



URS
2012

PROGRAM

**UNDERGRADUATE
RESEARCH SYMPOSIUM**

WEDNESDAY, APRIL 11, 2012



Welcome to the fifth annual campus-wide Undergraduate Research Symposium. The breadth and scope of the oral and poster presentations featured today reflect not only the wide range of academic disciplines at Illinois but also speak to the caliber of our undergraduate students. Our students are enterprising and thoughtful and are eager to learn from their advisors and mentors. Their projects also demonstrate the ongoing commitment of our faculty and instructional staff to supporting and growing undergraduate research at Illinois. The projects listed below tackle some of the society's most pressing issues, including obesity, the influence of popular culture, and the spread of disease. Like the mentors who support them, these students and their projects hold the potential to change the world in which we live for the better.

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 years past, we had help and support from a student intern. A special thanks goes to Alexis Georgiadis (B.S. student, Journalism, Media).

The past four Undergraduate Research Symposia showcased outstanding projects from ambitious students. This year is no exception. The academic excellence that has characterized Illinois for generations continues in this year's symposium.



Richard Wheeler
Interim Vice Chancellor for
Academic Affairs and Provost

EVENT OVERVIEW

WEDNESDAY, APRIL 11, 2012

Illini Union

9:00-10:15 a.m.	PA Session: Poster Presentations, Pine Lounge
9:00-10:15 a.m.	Refreshments, Pine Lounge
10:45 a.m.-Noon	PB Session: Poster Presentations, Pine Lounge
11:00 a.m.-Noon	A Sessions: Oral Presentations (Illini Rooms A, B, C; Rooms 404-406)
Noon-1:15 p.m.	Lunch Available for Presenters, Attendees, and Mentors, Illini Rooms Foyer
12:15-12:30 p.m.	Remarks by Richard Wheeler, Interim Vice Chancellor for Academic Affairs and Provost, Illini Room B
12:30-1:15 p.m.	Featured Session: "More than a Mirror: an Etymological and Neurological Approach to Empathy in the Theatre," Illini Room B
1:30-2:30 p.m.	B Sessions: Oral Presentations (Illini Rooms A, B, C; Rooms 404 & 405)
1:30-2:45 p.m.	PC Session: Poster Presentations, Pine Lounge
3:00-4:15 p.m.	C Sessions: Oral Presentations (Illini Rooms A, B, C; Rooms 404 & 405)
3:15-4:30 p.m.	PD Session: Poster Presentations, Pine Lounge
3:15-4:30 p.m.	Refreshments, Pine Lounge
4:30-6:30 p.m.	Illinois Scholars Undergraduate Research Program Poster Expo, Levis 2nd Floor

Levis Faculty Center

Featured Session

More than a Mirror: an Etymological and Neurological Approach to Empathy in the Theatre

Performance by:
Katherine Norman, Senior, Theater, FAA

The American/European perception of theatre has been dominated for centuries by Hamlet's definition: that "The purpose of playing, whose end, both at the first and now, was and is, to hold as 'twere the mirror up to nature." This definition, however, falls short. Language defines our world, and for all his words Shakespeare possessed a very different vocabulary than the modern artist. One powerful word he lacked was empathy. Tracing the etymology of this word in conjunction with following recent advances in the study of its neurological basis leads to an entirely new vantage point from which to view the purpose of playing.

Analyzing the neurological basis of empathy offers a new and dynamic understanding of the audience's experience, as well as tantalizing new possibilities to the actor and director. The work of linguists and philosophers blends with and is deepened by the contemporary work of cognitive neuroscientists such as Marco Iacoboni, V.S. Ramachandran, Charles Limb, and others. A specific understanding and utilization of empathy in a theatrical context could mean that, instead of perceiving the audience as a passive element of live theatre, they become vital members in the action as the performer offers his or herself as an acting body to be temporarily colonized by the minds of the spectators. Rather than looking into Hamlet's mirror, an audience follows an actor through it.

ORAL PRESENTATIONS

A SESSIONS, 11:00 A.M.–NOON

A.1 Conflict, Problem Solving and Leadership (Illini Room A)

The Yellow Park Problem: An Analysis of Problem-Solving Strategies from Seventh-grade Students Working in Collaborative Groups on Linear Functions

Jennifer Dao, Junior, Mathematics, LAS

Components of Conflicts: The Role of Territory's Tangibility and Intangibility Impact on Conflicts

Emily Barrett, Senior, Political Science, LAS

Overcoming Misconceptions of Similarity Through Group Work on a Problem-Based Lesson

Marissa Walczak, Junior, Mathematics, LAS

Role of Hierarchy on Student Leadership Development within Registered Student Organizations (RSO)

Cori Sloan, Sophomore, Earth Systems, Environment, and Society & Communication, LAS
Alex Romine, Freshman, Undecided, DGS
Joseph Gasienica, Freshman, Undecided, DGS

A.2 Preservation and Adaptation (Illini Room B)

Male Superiority in Spatial Navigation: Adaptation or Side-Effect?

