asian Greeting Styles
Rise Katsuda, Junior, Political Science, LAS
Sut Leng Lao, Junior, Political Science, LAS
Leong Chon Hin, Junior, Mathematics, LAS

Follow the Light
Cindy Lawando, Freshman, Undeclared, DGS

Supreme Court Justices’ Response to Public Opinion
Ejulius Adorno, Senior, Political Science, LAS

A Case For Cultural Relevance in Youth Programs
Rigoberto Campos, Freshman, Political Science, LAS

Factors Contributing to Civic Engagement among Chinese Immigrants to the United States
Chengyu Fang, Senior, Sociology, LAS

Emily Dietze, Senior, Psychology, LAS

Discovering Remote Enculturation: Riding the First Wave of a New Concept
Julianna Ge, Junior, Human Development and Family Studies, ACES

How Adolescents Deal with Parental Divorce
Ashley-Tate Hollis, Junior, Human Development and Family Studies, ACES
Rachel Smith, Sophomore, Human Development and Family Studies, ACES
Kristen Herdegen, Sophomore, Human Development and Family Studies, ACES
Missing Links: A Quantitative Study of Online Headline Effectiveness for Habitual vs. Nonhabitual Readers

Kirsten Keller, Senior, Journalism, COM
Eli Murray, Senior, Journalism, COM
Tyler Davis, Junior, Journalism, COM

The Work and Activism of Women in East Africa and its Relevance for Implementing Safe Water and Sanitation Strategies

Arianna Jenkins, Sophomore, Psychology, LAS

Rise of Nationalism in China and Japan: the Consequences on Domestic Politics and Sino-Japanese Relations

Joohoon Kim, Senior, Political Science, LAS

Personality and the Environment: How Internal Motivations Affect Environmental Decisions

Lauren Krone, Junior, Political Science, LAS

Bronzeville Community Design

Xiaoyin Kuang, Junior, Landscape Architecture, FAA

A Whole New World: Mandarin Speaking Students in an English Immersion Preschool

Samantha Larocca, Sophomore, Rehabilitation Studies, AHS

Antecedents of Victimization in the Americas

Jacob Lubben, Senior, Political Science, LAS

Examining Online Resources to Help Adolescents Cope with Parental Divorce

Sonia Marinez, Junior, Human Development and Family Studies, ACES
Alexandra Oliva, Freshman, Human Development and Family Studies, ACES

The Head of State Effect: Discovering the Role of the Head of State in Cabinet Longevity

Quinn Marschik, Senior, Political Science, LAS

Investigating Climate Change Options through Statistical Simulation

Leah Matchett, Junior, Global Studies, LAS

Implicit Racial Messages and Citizens’ Attitudes

Darrah Perryman, Senior, Political Science, LAS

State’s Attorney Gender and Rape Convictions

Richard Siedz, Senior, Political Science, LAS

Gender and Leadership Emergence

Taiyi Yan, Senior, Psychology, LAS

Dye Landscape Project

Shurui Zhang, Senior, Landscape Architecture, FAA
Bridget Walsh, Senior, Landscape Architecture, FAA

Decision-Making, Favoritism, and In-Groups

Catherine Jimerson, Senior, Business Administration, BUS

The Brown Space Transversal: Pedro Pietri’s The Masses Are Asses and the Performance of Race

Mateo Hurtado, Junior, Theatre Studies, FAA

Deviant Peer Group Affiliation Mediates Peer Victimization and Antisocial Behavior in Girls

Heather Ross, Senior, Spanish, LAS

PJ Session – Science and Mathematics

3:15-4:30 PM, Illini Room C

Holocene Climatic Changes in the Alaskan Arctic as Inferred from Sedimentological and Oxygen-isotopic Analyses at Wahoo Lake

Richard Vachula, Senior, Geology, LAS

DNA Directed Assembly of Gold Nanocubes

Arzeena Ali, Junior, Chemistry, LAS

Scanning Electrochemical Microscopy (SECM) Using the Transfer of Ions Across an Interface between Two Immiscible Electrolyte Solutions (ITIES) to Image Desalination Membranes

