



Undergraduate Research Symposium



Symposium for Undergraduate
Research, Scholarly, and Creative Activity

THURSDAY, APRIL 15, 2010 // PROGRAM





elcome to the third annual campus-wide Undergraduate Research Symposium. Once again this year, the great diversity and high quality of submissions have made for an excellent program. Showcased today are presentations and posters that remind us of how deeply Illinois students are involved in the university's mission to create and discover—and to do so on behalf of the larger public this institution serves.

If you choose to attend sessions and seek out posters on topics familiar to you, prepare to be surprised by innovation. I hope, too, that you will let yourself be drawn to topics about which you know very little. Challenge the presenters to help you understand why their work is relevant to you. You will be enlightened. And impressed, for I know you will sense, as I do, the passion that Illinois students feel for the research, scholarly, and creative activity in which they are engaged.

This passionate engagement in undergraduate research, broadly defined, is often supported by faculty, postdoctoral fellows, and advanced doctoral students. Browse the symposium's abstract book and you will find named the many mentors who guided this year's participants. I am most grateful for their effort.

To see a prime example of what happens when brilliant student researchers are generously mentored by faculty, please attend the symposium's featured session at the noon hour. Members of a student team affiliated with Engineers Without Borders will present on a research program that has resulted in safe drinking water for the people of Socorro, Guatemala. The team's mentors will be on hand to share their perspectives on how research opportunities can enhance the Illinois experience for undergraduates.

This year's symposium follows plans established by working groups that were convened by the Office of the Provost during the 2007–08 and 2008–09 academic years. Thanks once more to the faculty who led these groups: Professor Wojtek Chodzko-Zajko (Kinesiology and Community Health, AHS), Professor Jennifer Bernhard (Electrical and Computer Engineering, ENG), and Professor Wayne Pitard (Religion, LAS; and Spurlock Museum). This year, as in past years, an intern in the Office of the Provost provided invaluable support as plans for the symposium matured. Emily Pinheiro (Spanish, LAS; Chancellor's Scholar) deserves our warm appreciation.

The commitment to support undergraduate research is an important element of our Campus Strategic Plan. As part of that commitment, the Undergraduate Research Symposium has given increased visibility to longstanding collegiate and departmental investments in undergraduate research. It has also catalyzed interest in increasing access to undergraduate research opportunities where few existed before. Even as we face unprecedented challenges across campus, I trust that we will continue to recognize the value of inviting students to play significant roles in research, scholarly, and creative endeavors. The scope and quality of these endeavors distinguish Illinois as a world-class university, one where undergraduates are partners in receiving the education they will need to become leaders in the twenty-first century.

Richard Wheeler

Vice Chancellor for Academic Affairs (Interim)

EVENT OVERVIEW

THURSDAY, APRIL 15, 2010

Illini Union

9:30-10:30 a.m.	A Sessions: Oral Presentations (Illini Rooms A, B, C; Room 209; General Lounge, Room 210)
10:00-11:15 a.m.	PA Session: Morning Poster Presentations, Pine Lounge
10:30-11:00 a.m.	Refreshments, Pine Lounge
11:00 a.m.-Noon	B Sessions: Oral Presentations (Illini Rooms A, B, C; Room 209; General Lounge, Room 210)
Noon-1:00 p.m.	Lunch Available for Presenters, Attendees, and Mentors, Illini Rooms Foyer
12:10-12:20 p.m.	Remarks by Richard Wheeler, Vice Chancellor for Academic Affairs (Interim), Illini Room B
12:30-1:15 p.m.	Featured Session: "Optimization of Virus Removal through the Use of Iron-Amended Biosand Filters for Use in Socorro, Guatemala," Illini Room B
12:30-1:30 p.m.	Faculty Development Session: "Mentoring Undergraduate Research: What Does the Undergraduate Honors Thesis in Your Discipline Involve?" Illini Room C
1:30-2:45 p.m.	PB Session: Early Afternoon Poster Presentations, Pine Lounge
1:30-2:30 p.m.	C Sessions: Oral Presentations (Illini Rooms A, B, C; Room 209; General Lounge, Room 210)
3:00-4:00 p.m.	D Sessions: Oral Presentations (Illini Rooms A, B, C; Room 209; General Lounge, Room 210)
3:15-4:30 p.m.	PC Session: Late Afternoon Poster Presentations, Pine Lounge
3:30-4:30 p.m.	Refreshments, Pine Lounge. Soymilk and soy cookies provided by the National Soybean Research Laboratory, a supporter of pre-collegiate and undergraduate research opportunities (http://www.nsrllinois.edu/).

Levis Faculty Center

4:30-6:30 p.m.	Illinois Scholars Undergraduate Research Program Poster Expo, Levis 2
----------------	---

ORAL PRESENTATIONS

A SESSIONS, 9:30-10:30 A.M.