Edward Clint, Senior, Psychology, LAS

Intelligent Robotic Weaponry

Vishnu Nath Kamalnath, Senior, Electrical Engineering, ENG

Anticipation of Predation Risk Drives Schooling Behavior in Three-Spine Stickleback Fish

Matt Grobis, Senior, Integrative Biology Honors, LAS

A.3, Health Care Delivery (Illini Room C)

Breast Cancer Screening Barriers for African American Women

Laura Myers, Senior, Community Health, AHS

Modeling and Validation of New Interactions Between Recombinase RAD51 and Tumor Suppressor BRCA2

William Jones, Senior, Biochemistry, LAS

HIV/AIDS Education on Health Websites of Land-Grant Institutions vs. 1890s Land-Grant Institutions

Alisha Morrow, Junior, Community Health, AHS

The Uninsured: Where do They Stand?

Sakina Tayebali, Senior, Sociology and Molecular and Cellular Biology, LAS

A.4, Roundtable: Hawthorne in Historical Context (Illini Union, 404)

Transatlantic Hawthorne

Craig Messner, Senior, English, LAS

Hawthorne and Politics

Lauren Jackson, Junior, English, LAS

Nathaniel Hawthorne: The French Reception

Ben Mueller, Junior, Rhetoric, LAS

Hawthorne's Children's Writing

Nick Martin, Senior, English, LAS

A.5, Sex, Gender and Literature (Illini Union, 405)

Gilman and Hurst's View on Women's Professionalism

Junga Park, Senior, Philosophy, LAS

Female Presence in Hurston

Caitlin MacDonald, Junior, English & Spanish, LAS

Emily Drone, Sophomore, Molecular and Cellular Biology, LAS

The New Man: Evolution of Domestic Roles in Early 20th Century American Novels

Kristin Petersheim, Senior, English, LAS

The Female Presence in Hurston Works

Emily Drone, Sophomore, Molecular and Cellular Biology, LAS

Caitlin MacDonald, Junior, English & Spanish, LAS

Women's Sexual Agency in the 1920s and 1930s

Bradley Williams, Sophomore, English, LAS

Setting the Moral Course: The Physician and Nineteenth Century Sexuality

Alison Anderson, Junior, English & History, LAS

Women Poets of the 20s and 30s

Dan Paitl, Sophomore, Philosophy, LAS

A.6, All the World's a Stage (Illini Union, 406)

Television Viewing and its Effect on the BMI of Parents and Children

Lauren Sieczko, Senior, Food Science and Human Nutrition, ACES

Yue (Hannah) Hong, Senior, Communication, LAS

Kevin Thomas, Senior, Interdisciplinary Health, AHS

Michael Levi, Junior, Human Nutrition, ACES

An International Perspective on Social Media: A Comparison Between Twitter and Weibo

Gina Cavato, Junior, Advertising & Spanish, MEDIA

Sisi O, Junior, Sociology, LAS

Role of Religion in Indian and Western Theatre

Jacob Davis, Sophomore, Theatre, FAA

B SESSIONS, 1:30–2:30 P.M.

B.1, Circuitry, Signaling, and Filters (Illini Room A)

Improving Biosand Filters: A Sustainable Water Purification System for Developing Countries

Vijesh Tanna, Junior, Material Science and Engineering, ENG

Tony Straub, Senior, Civil and Environmental Engineering, ENG

Hanting Wang, Junior, Civil and Environmental Engineering, ENG

Characterization of Notch Signaling in the Pituitary in Response to Estradiol Treatment and Pregnancy

Agata Parfieniuk, Senior, Molecular and Cellular Biology, LAS

Configuration of Modern DRAM

Scott Matthews, Senior, Electrical and Computer Engineering, ENG

Analyzing Glutamate Racemase: Visualization of Enzyme-Ligand Complexes Through X-ray Crystallography

Wesley Lay, Senior, Biochemistry, LAS

B.2, Water, Food and Fire (Illini Room B)

Implications of the Virtual Water Policy in the MENA Region

Aleena Farishta, Senior, Global Studies, LAS

Food Insecurity's Effect on Quality of Llife

Karen Lee, Senior, Food Science and Human Nutrition, ACES

Ekaterina Andreeva, Senior, Human Development and Family Studies, ACES

Effects of Fire and Grazing on Nest Provisioning of Grasshopper Sparrows in Midwestern Grasslands

Sarah Menning, Senior, Natural Resources and Environmental Sciences, ACES

B.3, Public Health (Illini Room C)

Intercultural Communications

Mayalin Laforteza, Junior, Community Health, AHS

Wei-Ting 'Kitty' Feng, Junior, Elementary Education, EDU

More than Just the Birds and the Bees

Kierra Barnett, Senior, Community Health, AHS

The Skewed Health Care Pricing System in America: The Effects on the Average American and the Health System in its Entirety