Philip Benson, Senior, Chemistry, LAS

Amorphousness Zones within Zircon Crystals

Ryan Bowman, Senior, Geology, LAS

Extracting Latent Variables Related to User Preferences on Genres in Yahoo! Music Ratings Data

Xiaowen Chang, Senior, Statistics, LAS

Chemical Classification of the Cells in the Central Nervous System Using High Throughput Single Cell Mass Spectrometry and Statistical Analysis

Charles Doktycz, Senior, Chemistry, LAS

FTO-IRX3 Genotype Associations and Obesity in the STRONG Kids Cohort

Abby Esker, Senior, Molecular and Cellular Biology, LAS

Identifying Host Cell Protein Interactions by the Vacuolating Cytotoxin of Helicobacter pylori

Keerthana Hogirala, Junior, Individual Plan of Study, LAS

Levels of Cell Confluence Influence PDGFRA & PDGFRbeta Angiogenic Receptors Cell Surface Localization

Osazomon Imarenezor, Junior, Chemistry, LAS
Cathy Guo, Senior, Molecular and Cellular Biology, LAS
Evaluation of a De-Identification Process for Ocular imaging

Michael LaPelusa, Senior, Molecular and Cellular Biology, LAS

Enhanced Wastewater Purification Using Haematococcus Pluvialis

Rachel Kohn, Junior, Molecular and Cellular Biology, LAS

Impact of Shift Work on Attention, Female Estrous Cycling, and Cholinergic Signaling: Initial Findings in a Rat Model

Michael Leventhal, Junior, Molecular and Cellular Biology, LAS

Characterization of Ammonia Emissions for Cropland in the Midwestern US

Jie Lin, Junior, Civil Engineering, ENG

Correlation Between Body Weight and Polymorphisms in AHSG in Children of the STRONG Kids 1 Cohort

Michael White, Junior, Molecular and Cellular Biology, LAS

Rediscovery, Curation, and Characterization of a Miocene Rhinoceros (Perissodactyla: Rhinocerotidae) Hash from Agate Springs, Nebraska

Willow Nguy, Senior, Geology, LAS

Validating the Use of Silicon Photonic Microring Resonators to determine tissue specific profiles of microRNAs and Comparison to qRT-PCR

Christopher Para, Junior, Chemistry, LAS

Elucidating the Individual Contributions of ArlR and ArlS to the Ability of Staphylococcus Aureus to Resist Host Imposed Nutrient Starvation

Angela Shupe, Senior, Molecular and Cellular Biology, LAS

Mode of Action Determination of Cyclothiazomycin C, a Novel Antibiotic Discovered Using Reactivity-based Screening

Karol Sokolowski, Senior, Chemistry, LAS

Examine the Topological Feature of Kondo Insulator SmB6 Using Planar Tunneling Spectroscopy

Lunan Sun, Senior, Physics, LAS

On-line Change Detection with Applications to Internet Security

Yitian Tang, Junior, Statistics, LAS

Influence of Bedrock Topography on Illinois Episode Glacial Ice and Meltwater Flow: Keyesport Quadrangle, Illinois

Katarzyna Walkowska, Senior, Geology, LAS

Uncovering Unidentified Fermi Sources

Lizhong Zhang, Senior, Physics, LAS

Searching for Imprints of Circumstellar Material in the Ultraviolet Spectra of Type Ia Supernovae

Aaron Beaudoin, Senior, Astronomy, LAS

Observations of Type IA Supernovae With The Swift Ultraviolet Optical Telescope

Steven Downing, Senior, Astronomy, LAS

Bayesian Lasso Application in Two-parameter Normal Ogive Model

Xinyue Zhou, Senior, Statistics, LAS

Yusheng Feng, Senior, Statistics, LAS

Radial Dependence of Axial Load Cells

Alex Nathan Kahn, Junior, Mechanical Engineering, ENG

Wire Actuated Streaming Flows

Kunal Chugh, Senior, Mechanical Engineering, ENG

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

Thursday, April 23, 4:30-6:30 PM
210 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.