Session A.1, Life Sciences I (Illini Room A)

9:30-9:45 a.m.	<i>Towards determination of a membrane protein structure using solid state NMR: Expression and purification of Coq7, a quinone monooxygenase</i> Elliott Brea , Senior, Biochemistry, LAS Lars Rikardsen , Junior, Chemistry, LAS Aranee Sivananthan , Sophomore, Biochemistry, LAS
9:45-10:00 a.m.	<i>The role of salinity in the evolution of reproductive isolation in the euryhaline killifish species <i>Lucania parva</i></i> Arthur Rudolph , Senior, Integrative Biology, LAS
10:00-10:15 a.m.	<i>N-cadherin deletion in POMC expressing cells leads to pituitary disorganization</i> Rachel Fiddler , Senior, Biology, LAS
10:15-10:30 a.m.	<i>Wheel running exercise delays extinction of conditioned place preference for cocaine in male C57BL/6J mice in association with impaired exercise-induced adult hippocampal neurogenesis</i> Daniel Miller , Junior, Psychology, LAS

Session A.2, Negotiating Boundaries: Peace and Conflict (Illini Room B)

9:30-9:45 a.m.	<i>Ethnic conflict and resolution in South Tyrol, Italy</i> Megan Samelson , Senior, International Studies, LAS
9:45-10:00 a.m.	<i>Territorial value in the Arab-Israeli conflict</i> Daniel Flesch , Senior, Political Science and History
10:00-10:15 a.m.	<i>The Islamic State or Daulah Islamiyyah: Understanding the philosophy behind it in comparison to the western concept of nation-state</i> Mohd Shazani Masri , Senior, Political Science and Economics, LAS
10:15-10:30 a.m.	<i>The insurgency paradox: Under what conditions do insurgencies end?</i> Kyle Farver , Senior, Political Science, LAS, and Aerospace Engineering, ENG

Session A.3, The Sciences of Health (Illini Room C)

9:30-9:45 a.m.	<i>Examining the predictors of alcohol and other drugs among adolescents</i> Domonique Malebranche , Junior, Physiology, LAS
9:45-10:00 a.m.	<i>An ecological analysis of food environments in the United States</i> Alyssa Morris , Senior, Health Administration, AHS Beverly Allen , Senior, Health Administration, AHS Eric Lorek , Senior, Community Health, AHS

10:00–10:15 a.m. *Structural comparison of proteins from the H1N1 swine flu and other influenza strains*
Tristesse Jones, Senior, Crop Sciences, ACES

10:15–10:30 a.m. *Development and optimization of consumer-friendly DNAzyme sensor kits for lead and uranium*
Julia Willett, Senior, Biochemistry and Human Nutrition, LAS

Session A.4, Human Behavior and Health Outcomes I (General Lounge, Room 210)

9:30–10:30 a.m. *Mapping the way to better healthcare*
Nina Bryan, Junior, Community Health, AHS
Kevin Fritz, Senior, Community Health, AHS
Stephanie Shaw, Senior, Community Health, AHS
Faiza Yasin, Senior, Molecular and Cellular Biology, LAS

Session A.5, Climate and Conflict (Room 209)

9:30–10:30 a.m. *Climate and conflict?: An examination of climate change influence on societies through event-based coding*
Max Knierim, Junior, Political Science and English, LAS
Alex Sapone, Senior, Economics, LAS
Michael Slana, Senior, Political Science, LAS
Political Science 499A: Climate Change and Societal Stability

B SESSIONS, 11:00 A.M.–NOON

Session B.1, Life Sciences II (Illini Room A)

11:00–11:20 a.m. *Towards improving bioenergy crops: A comparison of photosynthetic rates and cold tolerance in Miscanthus*
Adrienne Perkins, Senior, Integrative Biology Honors, LAS

11:20–11:40 a.m. *Forest soil sampling for soil organic carbon and charcoal*
Caleb Brown, Senior, Forest Science, ACES

11:40–Noon *The development of polymorphic simple sequence repeats (SSRs) for use in DNA fingerprinting of Miscanthus*
Arthur Rudolph, Senior, Integrative Biology, LAS

Session B.2, Engineering Sciences I (Illini Room B)

11:00–11:12 a.m. *Plasma metastable density measurements: Plasma assisted cleaning by metastable atom neutralization (PACMAN)*
Ivory Hill, Junior, Nuclear, Plasma, and Radiological Engineering, ENG

11:12–11:24 a.m. *Electrode surface conditions and coatings affecting vacuum breakdown*
John Kionka, Junior, Political Science, LAS

11:24–11:36 a.m. *Leveraging social networks for creative design*
Christina Poon, Senior, Electrical Engineering, ENG

11:36–11:48 p.m. *Free radical initiated self-healing materials*
Patrick McIntire, Senior, Economics, LAS

11:48 a.m.–Noon *Physical and chemical erosion studies of lithiated ATJ graphite*
David Burns, Senior, Nuclear, Plasma, and Radiological Engineering, ENG

Session B.3, Health and Wellness (Illini Room C)

11:00–11:15 a.m. *Vicious cycle of disease and disability: Protein-energy malnutrition and its association with physical function, bone health, and quality of life in hemodialysis patients*
Stephanie Chirillo, Senior, Kinesiology, AHS

11:15–11:30 a.m. *An undergraduate student-run mobile screening clinic for the uninsured in Champaign County, IL*
Grant Reed, Senior, Molecular and Cellular Biology, LAS
Kunal Patel, BS Dec. '09, Molecular and Cellular Biology, LAS