Ryan Kolnick, Senior, Community Health, AHS

Charity Care Spending in Illinois Hospitals: The Effect of Ownership Affiliation and Location

Natalie Bradford, Senior, Community Health, AHS

B.4, Representations of Identity (Illini Union, 404)

'My Fellow Americans' - 20th Century

Presidential Rhetoric Across Media

Ian Williams, Senior, Political Science, LAS

The Mystique of the Brides: Demystifying the Image of the Picture

Stephanie Chang, Junior, Political Science and History, LAS

Verfremdungsprojekt: Critiques of Dogmatism in the Films of Lars von Trier

Kumars Salehi, Senior, Cinema Studies, LAS

B.5, Culture and Identity (Illini Union, 405)

Reaching a New Consensus: China's Alternative to the Washington Consensus and its Implications for Democracy in the Developing World

Christopher Olen, Junior, Political Science & Spanish, LAS

Perspectives on European Identity: Connections and Implications

Patrik Maldre, Senior, Philosophy & Political Science, LAS

Janir Cruz, Junior, Electrical and Computer Engineering, ENG (Exchange student from University of Macau)

Mobilizing Minorities: Socioeconomically Driven

Rabiya Bilfaqi, Senior, Political Science, LAS

Health

Stephanie Mazariegos, Sophomore, Political Science & Communications, LAS

Milo Si, Junior, Mathematics, EDU

C SESSIONS, 3:00–4:15 P.M.

C.1, Culture and Environment (Illini Room A)

Seeking Consensus on Preservation of Rural Character and Heritage in Virginia Beach

Ethan Tabakin, Junior, Urban Planning, FAA

Behavioral and ERP evidence for Good-Enough Processing Language Comprehension Model

Jun Meng, Senior, Psychology & Statistics, LAS

C.2, Advances in Biological Science (Illini Room B)

Characterization of Helicobacter Pylori toxin, VacA, Induced Intracellular Stress in Human Gastric Epithelial Cells

Vishal Naik, Senior, Molecular and Cellular Biology, LAS)

Analysis of Salt Mechanisms with the Use of Bioinformatics Tools

Anna Kropornicka, Senior, Integrative Biology Honors, LAS

Nature's Silver Bullets: P450s in the Insecticide Resistance Model

Mary Schuler, Junior, Integrative Biology Honors, LAS

Identification of the Helicobacter Pylori Vacuolating Cytotoxin Putative Receptor Binding Site

Lucas Smith, Senior, Biochemistry, LAS

Marshall Lawler, Junior, Molecular and Cellular Biology, LAS

Ian Hurley, Sophomore, Molecular and Cellular Biology, LAS

Adam Coughlin, Freshman, Molecular and Cellular Biology, LAS

C.3, Public Health and Policies (Illini Room C)

The Long-Term Effects of Structural Adjustment Policies on Women's Human Capital

Steven Blumenthal, Senior, Political Science & Spanish, LAS

Nourishing America's Children: Improving Participation in the Child and Adult Care Food Program

Catherine Topolinski, Junior, Political Science, LAS

Distinguishing Mental Health Effects Between Types of Intimate Partner Violence

Kelsey Sauder, Junior, Human Development and Family Studies, ACES

Federal Food Programs in Relation to the Cost of a Meal Per State Nationwide

Andrea Kazaniwksyj, Senior, Food Science and Human Nutrition, ACES

Minyona Mason, Junior, Community Health, AHS

C.4, Roundtable: Hawthorne in Historical Context (Illini Union, 404)

Hawthorne and Feminism

Bhagalaxmi Shastry, Junior, English, LAS

Hawthorne and the Rise of the Middle Class

Grant Mosiman, Senior, English, LAS

The Politics of Hawthorne

Ryan Mahoney, Senior, English, LAS

Hawthorne and Catholicism

Lindsey Weishar, Junior, English, LAS

C.5, Writing, Language, and Learning in the Writers Workshop (Illini Union, 405)

Writing, Language, and Learning in the Writers Workshop

Maddie Ley, Junior, History & Communication, LAS

Julia Henninger, Senior, Classics (concentration in Latin), LAS

Sarah Langer, Junior, English & Creative Writing, LAS

Maria Zyskind, Junior, Political Science & Philosophy, LAS

Lauren Welton, Junior, Advertising, MEDIA

Katharine Cullen, Sophomore, Political Science & English, LAS

POSTER PRESENTATIONS

PA SESSION, 9:00–10:15 A.M.

