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

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

9:30–9:45 a.m.
Towards determination of a membrane protein structure using solid state NMR: Expression and purification of Coq7, a quinone monooxygenase
Elliott Brea, Senior, Biochemistry, LAS
Lars Rikardsen, Junior, Chemistry, LAS
Aranee Sivananthan, Sophomore, Biochemistry, LAS

9:45–10:00 a.m.
The role of salinity in the evolution of reproductive isolation in the euryhaline killifish species Lucania parva
Arthur Rudolph, Senior, Integrative Biology, LAS

10:00–10:15 a.m.
N-cadherin deletion in POMC expressing cells leads to pituitary disorganization
Rachel Fiddler, Senior, Biology, LAS

10:15–10:30 a.m.
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
Daniel Miller, Junior, Psychology, LAS

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

9:30–9:45 a.m.
Ethnic conflict and resolution in South Tyrol, Italy
Megan Samelson, Senior, International Studies, LAS

9:45–10:00 a.m.
Territorial value in the Arab-Israeli conflict
Daniel Flesch, Senior, Political Science and History

10:00–10:15 a.m.
The Islamic State or Daulah Islamiyyah: Understanding the philosophy behind it in comparison to the western concept of nation-state
Mohd Shazani Masri, Senior, Political Science and Economics, LAS

10:15–10:30 a.m.
The insurgency paradox: Under what conditions do insurgencies end?
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.
Examining the predictors of alcohol and other drugs among adolescents
Domonique Malebranche, Junior, Physiology, LAS

9:45–10:00 a.m.
An ecological analysis of food environments in the United States
Alyssa Morris, Senior, Health Administration, AHS
Beverly Allen, Senior, Health Administration, AHS
Eric Lorek, Senior, Community Health, AHS
<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Presenter(s)</th>
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<tbody>
<tr>
<td>11:00–11:15 a.m.</td>
<td>Vicious cycle of disease and disability: Protein-energy malnutrition and its association with physical function, bone health, and quality of life in hemodialysis patients</td>
<td>Stephanie Chirillo, Senior, Kinesiology, AHS</td>
</tr>
<tr>
<td>11:15–11:30 a.m.</td>
<td>School performance and wellness analysis of orphans and vulnerable children in Nyando District of Kenya</td>
<td>Daniel Brencic, Senior, Community Health, AHS</td>
</tr>
<tr>
<td>11:30–11:45 a.m.</td>
<td>Estimating the cost of emergency department overutilization by the uninsured</td>
<td>Glenn Dickey, Senior, Economics, LAS</td>
</tr>
<tr>
<td>11:00–11:20 a.m.</td>
<td>Towards improving bioenergy crops: A comparison of photosynthetic rates and cold tolerance in Miscanthus</td>
<td>Adrienne Perkins, Senior, Integrative Biology Honors, LAS</td>
</tr>
<tr>
<td>11:20–11:40 a.m.</td>
<td>Forest soil sampling for soil organic carbon and charcoal</td>
<td>Caleb Brown, Senior, Forest Science, ACES</td>
</tr>
<tr>
<td>11:40–Noon</td>
<td>The development of polymorphic simple sequence repeats (SSRs) for use in DNA fingerprinting of Miscanthus</td>
<td>Arthur Rudolph, Senior, Integrative Biology, LAS</td>
</tr>
<tr>
<td>11:00–11:12 a.m.</td>
<td>Plasma metastable density measurements: Plasma assisted cleaning by metastable atom neutralization (PACMAN)</td>
<td>Ivory Hill, Junior, Nuclear, Plasma, and Radiological Engineering, ENG</td>
</tr>
<tr>
<td>11:12–11:24 a.m.</td>
<td>Electrode surface conditions and coatings affecting vacuum breakdown</td>
<td>John Kionka, Junior, Political Science, LAS</td>
</tr>
<tr>
<td>11:24–11:36 a.m.</td>
<td>Leveraging social networks for creative design</td>
<td>Christina Poon, Senior, Electrical Engineering, ENG</td>
</tr>
<tr>
<td>11:36–11:48 p.m.</td>
<td>Free radical initiated self-healing materials</td>
<td>Patrick McIntire, Senior, Economics, LAS</td>
</tr>
<tr>
<td>11:48 a.m.–Noon</td>
<td>Physical and chemical erosion studies of lithiated ATJ graphite</td>
<td>David Burns, Senior, Nuclear, Plasma, and Radiological Engineering, ENG</td>
</tr>
<tr>
<td>10:00–10:15 a.m.</td>
<td>Structural comparison of proteins from the H1N1 swine flu and other influenza strains</td>
<td>Tristesse Jones, Senior, Crop Sciences, ACES</td>
</tr>
<tr>
<td>10:15–10:30 a.m.</td>
<td>Development and optimization of consumer-friendly DNAzyme sensor kits for lead and uranium</td>
<td>Julia Willett, Senior, Biochemistry and Human Nutrition, LAS</td>
</tr>
</tbody>
</table>
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
Anjil 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
Daisy 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