11:30–11:45 a.m. *School performance and wellness analysis of orphans and vulnerable children in Nyando District of Kenya*
Daniel Brencic, Senior, Community Health, AHS

11:45 a.m.–Noon *Estimating the cost of emergency department overutilization by the uninsured*
Glenn Dickey, Senior, Economics, LAS

Session B.4, Communication and Media Studies (General Lounge, Room 210)

11:00–11:20 a.m. *I want to be a princess, too: Exploring the blackout of Disney's princesses and controversies surrounding The Princess and the Frog and its effects on African American girls*
Lena Foote, Senior, Media Studies, MDIA

11:20–11:40 a.m. *Framing mama: The representation of African American mothers in TV comedies from Good Times to The House of Payne*
Ashley Stone, Junior, Communications, LAS

11:40 a.m.–Noon *If hip hop had a daughter: African American girls' everyday use of hip hop imagery and flow storytelling*
Porshe Garner, Senior, Psychology, LAS

Session B.5, Human Behavior and Health Outcomes II (Room 209)

11:00 a.m.–Noon *Healthcare without a home*
Megan Eiten, Senior, Community Health, AHS
Michelle Hochwert, Senior, Community Health, AHS
Raahat Ansari, Senior, Community Health, AHS

FEATURED SESSION

12:30-1:15 P.M. (ILLINI ROOM B)

Optimization of virus removal through the use of iron-amended biosand filters for use in Socorro, Guatemala

Presentation by

Alicia Chuchro, Freshman, Civil and Environmental Engineering, ENG
Saichaitanya Kalidindi, Freshman, Mechanical Engineering, ENG
Sheila D. Markazi, Senior, Civil and Environmental Engineering, ENG
Kimberly Parker, Junior, Civil and Environmental Engineering, ENG
Anjali Patel, Junior, Civil and Environmental Engineering, ENG
Anthony Straub, Junior, Civil and Environmental Engineering, ENG
Vijesh Tanna, Freshman, Materials Science and Engineering, ENG

In 2007, the community of Socorro, Guatemala, approached the University of Illinois at Urbana-Champaign chapter of Engineers Without Borders (EWB-UIUC) with a request for a water treatment system. After multiple visits to the community, it was determined that a point-of-use treatment system would best serve the community. With the assistance of EWB-UIUC, the community of Socorro is currently implementing approximately 150 biosand filters. The EWB-UIUC Guatemala Water Project focuses on the development of iron-amended biosand filters, with the goal of increasing efficacy of virus removal in a practical manner. Initial results on small-scale columns indicate that sand columns yielded about 70% removal, whereas iron-amended columns yielded about 99.999-99.9999% removal. Presently, full-scale testing is being conducted to determine the effect of zero-valent iron on the removal of bacteria and viruses. This is the first comprehensive study of iron-amended biosand filters: from small-scale columns to full-scale filters. The results of this research will allow for the improvements of biosand filters worldwide, and will encourage the implementation of biosand filters in areas of the world where viruses are seen as a serious and daily threat.

Commentary on undergraduate research by

Professor T. H. Nguyen, Civil and Environmental Engineering, ENG
Professor Bruce Elliott Litchfield, Assistant Dean, ENG

FACULTY DEVELOPMENT SESSION

12:30-1:15 P.M. (ILLINI ROOM C)

Mentoring undergraduate research: What does the undergraduate honors thesis in your discipline involve?

Organized by the Office of Campus Programs on Teaching and Learning

Professor Carol Symes, History, LAS
Professor Martin Manalansan, Anthropology and Asian American Studies, LAS
Professor Synthia Sydnor, Kinesiology and Community Health, AHS

C SESSIONS, 1:30–2:30 P.M.

Session C.1, Interpreting Identity, Activism, and Change (Illini Room A)

1:30–1:45 p.m. *Then and now: Latino Greeks assess their social activism*
Daissy Dominguez, Senior, Political Science, LAS

1:45–2:00 p.m. *Sisterhood shaping adulthood: How sororities influence girls' adult life*
Rosie Mellor, Junior, Anthropology, LAS

2:00–2:15 p.m. *The evolution of identity in the digital era*
Joshua Hawthorne, Senior, Communication, LAS

2:15–2:30 p.m. *Got health behavior change?: An exploratory study of the processes and outcomes of exposure to an interactive game about drinking milk*

Angeline Sangalang, Junior, Communication, LAS
Kate Ciancio, Junior, Psychology, LAS
Amy Lindgren, Senior, Communication, LAS

Session C.2, Life Sciences III (Illini Room B)

1:30–2:00 p.m. *Viruses need love, too: An investigation of the effects of rapamycin on myxoma virus replication in established brain tumors*
Tiffani Berkel, Junior, Molecular and Cellular Biology, LAS

2:00–2:30 p.m. *Antibiotic synthesis and trial*
Grant Zimmerman, Junior, Specialized Curriculum in Biochemistry, LAS

Session C.3, Engineering Sciences II (Illini Room C)