PA.01 *Can Humanitarian Aid Prevent Future Conflict?*

Su Jin An, Senior, Political Science, LAS

PA.02 *Differences in Excretion Rate of Sera and Urinary C-Reactive Protein*

Sophia Bodnar, Junior, Anthropology, LAS

PA.03 *Analysis of Illinois Hospitals from 2008-2010 by Type of Payer*

David Burstein, Senior, Psychology, AHS

PA.04 *Overexpression of Estrogen Receptor Alpha Influences the Expression of Circadian Rhythms in Transgenic Mice*

Aaron Fairbanks, Senior, Molecular and Cellular Biology & Psychology, LAS

PA.05 *Nutritional Condition of House Sparrows (Passer domesticus) Along an Urban-Rural Gradient*

Laura Frasz, Senior, Natural Resources and Environmental Sciences, ACES

PA.06 *Lower Level Facets of Conscientiousness Moderates the Effects of Work Stress on Employee Job Performance and Turnover Intention*

Li Guan, Senior, Psychology, LAS

PA.07 *What should I do next?— How Students Decide Their Post-baccalaureate Plans*

Anwen Jiang, Senior, Electrical Engineering, ENG

PA.08 *ERK Activation in the hippocampus and Striatum of Genistein-treated Ovariectomized Rats Following Response Learning*

Vivian Jung, Senior, Molecular Cellular Biology, LAS

PA.09 *Are Attitudes Important?: Cross-Cultural Negotiations of Chinese Executives*

Kayla Kelly, Senior, International Studies, LAS

PA.10 *Development and Validation of a Psychometric Instrument for Measuring Influence Outcomes*

Rajiv Khattar, Senior, Psychology & General Management, LAS/BUS

PA.11 *Impact of School Nurses on Adolescents with Type 1 Diabetes*

Saori Kise, Senior, Nursing

PA.12 *The Modern Perception of Agriculture: Students' Associations with Agriculture and Sources of Information*

Ashley LaVela, Senior, Agricultural Communication, ACES

PA.13 *Does WIC Participation Influence Child Body Type Perception?*

Kara Lester, Senior, Sociology, LAS
Sarah Steinmetz, Sophomore, Dietetics, ACES

PA.14 *An Exploratory Analysis of Macro-Level Factors in Social Entrepreneurship Development in India*

Meghan Martin, Senior, Global Studies, LAS

PA.15 *Cognitive Behavioral Therapy and Reducing Nursing Stress: A Modified Integrative Literature Review*

Elizabeth Mason, Senior, Nursing

PA.16 *Going Off the Grid: The Creation of a Documentary Film*

Laura McInerney, Senior, Psychology & Sociology, LAS

PA.17 *Mechanisms of Seedling Distribution in a CTFS Forest Dynamics Plot*

Jeffrey Miguel, Senior, Integrative Biology, LAS

PA.18 *Shedding Light on Successful Encoding of Relational Memory*

Sandhya Prathap, Senior, IPS-Neuroscience, LAS

PA.19 *Daily Physical Activity Positively Impacts Fitness Scores*

Paige Quinlan, Senior, Communication, LAS
Victoria Noland, Senior, Communication & Spanish, LAS
Tanya Patino, Junior, Civil Engineering, ENG

PA.20 *Hawthorne and Male Sexuality*

Mark Schmudde, Junior, English, FAA

PA.21 *Added Sugar Intake and Weekend Television Viewing is Related to Increased Central Adiposity among Prepubertal Children*

Bridget Schuld, Junior, Food Science and Human Nutrition & Dietetics, ACES

PA.22 *The Impact of Breastfeeding on Preventing Asthma in Infancy and Childhood: A Modified Integrative Literature Review*

Natalie Seewald, Senior, Nursing

PA.23 *Secure in Life, But Not with Food: The Relationship Between Food Insecurity and Socioeconomic Status*

Claire Sereiko, Junior, Communication, LAS
Kim Loconsole, Senior, Communication, LAS

PA.24 *The Role of Nurses in the Transition to Inpatient Use of Insulin Pump Therapy*

Michelle Smith, Senior, Nursing

PA.25 *How does Religiosity Protect Against Suicidality? An Investigation of Key Protective Mechanisms*

Rebecca Spizzirri, Senior, Psychology & Philosophy, LAS

PA.26 *Engineering an Enzyme for Solid-State NMR Studies: the Antibiotic Target Glutamate Racemase*

Jean Alyxa Vendiola, Junior, Molecular and Cellular Biology, LAS

PA.27 *Dual Task Cost in Persons with Multiple Sclerosis: A Systematic Review*

Ann Wetzel, Senior, Kinesiology, AHS

PA.28 *Effects of Moderate Aerobic Exercise Training on Inflammatory Status of the Colon During Acute Ulcerative Colitis*

Collette Williams, Senior, Molecular and Cellular Biology, LAS
Keith Whitlock, Sophomore, Molecular and Cellular Biology, LAS

PA.29 *Comparison of Media Industry Among China, the US, and Korea*

Jiaxin Xu, Senior, Agricultural Accounting, ACES
So Jung Yoon, Sophomore, Global Studies, LAS
Gabriel Johnson, Sophomore, Political Science, LAS