Preliminary Swelling Tests for Self-Healing GMA Polymer Gels

Scott Becker, Sophomore, Materials Science and Engineering, ENG

Implementation of a Support Vector Machine to Predict the Aeroelastic Stability of a Wing

Dawei Chen, Junior, Aerospace Engineering, ENG

Duration of Exertion and SCBA Design Affect Firefighter Balance

Grace Deetjen, Junior, Bioengineering, ENG

Cell Sorting Using Bubble Mechanics

Brian Favis, Junior, Mechanical Engineering, ENG

Measuring the Energy of Alkali Metals with Hg-capped Electrochemical Probes

Amanda Genise, Sophomore, Chemical Engineering, LAS
Microfluidic Approach to Parent Compound Crystallization  
**Lucas Gonzalez**, Junior, Chemical Engineering, LAS

Heterogeneous Three-Dimensional Texturing of 2D Nanomaterials  
**Ryan Han**, Senior, Mechanical Engineering, ENG

Impedance Sensing of Nitrate in Environmental Samples Using Microsensors  
**Ryley Higa**, Sophomore, Electrical Engineering, ENG

Synergistic Growth Regression in Triple Negative Breast Cancer via co-inhibition of STAT-3 and Topoisomerase-II Pathways  
**Molly Imgruet**, Senior, Bioengineering, ENG

Analysis of Photoillumination Induced Atomic Charge State Shifts of AgInSe2 with X-Ray Photoelectron Spectroscopy  
**Anna Jedralski**, Sophomore, Materials Science and Engineering, ENG

Flow Characterization over Two- and Three-Dimensional Wavy Walls  
**Arpeet Kamdar**, Sophomore, Mechanical Engineering, ENG

Mechanical Interactions of Optogenetic Skeletal Muscle Cells with Their Local Environment  
**Yoosub Lee**, Senior, Mechanical Engineering, ENG

Behavior of Oxidized and Reduced Surfaces of Ni/SiO2 and NiP/SiO2 Catalysts  
**Jaclyn Letzter**, Sophomore, Chemical Engineering, LAS

Measuring Changes in Gait Variability in Persons with Multiple Sclerosis While Wearing Pneumatically Powered Ankle Foot Orthosis  
**Emily Matijevich**, Junior, Bioengineering, ENG

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**Ashley Moy**, Junior, Bioengineering, ENG

Deuto-Dox for Vibrational Spectroscopy In Vitro for Tracking Doxorubicin Abundance in Cellular Cytoplasm  
**Ayako Ohoka**, Junior, Bioengineering, ENG

Next Generation Carbon Nanoparticles for Efficient Gene Therapy  
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Characterizing Bone Through Treatment  
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Tact: Design and Performance of an Open-Source, Affordable, Myoelectric Prosthetic Hand  
**Patrick Slade**, Sophomore, Mechanical Engineering, ENG

Aerogel Synthesis for Solar Energy Applications  
**Jesus Sotelo**, Senior, Mechanical Engineering, ENG

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**Erik Steinbrenner**, Junior, Chemical Engineering, LAS

Valuation of American Options: Numerical Methods, and Developing Microbial Models  
**James Stronz**, Sophomore, Mathematics, LAS

Scalable Synthesis Methods of 2D Graphene, MoS2, and Silicene through Thermolysis  
**Satoshi Takekuma**, Junior, Materials Science and Engineering, ENG

Photocatalytic Reactions on Titania Nanosheets  
**Emily Turner**, Junior, General Engineering, ENG

Molecular Beam Epitaxy Flux Modulation for GaN Schottky Barrier Diode Fabrication  
**Gabriel Velarde**, Sophomore, Materials Science and Engineering, ENG

ChromaTags: A Colored Fiducial Marker  
**Austin Walters**, Sophomore, Computer Science, ENG

Design of Electromyography System for Myoelectric Controlled Prosthetic Arms  
**Alvin Wu**, Sophomore, Computer Engineering, ENG

Multi-body Dynamic Simulation of a Quadrotor and a Gripping Mechanism  
**Mihir Patel**, Sophomore, Aerospace Engineering, ENG