1:30–1:42 p.m. *Molecular dynamics study of nanopore sequencing with MspA protein pore*
Hung Yu Ho, Junior, Engineering Physics, ENG

1:42–1:54 p.m. *Thin film deposition of Ta using a 200mm high power hollow cathode magnetron (HCM)*
Robert Looby, Junior, Engineering Physics, ENG
Paul Mikols, Junior, Electrical Engineering, ENG

1:54–2:06 p.m. *Analysis of effects to aluminum from rapid exposure to extreme ultraviolet light*
Daniel Organ, Junior, Electrical Engineering, ENG

2:06–2:18 p.m. *Lasers and plasmas: The push for faster computing through debris measurement at the intermediate focus*
Piyum Zonoos, Junior, Nuclear, Plasma, and Radiological Engineering, ENG

2:18–2:30 p.m. *Wafer scale alignment of single-walled carbon nanotubes*
Vineet Nazareth, Senior, Electrical and Computer Engineering, ENG

Session C.4, English Studies Roundtable (General Lounge, Room 210)

	<i>Negotiating the value of female sexuality in early 20th-century America</i> Stephanie Sadler , Senior, English, LAS
	<i>Hergesheimer and the twenties</i> Miles Lincoln , Senior, English, LAS
	<i>Illegal or immoral: Abortion and its discontents in early 20th-century literature</i> Maggie Carrigan , Senior, English, LAS
1:30–2:30 p.m.	<i>Invented languages</i> Jeff Girten , Senior, English, LAS
	<i>Disability in Harry Potter</i> Amelia Wallrich , Senior, English, LAS
	<i>Oscar Wilde and boy life</i> Rebecca Finkel , Senior, English, LAS
	<i>"I account all the rest either dreaming or madness": James Hogg's Justified Sinner as parody of reasoning through systems</i> Stephanie Luke , Senior, English LAS

Session C.5, Staging and Structuring Experience (Room 209)

1:30–1:45 p.m.	<i>Taking the lead: Dramatherapy in group treatment</i> Alissa Norby , Junior, Theatre Studies, FAA
1:45–2:00 p.m.	<i>Futurist and dadaist theatre: The First Celestial Adventure of Mr. Antipyrine</i> Maxwell Goldberg , Senior, Theatre, FAA
2:00–2:15 p.m.	<i>Architecture and the landscape: Entering the discourse</i> Colby Suter , Junior, Architectural Studies, FAA
2:15–2:30 p.m.	<i>The mass-production of individual experience at the Great Exhibition of 1851</i> Dana Szafranski , Senior, Art History, FAA

D SESSIONS, 3:00–4:00 P.M.

Session D.1, Doing Things with Numbers: Theory and Application (Illini Room A)

3:00–3:15 p.m.	<i>It's not about what you know, it's about what you can prove: An investigation of the relationship between the Bernoulli numbers and the Kummer Congruences</i> Robert Walker , Mathematics, LAS
3:15–3:30 p.m.	<i>Arithmetic progression-free sequences created by a greedy algorithm</i> Richard Moy , Senior, Mathematics, LAS
3:30–3:45 p.m.	<i>Housing premium puzzle: What really determines the return on your house?</i> Matthew Miller , Senior, Economics, LAS

3:45–4:00 p.m.	<i>Measuring the impact of credit risk on pricing agricultural commodity swaps by conducting empirical analysis</i> Jung-Wook Kim , Senior, Accountancy, Finance, Management Science, BUS
----------------	---

Session D.2, Words and Images, Ancient and Modern (Illini Room B)

3:00–3:15 p.m.	<i>New technologies for documenting cylinder seals from the Ancient Near East</i> Trent Wright , Senior, Classical Civilization and Astronomy, LAS Jessica Diaz , Senior, Religion, LAS Craig Kreutzer , Senior, Religion, LAS
3:15–3:30 p.m.	<i>A daughter for a son: Challenging gender roles in father/daughter relationships in Chicana feminist literature</i> Brenda Rodriguez , Junior, English and Psychology, LAS
3:30–3:45 p.m.	<i>Binary nature of photography in Cindy Sherman and Robert Longo</i> Caitlin Harrington , Senior, Art History, LAS
3:45–4:00 p.m.	<i>Lateralized apprehension of number at the intersection of language and perception</i> Amanda Moncada , Senior, Psychology, LAS

Session D.3, Investigating Impacts of Identity and Ideology (Illini Room C)

3:00–3:15 p.m.	<i>Retiring racism: The association between color-blind racial ideology and perceptions of "The Chief," a racialized university symbol</i> Jeffrey Yeung , Senior, Psychology, LAS
3:15–3:30 p.m.	<i>The role of color(ism) in the racial experiences of black women: An exploration of racial life narratives</i> Amanda Long , Senior, Psychology, LAS
3:30–3:45 p.m.	<i>Maternal stress: The role of single mothers' work conditions on preschool children's socio-emotional development</i> Sarai Coba-Rodriguez , Senior, Sociology, LAS
3:45–4:00 p.m.	<i>The link to educational and socio-economic disparities</i> Mauriell Amechi , Junior, Communication, LAS

Session D.4, Life Sciences IV (General Lounge, Room 210)