PB SESSION, 10:45–NOON

PB.01 *Why Do Nitrogen Fertilizers Stimulate Microbial Decomposition?*

Rachel Atwell, Senior, Natural Resources and Environmental Sciences, ACES

PB.02 *Sulfur Cycling on Io; An Analogy to Earth's Hydrologic Cycle*

Steven Battaglia, Senior, Atmospheric Sciences & Geology, LAS

PB.03 *Engineering Three-dimensional Matrices for in vitro Brain Tumor Studies*

Eftalda Becka, Junior, Chemical Engineering, LAS

PB.04 *Gender Difference in Dietary Genistein-mediated Wnt Signaling of Pre-neoplastic Rat Colons*

Julie Bray, Senior, Biochemistry, ACES

PB.05 *in vivo Reconstitution and Investigation of Actagardine*

Alejandro Bueno, Junior, Chemistry, LAS

PB.06 *Television: How It Turns Children Into Couch Potatoes*

Ashley Cho, Junior, Communication, LAS
Caitlin Coffey, Junior, Speech Pathology, AHS
Paloma Lau, Senior, Communication & Political Science, LAS

PB.07 *Undergraduate Student Motivations for Participation in International Activities*

Dana Fager, Senior, International Studies, LAS

PB.08 *Bringing Health Home in Eastern Illinois*

Jacob Firkins, Junior, Agricultural Leadership, ACES
Tyler Johnson, Senior, Agricultural Markets and Management, ACES
Clayton Meyer, Senior, Farm Management, ACES
Michael Cessna, Senior, Farm Management, ACES

PB.09 *Bringing Health Home in Western Illinois*

Cali Garner, Senior, Community Health, AHS
Heather Kieltyka, Senior, Community Health, AHS
Mark McKown, Sophomore, Agricultural Education, ACES
Caitlin Chrzanowski, Sophomore, Agriculture Leadership, ACES

PB.10 *Exclusionary Immigrant Legislation and the Damaging Impressions on Citizen Youth*

Mercedes Gonzalez, Junior, Sociology & Latina/o Studies, LAS

PB.11 *Theoretical Framework for Analyzing the Kinematics of American Sign Language*

Allison Hilger, Junior, Speech and Hearing Science, AHS

PB.12 *Are Processed Foods Really as Bad as People Say They Are?*

Laura Hillman, Junior, Speech and Hearing Science, AHS
Monica Paden, Sophomore, Food Science and Human Nutrition, ACES

PB.13 *A Strategy for Reconstructing Complex Immune Gene Co-expression Networks*

James Karnia, Junior, Animal Science, ACES

PB.14 *Why Dictators Allow Demonstrations: Anti-Foreign Protests as Audience Costs in Authoritarian Two-Level Games*

Fengming Lu, Senior, Political Science, LAS

PB.15 *Bringing Health Home in Southern Illinois*

Evan Marlatt, Junior, Community Health, AHS
Evan Brummet, Sophomore, Mathematics, LAS
Sarah Coleman, Graduate School, Master's of Public Health, AHS

PB.16 *Bringing Health Home in Northern Illinois*

Weston Montavon, Sophomore, Technical Systems Management, ACES
Matthew Bickett, Sophomore, Technical Systems Management, ACES
Jared Brown, Senior, Agricultural Markets and Management, ACES
Alex Didier, Freshman, Farm Management, ACES

PB.17 *Using VBM Analysis to Measure Gray Matter Volume in Adults with Tinnitus and Control Subjects with Normal Hearing*

Ciara Nally, Senior, Speech and Hearing Science, AHS

PB.18 *Conversational Repair in Aphasia Discourse*

Susan Novotny, Senior, Speech and Hearing Science, AHS
Anna Otigara, Junior, Speech and Hearing Science, AHS
Caroline Lartz, Senior, Speech and Hearing Science, AHS

PB.19 *Examining Stuttering-like Disruptions During Collaborative Referencing*

Anna Olsen, Senior, Speech and Hearing Science, AHS
Andrea Tripp, Senior, Speech and Hearing Science, AHS
Elise Brucks, Senior, Speech and Hearing Science, AHS
Allison Hilger, Junior, Speech and Hearing Science, AHS

PB.20 *Targeted Multi-Modal Microspheres as Contrast Agents for Biomedical Imaging*

Jonathan Rasio, Sophomore, Biochemistry, LAS
Zita Hubler, Sophomre, Bioengineering, ENG

PB.21 *Sociocultural Determinants of Breast Cancer Screening Among Women in Uruguay*

Megan Reyes, Junior, Community Health, AHS
Tiffany Martinez, Junior, Community Health, AHS
Anna Urbina, Junior, Community Health, AHS