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 Zonooz, 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

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 Giancio, Junior, Psychology, LAS
Amy Lindgren, Senior, Communication, LAS
### Session D.2, Words and Images, Ancient and Modern (Illini Room B)

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

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

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

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

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

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

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenters</th>
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<tbody>
<tr>
<td>3:00–3:15 p.m.</td>
<td>Spatial and temporal analyses of the reproductive system in the regenerating planarian Schmidtea mediterranea</td>
<td>Nina Hosmane, Junior, Molecular and Cellular Biology, LAS</td>
</tr>
</tbody>
</table>
### 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-VWII era**
Jared Hall, Junior, Political Science and Linguistics, LAS
Erica Mazzotti, Senior, English, LAS
Joseph Gunta, Junior, International Studies, LAS

### POSTER PRESENTATIONS

#### PA SESSION: MORNING POSTER PRESENTATIONS

**10:00–11:15 A.M. (PINE LOUNGE)**

<table>
<thead>
<tr>
<th>PA.01</th>
<th>Withdrawn</th>
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</table>
| 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 habitation 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  
Marieva 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 prophecy: 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 Babuskov, 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 | Extraction and recovery of lipids and valuable co-products from high moisture algal biomass using ethanol-based solvents  
Derek Vardon, Senior, Civil and Environmental Engineering, ENG |
| PA.25 | Upper respiratory infections in felines at the Champaign County Humane Society in relation to door knob sanitation  
Kristen Knight, Senior, Animal Sciences, ACES |
| PA.26 | Monoclonal antibody production and optimization  
Forrest Waters, Senior, Molecular and Cellular Biology, LAS |
| PA.27 | The Super Bowl: What are we really watching?  
Matthew R. Heberer, Senior, Community Health, AHS  
Hazel Oza, Junior, Community Health, AHS  
Kara Martin, Senior, Community Health, AHS  
Elle Thermos, Senior, Community Health, AHS  
Chris Wang, Senior, Community Health, AHS  
Erica Kilby, Senior, Community Health, AHS |
| PA.28 | Biocompatible flexible polymers and cellular growth  
Radu Lazar, Sophomore, Bioengineering, ENG |

**PB SESSION: AFTERNOON POSTER PRESENTATIONS**

1:30–2:45 P.M. (PINE LOUNGE)