3:00–3:15 p.m.	<i>Spatial and temporal analyses of the reproductive system in the regenerating planarian Schmidtea mediterranea</i> Nina Hosmane , Junior, Molecular and Cellular Biology, LAS
----------------	---

3:15–3:30 p.m. *The phylogeography of bluefin and rainwater killifish through analysis of mtDNA, nuclear DNA, and microsatellite data*
Katherine Murphy, Senior, Integrative Biology Honors, LAS

Session D.5, Transnational Concerns, Then and Now (Room 209)

3:00–3:20 p.m. *Between war and peace: The competing extremisms of Osama bin Laden and Amr Khaled*
Jennifer Hughes, Senior, International Studies, LAS

3:20–3:40 p.m. *Corruption in post-Soviet nations: An analysis of countries in transition*
Katherine Robillard, Senior, Political Science and Psychology, LAS

3:40–4:00 p.m. *Social group conflict across the globe: Trends and patterns in the post-WWII era*
Jared Hall, Junior, Political Science and Linguistics, LAS
Erica Mazzotti, Senior, English, LAS
Joseph Guinta, Junior, International Studies, LAS

POSTER PRESENTATIONS

PA SESSION: MORNING POSTER PRESENTATIONS

10:00–11:15 A.M. (PINE LOUNGE)

PA.01 *Withdrawn*

PA.02 *Modern game environment for nuclear engineering education*
Lewis Conley, Junior, Nuclear, Plasma, and Radiological Engineering, ENG

PA.03 *Ethical implications of HPV vaccination*
Haley Filinson, Senior, Nursing, NURS

PA.04 *Differential habituation to negative stimuli distinguishes types of anxiety*
Angeline De Leon, Senior, Psychology, LAS

PA.05 *Effects of intradialytic cycling on physical performance and cardiovascular disease risk in hemodialysis patients*
Krysta M. Peters, Senior, Community Health, AHS

PA.06 *Evaluating consumer medication information from a health literacy perspective*
Marielva Ayala, Senior, Community Health, AHS

PA.07 *Frozen in time: Case study of a Siberian one-company town*
Jonas Vaicikonis, Senior, International Studies, LAS

PA.08 *Revisiting an old prophesy: Marxist perspectives on economic globalization*
Dotan Haim, Junior, Political Science and Philosophy, LAS

PA.09 *BackPack program evaluation*
Terra Kern, Senior, Human Development and Family Studies, ACES

PA.10 *Native structure and folding dynamics of phosphoglycerate kinase are strongly perturbed by crowding*
Tripta Mishra, Senior, Specialized Chemistry, LAS

PA.11 *Trial of molecular diagnosis in one case of Anderson's Disease*
Julie McDaniel, Junior, Pre-medicine and Finance, BUS

PA.12 *Computational FTIR microspectroscopy to simulate spectral shifts in epithelium and stromal tissues as a function of sample thickness*
Andrew Lee, Junior, Bioengineering, ENG

PA.13 *Exploring negativity in presidential campaign advertisements from the past to the present*
Gregory Hart, Senior, Political Science, LAS

PA.14 *Dimensions of a school climate and their effect on students' perceptions of school safety*
Jameese Sykes, Senior, Psychology, LAS

PA.15 *Longitudinal associations between peer victimization and perceptions of self and peers: Moderation by depression*
Nicole Babuskow, Senior, Psychology, LAS

PA.16 *Hydropolitics: The international water transfers and commodification*
Felipe Westhelle, Senior, International Studies, LAS

PA.17 *The universality of international human rights treaties*
Katherine H. Hapeman, Senior, Political Science, LAS

PA.18 *The effects of generic language on views of intelligence stability*
Caitlin Carmichael, Senior, Psychology, Molecular and Cellular Biology, LAS

PA.19 *Marital satisfaction and parenting in terms of autonomy-support and control*
Andrea Gavidia, Senior, Psychology, LAS

PA.20 *Validation of Raman enhancement within multilayered nanoshells*
Pratik Shailesh Randeria, Senior, Bioengineering, ENG

PA.21 *The OECD Guidelines for Multinational Enterprises chapter on the environment: The importance of non-state involvement in environmental initiatives*
Toni Funk, Senior, International Studies, LAS

PA.22 *Direct-write assembly of 3D periodic ceramic structures*
Ashley Gupta, Senior, Chemistry, LAS

PA.23 *Mealtime behavioral control level in relationship to child body mass index*
Dontina Corpus, Senior, Human Development and Family Studies, ACES

PA.24	<i>Extraction and recovery of lipids and valuable co-products from high moisture algal biomass using ethanol-based solvents</i> Derek Vardon , Senior, Civil and Environmental Engineering, ENG
PA.25	<i>Upper respiratory infections in felines at the Champaign County Humane Society in relation to door knob sanitation</i> Kristen Knight , Senior, Animal Sciences, ACES
PA.26	<i>Monoclonal antibody production and optimization</i> Forrest Waters , Senior, Molecular and Cellular Biology, LAS
PA.27	<i>The Super Bowl: What are we really watching?</i> Matthew R. Heberer , Senior, Community Health, AHS Hazel Oza , Junior, Community Health, AHS Kara Martin , Senior, Community Health, AHS Renee Durack , Senior, Community Health, AHS Elle Thermos , Senior, Community Health, AHS Rachelle Tulley , Senior, Community Health, AHS Chris Wang , Senior, Community Health, AHS Erica Kilby , Senior, Community Health, AHS
PA.28	<i>Biocompatible flexible polymers and cellular growth</i> Radu Lazar , Sophomore, Bioengineering, ENG