PB.22 *Genes that Regulate Adipose Tissue Metabolism are Differentially Expressed in Pregnant Obesity-Prone and Obesity-Resistant Rats*

Ielyzaveta Shkoda, Junior, Dietetics, ACES

PB.23 *Media Multitasking in University Classrooms*

David Söderberg, Senior, International Studies (focus on Technology and Society), LAS

PB.24 *Going (Light) Green. The Impact of Decreased Chlorophyll Synthase on Plant Growth*

John Spiekerman, Senior, Integrative Biology, LAS

PB.25 *The Effect of Soy Germ Consumption on Testicular Expression of Carotenoid Cleavage Enzymes in TRAMP (transgenic adenocarcinoma of the mouse prostate) Mice*

Danny Sulsberger, Senior, Human Nutrition, ACES

PB.26 *Is Your Child Showing Signs of Picky Eating?*

Sarah Trapani, Senior, Communication, LAS
Emily Schaffer, Sophomore, Human Development and Family Studies, ACES

PB.27 *Stability and Antimicrobial Activity of Haloduracin as Compared to Nisin*

Candace Wong, Sophomore, Molecular and Cellular Biology, LAS

PB.28 *Development of a Constant Temperature Anemometer for Gas-Puff System*

Hyun Ho Yun, Junior, Nuclear, Plasma and Radiological Engineering, ENG

PB.29 *Characterization of LGAS_1719 in Lactobacillus gasseri*

Claire Zoellner, Senior, Food Science, ACES

PB.30 *Does Breastfeeding Reduce the Risk of Pediatric Obesity?*

Cassandra Eischen, Junior, Kinesiology, AHS
Qiaer Jin, Junior, Food Science and Human Nutrition, ACES
Michelle Gutiurrez, Junior, Speech and Hearing Sciences, AHS
Monique Efta, Senior, Communication, LAS

PC SESSION, 1:30-2:45 P.M.

PC.01 *Effects of Estrogens and Exercise on Learning and Memory*

Katherine Anderson, Senior, Psychology, LAS

PC.02 *RGD Conjugated Polyaminoamine Dendrimer Displays Targeted Delivery to Integrin Positive Cells and Occurs via Caveolae-Mediated Pathways*

Jacob Becraft, Junior, Chemical and Biomolecular Engineering, LAS

PC.03 *Public Health and the Built Environment: A Health Impact Assessment of the Chicago Lawn Neighborhood*

Emily Blumenthal, Junior, Urban Planning, FAA

PC.04 *E. Chiver- Creating a ‘Bacterial Filing Cabinet’*

Hsiao-Han (Angela) Chen, Sophomore, Chemical and Biomolecular Engineering, LAS
Uros Kuzmanovic, Junior, Molecular and Cellular Biology, LAS
Divya Tankasala, Freshman, Bioengineering, ENG
Cara Schornak, Freshman, Biology, LAS
Isiah Ramos, Freshman, Agricultural and Biological Engineering, ENG
Anthony Chau, Junior, Biochemistry, LAS
Bob Chen, Freshman, Biology, LAS
Asha Kirchhoff, Freshman, ENG

PC.05 *Corruption, HDI and GDP per Capita*

Erjing Cui, Sophomore, Political Science, LAS

PC.06 *Temperature Differences Among Soybean Cultivars and the Effect on Stomata and Composition*

Catherine DeMuro, Junior, Natural Resources and Environmental Sciences, ACES

PC.07 *Socioeconomic Status and Fruit Intake in Champaign County*

Elaina Dixon, Senior, Psychology, LAS
Guadalupe Garcia, Junior, Human Nutrition, ACES
Sophia Dامتew, Senior, Integrative Biology, LAS

PC.08 *Corn Yield Sensitivity in Drought Conditions*

Alyssa Falk, Senior, Agricultural Consumer Economics, ACES

PC.09 *Structure and Evolution of Metabolic Networks*

Zaynaib Giwa, Senior, Statistics, LAS

PC.10 *Investigating the Efficacy of Natural Antioxidants in a Ground Beef Patty Model System*

Kathleen Harsh, Senior, Food Science, ACES
Anita Gonzalez, Senior, Food Industry and Business, ACES

PC.11 *The Role of U.S. Food Aid in the Rise and Fall of Nations*

Alexandra Hill, Senior, Agricultural and Consumer Economics, ACES

PC.12 *Recurrent Utterances and Conversational Repetition: A Study of Aphasia Discourse*

Sophia Hizon, Senior, Speech and Hearing Sciences, AHS
Danielle Dionissopoulos, Senior, Speech and Hearing Sciences, AHS

PC.13 *Infrared Imaging and Simulation of Transport in Carbon Nanomaterials*

Alicia Hoag, Sophomore, Computer Engineering, ENG

PC.14 *Titration of Arachidonic Acid (ARA) Requirement for Brain, Adrenal Glands, Gastrointestinal Tract, Spleen, and Liver Functions*