| PB.01 | Islamist parties and secular politics: The secularization of Islamist policy  
Nicholas Heller, Senior, Political Science, LAS |
| PB.02 | Child care nutrition and feeding contents-related oral health regulations comparative to U.S. standards  
Sonny Song, Sophomore, Undeclared, DGS |
| PB.03 | Characterization of RNA regulators in Escherichia coli for the construction of a bacterial decoder  
Francis Lee, Junior, Molecular and Cellular Biology, LAS  
Steve Waltersdorf, Junior, Molecular and Cellular Biology, LAS |
| PB.04 | Risk factors for the development of type 2 diabetes in children: A modified integrative literature  
Katie Valentinio, Senior, Nursing, NURS |
| PB.05 | Physicians’ and nurses’ opinions on neonatal end-of-life care: A modified integrative literature review  
Samantha Friedman, Senior, Nursing, NURS |
| PB.06 | The effects of breast cancer treatment-related fatigue on quality of life  
Emily Stonecipher, Senior, Nursing, NURS |
| PB.07 | 3-D virtual environments for improved training at nuclear power plants  
Zachary D. Kriz, Junior, Nuclear, Plasma, and Radiological Engineering, ENG  
Imran Haddish, Freshman, Nuclear Plasma, and Radiological Engineering, ENG |
| PB.08 | Attitude and opinion of undergraduate students at UIUC regarding climate change and sustainability issues  
Serena Gountanis, Junior, Mathematics and Geology, LAS |
| PB.09 | Healthy meals for weight loss at fast food restaurants  
Alexandra Ginos, Senior, Dietetics, ACES |
| PB.10 | The effects of parenting behaviors on youth mental health: Urban Mexican-Americans in the context of violence  
Alethea Merelos, Psychology and Spanish, LAS |
| PB.11 | Plasma deposition with high ionization fraction  
Peter Fiflis, Sophomore, Nuclear, Plasma, and Radiological Engineering, ENG |
| PB.12 | Acute behavioral impairment and microglial activation in the hippocampus in response to peripheral influenza infection  
Kaushik Amancherla, Senior, Molecular and Cellular Biology, LAS |
| PB.13 | Imposed constitutions: Enduring the long run  
Leah Fontenot, Senior, Political Science, LAS |
| PB.14 | The growing struggle: Labor conditions in developing nations  
Valerie Johnston, Senior, Political Science, LAS |
| PB.15 | Childhood obesity: Children’s fruit and vegetable intake in relation to parents’ income and consideration of price when buying food  
Lisa Ann Pearson, Junior, Community Health, AHS |
| PB.16 | Attention allocation for improved emotion recognition in individuals with autism  
Miriam R. Holtzman, Senior, Psychology, LAS |
| PB.17 | Development of adolescent self-concept in American children  
Abby Toms, Senior, Psychology, LAS |
| PB.18 | Cracking the cellulose code with super solvents; Cellulase assay of lignocellulosic biomass and evaluation of recycled ionic liquid dissolution properties  
Anna Lucrezia Oldani, Sophomore, Agricultural and Biological Engineering, ENG  
Sidney Knight, Junior, Agricultural and Biological Engineering, ENG |
| PB.19 | The relevance of parenting to psychopathic emotion  
Andrew D. Gill, Senior, Psychology, LAS |
| PB.20 | Lipogenic gene regulation in fatty acid deficient mice  
Tyler Harpole, Senior, Food Science and Human Nutrition, ACES, and Molecular and Cellular Biology, LAS |
| PB.21 | The draft in the winds of war  
Sara Brown, Senior, Political Science, LAS |
| PB.22 | Vocabulary and phonological growth in a young child with Childhood Apraxia of Speech (CAS)  
Kristin Lyons, Senior, Speech and Hearing Science, AHS |
| PB.23 | BMI distribution of Cohort 1a  
Hannah Roosevelt, Senior, Dietetics, ACES |
|---|---|
| PB.24 | Complementary feeding practices among low-income mothers  
Dennise Staab, Junior, Community Health, AHS |
| PB.25 | Nutrition education  
Ana Ristich, Senior, Food Science and Human Nutrition, ACES |
| PB.26 | Withdrawn |
| PB.27 | Separation, alignment and deposition of carbon-based nanomaterials  
Charishma Puliyanda, Senior, Electrical Engineering, ENG |
| PB.28 | When the money does not matter  
Jason Gluskin, Senior, Political Science and History, LAS |
| PB.29 | Perceptual load-induced local competitive interactions across visual quadrants  
Andrew Brown, Senior, Psychology, LAS |
| PB.30 | Physical fitness and cognition of elementary school children  
Lauren Fraczek, Senior, Kinesiology, AHS |
| PB.31 | Children’s use of verb tense and aspect as a cue to generic meaning  
Trent Meltzer, Senior, Psychology, LAS |
| PB.32 | Family mealtimes: An observational study of parental prompts and its influence on child compliance to eat  
Jessica Dosik, Senior, Human Development and Family Studies, ACES |
| PB.33 | Electrophysiological investigation of effects of extracellular administration of D-amino acids in neurons of Aplysia californica  
Lee Replogle, Senior, Molecular and Cellular Biology, LAS |
| PB.34 | “Being white in a multicultural society”: Understanding whiteness in an intergroup dialogue  
Jeffrey Yeung, Senior, Psychology, LAS |
| PB.35 | Electrostatic transfer of monolayer graphene grown on copper foil  
Roshan Choxi, Senior, Computer Engineering, ENG |
| PB.36 | Classification of mucin chemotypes using FTIR  
Caroline Cvetkovic, Junior, Bioengineering, ENG |