PB SESSION: AFTERNOON POSTER PRESENTATIONS

1:30–2:45 P.M. (PINE LOUNGE)

PB.01	<i>Islamist parties and secular politics: The secularization of Islamist policy</i> Nicholas Heller , Senior, Political Science, LAS
PB.02	<i>Child care nutrition and feeding contents-related oral health regulations comparative to U.S. standards</i> Sonny Song , Sophomore, Undeclared, DGS
PB.03	<i>Characterization of RNA regulators in Escherichia coli for the construction of a bacterial decoder</i> Francis Lee, Junior, Molecular and Cellular Biology, LAS Steve Waltersdorf , Junior, Molecular and Cellular Biology, LAS
PB.04	<i>Risk factors for the development of type 2 diabetes in children: A modified integrative literature</i> Katie Valentino , Senior, Nursing, NURS
PB.05	<i>Physicians' and nurses' opinions on neonatal end-of-life care: A modified integrative literature review</i> Samantha Friedman , Senior, Nursing, NURS
PB.06	<i>The effects of breast cancer treatment-related fatigue on quality of life</i> Emily Stonecipher , Senior, Nursing, NURS
PB.07	<i>3-D virtual environments for improved training at nuclear power plants</i> Zachary D. Kriz , Junior, Nuclear, Plasma, and Radiological Engineering, ENG Imran Haddish , Freshman, Nuclear Plasma, and Radiological Engineering, ENG

PB.08	<i>Attitude and opinion of undergraduate students at UIUC regarding climate change and sustainability issues</i> Serena Gountanis , Junior, Mathematics and Geology, LAS
PB.09	<i>Healthy meals for weight loss at fast food restaurants</i> Alexandra Ginos , Senior, Dietetics, ACES
PB.10	<i>The effects of parenting behaviors on youth mental health: Urban Mexican-Americans in the context of violence</i> Alethea Merelos , Psychology and Spanish, LAS
PB.11	<i>Plasma deposition with high ionization fraction</i> Peter Fiflis , Sophomore, Nuclear, Plasma, and Radiological Engineering, ENG
PB.12	<i>Acute behavioral impairment and microglial activation in the hippocampus in response to peripheral influenza infection</i> Kaushik Amancherla , Senior, Molecular and Cellular Biology, LAS
PB.13	<i>Imposed constitutions: Enduring the long run</i> Leah Fontenot , Senior, Political Science, LAS
PB.14	<i>The growing struggle: Labor conditions in developing nations</i> Valerie Johnston , Senior, Political Science, LAS
PB.15	<i>Childhood obesity: Children's fruit and vegetable intake in relation to parents' income and consideration of price when buying food</i> Lisa Ann Pearson , Junior, Community Health, AHS
PB.16	<i>Attention allocation for improved emotion recognition in individuals with autism</i> Miriam R. Holtzman , Senior, Psychology, LAS
PB.17	<i>Development of adolescent self-concept in American children</i> Abby Toms , Senior, Psychology, LAS
PB.18	<i>Cracking the cellulose code with super solvents; Cellulase assay of lignocellulosic biomass and evaluation of recycled ionic liquid dissolution properties</i> Anna Lucrezia Oldani , Sophomore, Agricultural and Biological Engineering, ENG Sidney Knight , Junior, Agricultural and Biological Engineering, ENG
PB.19	<i>The relevance of parenting to psychopathic emotion</i> Andrew D. Gill , Senior, Psychology, LAS
PB.20	<i>Lipogenic gene regulation in fatty acid deficient mice</i> Tyler Harpole , Senior, Food Science and Human Nutrition, ACES, and Molecular and Cellular Biology, LAS
PB.21	<i>The draft in the winds of war</i> Sara Brown , Senior, Political Science, LAS
PB.22	<i>Vocabulary and phonological growth in a young child with Childhood Apraxia of Speech (CAS)</i> Kristin Lyons , Senior, Speech and Hearing Science, AHS