Eileen Kamtawijoyo, Junior, Food Science and Human Nutrition, ACES

PC.15 *Writing Through Talk: The Dictated Stories of a Child with Writing Delays*

Eileen Kerins, Senior, Speech and Hearing Science, AHS
Stephanie Bishop, Senior, Speech and Hearing Science, AHS

PC.16 *The Use of Potassium Permanganate in Tomato Packaging*

Donny Kwandindo, Junior, Food Science, ACES

PC.17 *Agri-Environmental Policies in the United States and European Union - Federal, State and Local Level Comparisons and the Landscape Values that Shape These Policies*

Jamie Laatsch, Senior, Natural Resources and Environmental Sciences, ACES

PC.18 *Diet Intervention of Obese Women in MERIT Study*

Kristen Lach, Senior, Dietetics, ACES

PC.19 *The Influence of Parenting Style on Parent and Child Behaviors During Mealtime*

Marisa Mozer, Senior, Food Science and Human Nutrition (concentration in Dietetics), ACES

PC.20 *Hawthorne and Mesmerism*

Jenny Na, Junior, English, LAS

PC.21 *Initiating Oral Feedings in Preterm Population*

Yasmin Quinonez, Senior, Nursing

PC.22 *Examining Marketing Strategies Targeted Towards Children in Food Stores in Champaign-Urbana*

Mary Rooney, Junior, Community Health, AHS

PC.23 *Grab or Gain? Analyzing the Risks and Benefits of Recent Land Acquisition in Africa*

Rebecca Rosman, Senior, Global Studies LAS

PC.24 *Decentralization and Satisfaction with Democracy*

Lie Philip Santoso, Senior, Political Science, LAS

PC.25 *Childhood Obesity: What Role Do Childcare Providers Play?*

Carissa Stangarone, Senior, Human Development and Family Studies, ACES
Katie A. Pencak, Sophomore, Psychology, LAS
Alisha Morrow, Junior, Community Health, AHS

PC.26 *Burnout in Critical Care Nursing: A Modified Integrative Literature Review*

Stephanie Stiles, Senior, Nursing

PC.27 *Impact of Land Management on Soil Quality*

Rachel Welch, Junior, Natural Resources and Environmental Science, ACES

PC.28 *Why Factions: A Study of Legislative Success for Intraparty Factions in Congress*

Ivan Wu, Senior, Political Science, LAS

PC.29 *Continuous Liquid-Gas Slug Flow Crystallization of Pharmaceutical Compound*

Zhilong Zhu, Senior, Chemical Engineering, LAS

PC.30 *When Perception Meets Reality: Parents’ Idea of BMI Measurement of Children*

Lauren Fifarek, Junior, Community Health, AHS
Latrice Willis, Senior, Human Development Family Studies, ACES

PD SESSION, 3:15- 4:30 P.M.

PD.01 *The Long Walk Home: Refugee Responses to International Efforts*

Daniel Antonacci, Senior, Political Science, LAS

PD.02 *Low-Income Patterns in Frequency and Amount Spent on Fast Food*

YaQoota Aziz, Junior, Community Health, AHS
Angela Ng, Senior, Community Health, AHS
Jenny Ruan, Senior, Community Health, AHS

PD.03 *Medical Errors in Illinois Hospitals*

Kierra Barnett, Senior, Community Health, AHS

PD.04 *Diabetes and Heart Disease: a Connection through Cellular Signaling*

Erika Bongen, Junior, Molecular and Cellular Biology, LAS

PD.05	<i>Sucrase and Lactase Activity in post-confluent Caco-2Bbe Cells</i> Jamie Doligale , Junior, Food Science Human Nutrition, ACES
PD.06	<i>Study of c-jet Tagging in the $H \rightarrow WW \rightarrow \ell\nu\bar{q}q$ Decay Channel at the ATLAS Detector</i> Matthew Feickert , Senior, Engineering Physics, ENG
PD.07	<i>Structural Property and Development of a Method of Quantifying Lunasin in Plasma using an Optimized Immunoassay Protocol</i> Sarah Frankland-Searby , Sophomore, Bioengineering, ENG Francisco Laso de Hierro , Senior, Pre-Medicine, Universidad San Francisco de Quito, Ecuador
PD.08	<i>Carbon Stock in Arboreal Mass</i> Anne Gilot , Senior, Agricultural and Consumer Economics, ACES
PD.09	<i>Lobby or Litigate?: Domestic Mechanisms and Compliance with International Women's Rights Institutions</i> Anika Hermann , Senior, Political Science & Communication, LAS
PD.10	<i>Conflicting Uses for Marginal Land: The Effects of Government Support for Biomass Crops on the Conservation Reserve Program (CRP)</i> Margaret Jodlowski , Senior, Agricultural and Consumer Economics & History, ACES
PD.11	<i>The Effect of Plant and Animal Protein on Lipid Profile and the Relationship to CETP Genotypes</i> Amanda Krause , Senior, Food Science and Human Nutrition, ACES
PD.12	<i>Progressive Diet Assessment and Anthropometric Measurements of Obese Women in the MERIT Study</i> Amanda Krause , Senior, Food Science and Human Nutrition, ACES
PD.13	<i>Frequency and Expenditure of Fruits and Vegetables among Low-Income Families</i> Wingsuen Lau , Sophomore, Food Science and Human Nutrition, ACES
PD.14	<i>A Parents Influence on Their Child's Sugary Drink Consumption and Its Contribution to Obesity</i> Sherri Muellner , Junior, Speech and Hearing Science, AHS Hyunjin Lee , Senior, Chemistry, LAS Alex Parker , Senior, History, LAS
PD.15	<i>Asthma & Pregnancy</i> Rahamat Odunsi , Sophomore, Undecided, DGS
PD.16	<i>Rally Against the Flag</i> Michael Ovca , Senior, Political Science & Psychology, LAS
PD.17	<i>HOT Project</i> Maria Pauls , Sophomore, Food Science Human Nutrition, ACES