**PC SESSION: AFTERNOON POSTER PRESENTATIONS, 3:15–4:30 P.M. (PINE LOUNGE)**

| PC.01 | Twelve-month-olds’ expectations about adults’ responses to distress  
Jessica Houston, Senior, Psychology, LAS |
| PC.02 | Salty piece in fuel puzzle: Comparing the pretreatment of lignocellulosic biomass in ionic liquids and deep eutectic solvents  
Sidney Knight, Senior, Agricultural and Biological Engineering, ACES |
| PC.03 | Multicultural influences and perceptions of stuttering and their appreciation in therapy  
Adetutu Ogundare, Senior, Speech and Hearing Science, AHS |
| PC.04 | Transfer of large-area graphene to SiO₂ substrates  
Tomasz Kalbarczyk, Junior, Computer Engineering, ENG |
| PC.05 | Degradation of myelination in the genu: A study of aging  
Gene Yu, Junior, Bioengineering, ENG |
| PC.06 | China’s wild wild West  
Joann Wong, Senior, Political Science, LAS |
| PC.07 | Age-related changes in alpha-endosulfine, an endogenous K-ATP channel modulator  
Kaleigh Roberts, Senior, Bioengineering, ENG |
| PC.08 | The influence of mentoring on pro-social behavior: Applying social bond and social learning theories of delinquency  
Lara M. Meyer, Senior, Sociology, LAS  
Stacia Miksys, Senior, Sociology, LAS |
| PC.09 | Expression analysis of miRNA families in various Miscanthus x giganteus organs  
Ornella Wa Ngamboma, Junior, Molecular and Cellular Biology, LAS |
| PC.10 | Informal mentors, civic engagement, and juvenile delinquency: Using social bond theory to understand youth pro-social and antisocial activity  
Snehalatha Gantla, Senior, English, LAS  
Kelsey Antle, Senior, Sociology, LAS |
| PC.11 | The role of father-adolescent relationships in Mexican-origin girls’ adjustment in the context of mother-adolescent relationships  
Rebecca Lara, Senior, Psychology, LAS |
| PC.12 | This is it: Jazz! Locales and experiential definitions of jazz in Urbana-Champaign  
Laura Margaret Lynch, Junior, Sociocultural and Linguistic Anthropology, LAS |
| PC.13 | Regulation of cAMP concentration and protein kinase A activity by β-adrenergic receptor activated adenyl cyclase and phosphodiesterase in cardiac myocytes  
Dawen Zhang, Senior, Bioengineering, ENG |
| PC.14 | Engineering multilayered nanospheres for tailored optical responses  
Rohun Palekar, Bioengineering, ENG |
| PC.15 | Discourse performance across time in individuals with acquired neurogenic communication disorders  
Megan Dean, Senior, Speech and Hearing Science, AHS  
Laura Savicki, Senior, Speech and Hearing Science, AHS |
### 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.

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<td>Health-related quality of life for persons with graph-versus-host disease post-hematopoietic stem cell transplant through non-pharmacologic means</td>
<td>Nadia Froehling, Senior, Nursing, NURS</td>
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<td>Lisa Mellman, Senior, Speech and Hearing Science, AHS</td>
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<td>Production of transparent conductors</td>
<td>Leigh Kesler, Sophomore, Nuclear, Plasma, and Radiological Engineering, ENG</td>
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<td>The impact of home literacy environments and familial support on childhood writing disorders</td>
<td>Anne Capron, Senior, Speech and Hearing Science, AHS</td>
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<td>Anne Oldani, Agricultural and Biological Engineering, ENG</td>
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<td>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</td>
<td>Reid Behrens, Senior, International Studies, LAS</td>
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<td>Medical conditions among clients using a free health center</td>
<td>Crystal Amoah, Community Health, AHS</td>
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<td>When can the people govern?</td>
<td>Joshua Feiger, Senior, Political Science, LAS</td>
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<td>Tyler Surma, Senior, Kinesiology, AHS</td>
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### Interface characteristics of microporous and non-microporous hydroxyapatite
*Heather August, Bioengineering, ENG*

**Abstract:**

The aim of this research is to study the interface characteristics of microporous and non-microporous hydroxyapatite. The study will help in the development of composite materials for various medical applications.