PB.23	<i>BMI distribution of Cohort 1a</i> Hannah Roosevelt , Senior, Dietetics, ACES	PC.02	<i>Salty piece in fuel puzzle: Comparing the pretreatment of lignocellulosic biomass in ionic liquids and deep eutectic solvents</i> Sidney Knight , Senior, Agricultural and Biological Engineering, ACES
PB.24	<i>Complementary feeding practices among low-income mothers</i> Dennise Staab , Junior, Community Health, AHS	PC.03	<i>Multicultural influences and perceptions of stuttering and their appreciation in therapy</i> Adetutu Ogundare , Senior, Speech and Hearing Science, AHS
PB.25	<i>Nutrition education</i> Ana Ristich , Senior, Food Science and Human Nutrition, ACES	PC.04	<i>Transfer of large-area graphene to SiO₂ substrates</i> Tomasz Kalbarczyk , Junior, Computer Engineering, ENG
PB.26	<i>Withdrawn</i>	PC.05	<i>Degradation of myelination in the genu: A study of aging</i> Gene Yu , Junior, Bioengineering, ENG
PB.27	<i>Separation, alignment and deposition of carbon-based nanomaterials</i> Charishma Puliyaanda , Senior, Electrical Engineering, ENG	PC.06	<i>China's wild wild West</i> Joann Wong , Senior, Political Science, LAS
PB.28	<i>When the money does not matter</i> Jason Gluskin , Senior, Political Science and History, LAS	PC.07	<i>Age-related changes in alpha-endosulfine, an endogenous K-ATP channel modulator</i> Kaleigh Roberts , Senior, Bioengineering, ENG
PB.29	<i>Perceptual load-induced local competitive interactions across visual quadrants</i> Andrew Brown , Senior, Psychology, LAS	PC.08	<i>The influence of mentoring on pro-social behavior: Applying social bond and social learning theories of delinquency</i> Lara M. Meyer , Senior, Sociology, LAS Stacia Miksys , Senior, Sociology, LAS
PB.30	<i>Physical fitness and cognition of elementary school children</i> Lauren Fraczek , Senior, Kinesiology, AHS	PC.09	<i>Expression analysis of miRNA families in various Miscanthus x giganteus organs</i> Ornella Wa Ngamboma , Junior, Molecular and Cellular Biology, LAS
PB.31	<i>Children's use of verb tense and aspect as a cue to generic meaning</i> Trent Meltzer , Senior, Psychology, LAS	PC.10	<i>Informal mentors, civic engagement, and juvenile delinquency: Using social bond theory to understand youth pro-social and antisocial activity</i> Snehalatha Gantla , Senior, English, LAS Kelsey Antle , Senior, Sociology, LAS
PB.32	<i>Family mealtimes: An observational study of parental prompts and its influence on child compliance to eat</i> Jessica Dosik , Senior, Human Development and Family Studies, ACES	PC.11	<i>The role of father-adolescent relationships in Mexican-origin girls' adjustment in the context of mother-adolescent relationships</i> Rebecca Lara , Senior, Psychology, LAS
PB.33	<i>Electrophysiological investigation of effects of extracellular administration of D-amino acids in neurons of Aplysia californica</i> Lee Replogle , Senior, Molecular and Cellular Biology, LAS	PC.12	<i>This is it: Jazz! Locales and experiential definitions of jazz in Urbana-Champaign</i> Laura Margaret Lynch , Junior, Sociocultural and Linguistic Anthropology, LAS
PB.34	<i>"Being white in a multicultural society": Understanding whiteness in an intergroup dialogue</i> Jeffrey Yeung , Senior, Psychology, LAS	PC.13	<i>Regulation of cAMP concentration and protein kinase A activity by β-adrenergic receptor activated adenyl cyclase and phosphodiesterase in cardiac myocytes</i> Dawen Zhang , Senior, Bioengineering, ENG
PB.35	<i>Electrostatic transfer of monolayer graphene grown on copper foil</i> Roshan Choxi , Senior, Computer Engineering, ENG	PC.14	<i>Engineering multilayered nanospheres for tailored optical responses</i> Rohun Palekar , Bioengineering, ENG
PB.36	<i>Classification of mucin chemotypes using FTIR</i> Caroline Cvetkovic , Junior, Bioengineering, ENG	PC.15	<i>Discourse performance across time in individuals with acquired neurogenic communication disorders</i> Megan Dean , Senior, Speech and Hearing Science, AHS Laura Savicki , Senior, Speech and Hearing Science, AHS
PC SESSION: AFTERNOON POSTER PRESENTATIONS,			
3:15–4:30 P.M. (PINE LOUNGE)			
PC.01	<i>Twelve-month-olds' expectations about adults' responses to distress</i> Jessica Houston , Senior, Psychology, LAS		

ISUR POSTER EXPO
4:30-6:30 P.M., (LEVIS FACULTY CENTER)

Illinois Scholars Undergraduate Research Program Poster Expo, Levis, 2nd Floor

The Illinois Scholar Undergraduate Research (ISUR) Program is a yearlong experience for engineering students. It is generously funded by the Semiconductor Research Corporation and BP. 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 mentors and faculty in complex research projects. Each year the undergraduate scholars present findings at a poster expo. The expo is open to the public.

Interface characteristics of microporus and non-microporus hydroxyapatite

Heather August, Bioengineering, ENG

Self-sealing fiber-reinforced composites

Elizabeth Buzzard, Materials Science and Engineering, ENG

Distinguishing bone and hydroxyapatite scaffold from micro-computed tomography data for evaluation of healing in bone tissue engineering

Michael Carrasquilla, Aerospace Engineering, ENG

Analysis and design of a broadband highly reflective subwavelength grating mirror

Jared Carter, Electrical Engineering, ENG

Quantification of bone ingrowths for bone tissue engineering

Kaile Chen, Materials Science and Engineering, ENG

Synthesis of complex oxide multiferroics

Amber Choquette, Materials Science and Engineering, ENG

The electrostatic transfer of graphene grown up on copper substrate

Roshan Choxi, Electrical Engineering, ENG

Optimization of PDMS for microfluidic devices

Kaitlin Clapper, Chemical Engineering, LAS

Using Markov Random Fields to classify point clouds

Elizabeth Cleveland, Statistics and Computer Science, LAS

Understanding the mechanical behavior of cellular solid food model system

Christina Coles, Chemical Engineering, LAS

Classification of mucin chemotypes using FTIR

Caroline Cvetkovic, Bioengineering, ENG

Global analysis of human brain disease transcriptome to identify disease-specific molecular signatures

Alisha Gryniwicz, General Engineering, ENG

Assisted cleaning by metastable atom neutralization (PACMAN)

Ivory Hill, Nuclear, Plasma, and Radiological Engineering, ENG

Financial risk analysis with distributed GPGPUs

Stan Idesis, Electrical Engineering, ENG

PC.16 *Health-related quality of life for persons with graph-versus-host disease post-hematopoietic stem cell transplant through non-pharmacologic means*

Nadia Froehling, Senior, Nursing, NURS

PC.17 *Augmentative and alternative communication (AAC) use in schools*

Lisa Mellman, Senior, Speech and Hearing Science, AHS

PC.18 *Visual target distance in bowling*

Andrew Kickertz, Kinesiology, General Engineering, AHS

PC.19 *Economic conditions as a factor in terrorism: Egypt, 2004–2006*

Mary Sloan, Senior, International Studies, LAS

PC.20 *Production of transparent conductors*

Leigh Kesler, Sophomore, Nuclear, Plasma, and Radiological Engineering, ENG

PC.21 *The impact of home literacy environments and familial support on childhood writing disorders*

Anne Capron, Senior, Speech and Hearing Science, AHS

PC.22 *Thermoelectric magnetohydrodynamic driven flows in liquid metals*

Matthew Lee, Senior, Molecular and Cell Biology, LAS

PC.23 *Algae biofuels project*

Alex Valvassori, Junior, Chemistry and Earth Systems, Environment, and Society, LAS

Oliver Hui, Agricultural and Biological Engineering, ENG

Anna Oldani, Agricultural and Biological Engineering, ENG

PC.24 *Perceptions and outcomes of the 2010 Olympic bidding process: A historical and cultural interpretation of Chicago's attempt to bring the 2016 Summer Olympics to Chicago*

Reid Behrens, Senior, International Studies, LAS

PC.25 *Medical conditions among clients using a free health center*

Crystal Amoah, Community Health, AHS

PC.26 *When can the people govern?*

Joshua Feiger, Senior, Political Science, LAS

PC.27 *Disability relevant design*

Wan Choi, Freshman, Undeclared, DGS

Jackie Braemer, Sophomore, Painting, Art + Design, FAA

PC.28 *Automated histopathology by FTIR imaging of stained breast tissue*

Lauren Sheehy, Sophomore, Bioengineering, ENG

PC.29 *Optimization of DNA extraction and collection in STRONG Kids Project*

Jill Jozefowicz, Senior, Human Nutrition, ACES

Anthony Wang, Graduate Student, Nutritional Sciences, ACES

Yingying Wang, Graduate Student, Nutritional Sciences, ACES

PC.30 *Effects of plyometric and sensorimotor training on neck muscle electromyography: A pilot investigation*

Tyler Surma, Senior, Kinesiology, AHS

Leveraging social networks for creative design

Christina Poon, Electrical Engineering, ENG

*Separation, alignment and deposition
of carbon-based nanomaterials*

Charishma Puliyanda, Electrical Engineering, ENG

Eigenbot: An adaptive control platform

Fawwaz Qayyum, Mechanical Engineering, ENG

Graphene nanoribbon TCAD modeling

Andrew Ryan, Computer Engineering, ENG

Determination of thiol attachment within microchannel

Bozena Sawicka, Chemical Engineering, LAS

*Automated histopathology by FTIR
imaging of stained breast tissue*

Lauren Sheehy, Bioengineering, ENG

Glass-based nano-fluidics for electro-kinetic phenomena

Miki Takagi, Mechanical Engineering, ENG

*Modeling of a magnetorheological (MR)
damper for real time hybrid simulation*

Stephanie Tong, Civil and Environmental Engineering, ENG

Comparing probe models on pitch antennas

Huiru Xu, Electrical Engineering, ENG

Characterization of elastic moduli of 3D poly(HEMA) scaffolds

XiaoLin Zhang, Materials Science and Engineering, ENG



ILLINOIS

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

Sponsored by the Office of the Provost

provost.illinois.edu/ugresearch

Organized with support from

Laura Hastings (Office of National and International Scholarship Programs)

Lisa Janicke Hinchliffe (University Library)

Renique Kersh (College of Applied Health Sciences)

Emily Pinheiro (Intern, Office of the Provost)

Mary-Ann Winkelmes (Office of Campus Programs on Teaching and Learning)