---

### Self-sealing fiber-reinforced composites
*Elizabeth Buzzard, Materials Science and Engineering, ENG*

**Abstract:**

Self-sealing fiber-reinforced composites are materials that have the ability to seal their own defects. This research will explore the potential applications of such composites in various engineering fields.

---

### Distinguishing bone and hydroxyapatite scaffold from micro-computed tomography data for evaluation of healing in bone tissue engineering
*Michael Carrasquilla, Aerospace Engineering, ENG*

**Abstract:**

This research aims to distinguish bone and hydroxyapatite scaffold from micro-computed tomography data. The findings will be used to evaluate the healing process in bone tissue engineering.

---

### Analysis and design of a broadband highly reflective subwavelength grating mirror
*Jared Carter, Electrical Engineering, ENG*

**Abstract:**

The research focuses on the design and analysis of a broadband highly reflective subwavelength grating mirror, which has potential applications in various optical devices.

---

### Quantification of bone ingrowths for bone tissue engineering
*Kaile Chen, Materials Science and Engineering, ENG*

**Abstract:**

This research will quantify bone ingrowths to enhance the understanding of bone tissue engineering processes.

---

### Synthesis of complex oxide multiferroics
*Amber Choquette, Materials Science and Engineering, ENG*

**Abstract:**

The study will focus on the synthesis of complex oxide multiferroics, which are materials with potential for use in magnetic and electronic devices.

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### The electrostatic transfer of graphene grown up on copper substrate
*Roshan Choxi, Electrical Engineering, ENG*

**Abstract:**

This research investigates the electrostatic transfer of graphene grown on copper substrate, which is crucial for the development of graphene-based devices.

---

### Optimization of PDMS for microfluidic devices
*Kaitlin Clapper, Chemical Engineering, LAS*

**Abstract:**

The research aims to optimize PDMS for microfluidic devices, enhancing their performance in various applications.

---

### Using Markov Random Fields to classify point clouds
*Elizabeth Cleveland, Statistics and Computer Science, LAS*

**Abstract:**

This study will explore the use of Markov Random Fields for classifying point clouds, which is vital for 3D modeling and visualization.

---

### Understanding the mechanical behavior of cellular solid food model system
*Christina Coles, Chemical Engineering, LAS*

**Abstract:**

The research will investigate the mechanical behavior of cellular solid food model systems, contributing to the development of realistic food simulators.

---

### Classification of mucin chemotypes using FTIR
*Caroline Cvetkovic, Bioengineering, ENG*

**Abstract:**

This research focuses on classifying mucin chemotypes using FTIR spectroscopy, which can aid in understanding mucin properties.

---

### Global analysis of human brain disease transcriptome to identify disease-specific molecular signatures
*Alisha Grynewicz, General Engineering, ENG*

**Abstract:**

The study will perform a global analysis of human brain disease transcriptomes to identify disease-specific molecular signatures, contributing to the understanding of neurological disorders.

---

### Assisted cleaning by metastable atom neutralization (PACMAN)
*Ivory Hill, Nuclear, Plasma, and Radiological Engineering, ENG*

**Abstract:**

This research explores the use of metastable atom neutralization for assisted cleaning, which could revolutionize cleaning technologies.

---

### Financial risk analysis with distributed GPGPUs
*Stan Idesis, Electrical Engineering, ENG*

**Abstract:**

The study will analyze financial risk using distributed GPGPUs, offering new insights into financial modeling and analysis.

---

### Effects of plyometric and sensorimotor training on neck muscle electromyography: A pilot investigation
*Tyler Surma, Senior, Kinesiology, AHS*

**Abstract:**

This research investigates the effects of plyometric and sensorimotor training on neck muscle electromyography, providing valuable insights into rehabilitation techniques.

---
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 FT-IR 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
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