PD.18	<i>Race Affects Elastance Responses Following Endurance Exercise Training</i> Austin Ryan , Senior, Kinesiology, AHS
PD.19	<i>Comparison of Percent Body Fat Measurements of Children in STRONG Kids Program using DXA</i> Gayatri Satam , Junior, Molecular and Cellular Biology, LAS
PD.20	<i>Nuclear Energy Conversion with Stacks of Nano-capacitors</i> Eric Shinn , Sophomore, Physics, LAS
PD.21	<i>Pediatric Asthma in Puerto Rico</i> Jean Slana , Senior, Nursing
PD.22	<i>The Influence of Maternal Secondhand Smoke on Children: Creating Solutions that Promote Smoke-free Homes</i> Adenike Sosina , Sophomore, Community Health, AHS
PD.23	<i>Determining Gene Loci from Skeletal Variation: The Role of Image Processing</i> Alexandra Zachwieja , Junior, Anthropology, LAS
PD.24	<i>Additive and Multiplicative Genome-wide Association Models Identify Genes Associated with Growth</i> Cynthia Zavala , Junior, Animal Sciences, ACES

ISUR POSTER EXPO

LEVIS FACULTY CENTER (2ND FLOOR), 4:30-6:30 P.M.

The Illinois Scholar Undergraduate Research (ISUR) program is a yearlong experience for engineering students. It is generously 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 research projects. The ISUR Expo is open to the public.

Scale-dependent Void Growth Mechanisms in FCC Metals
Carlos Andres Almeida, Aerospace Engineering, ENG

Defect Engineering of Metal Oxides
Gloria An, Chemical Engineering, LAS

Controlling Surface Properties of Zein Films
Serena Brodsky, Agricultural and Biological Engineering, ACES

Measuring Effectiveness of Latency Insertion Method in 1-D, 2-D, and 3-D Circuit Simulation
Wan Choi, Electrical Engineering, ENG

Structural Property of Soybean Lunasin and Development of a Method of Quantifying Lunasin in Plasma Using an Optimized Immunoassay Protocol
Sarah Frankland-Searby, Bioengineering, ENG

Distributive Algorithms for Distributive Resources
Hannah Hasken, Electrical Engineering, ENG

Exploiting Parallelism in the Agro-IBIS Model with a OpenMP/MPI Hybrid Approach
Tom Hayes, Computer Science, ENG

Infrared Imaging and Simulation of Transport in Carbon Nanomaterials
Alicia Hoag, Computer Engineering, ENG

Ion Oxide Semiconductor Capacitor for pH Sensing
Eric Johnson, Electrical Engineering, ENG

Switching Loss Optimization for Inverters
Sam Kearney, Electrical Engineering, ENG

Evaluating p53 and Ki-67 in Breast Cancer via FTIR Spectroscopy
Lindsey King, Chemistry, LAS

Viability of Using Copper Nanowires in Graphene Manufacturing
Thaddeus Krawczyk, Jr., Computer Engineering, ENG

Improving the Growth Density of Aligned Arrays of SWNTs on a Quartz Substrate
Andrew Lee, Materials Science and Engineering, ENG

Modeling of Autonomous Vehicles: Dynamics and Controls
Christine Littrell, Mechanical Engineering, ENG

Carbon Nanotube Thin Film Transistor Nanosoldering
Jose Matamoros, Electrical Engineering, ENG

Study of Aligned Single-walled Carbon Nanotubes on Crystalline Substrates
Monisha Menon, Materials Science and Engineering, ENG

Strain Dependent Permeability in Poroelastic Media
Mustafa Mohamad, Engineering Mechanics, ENG

Pneumatic Circuit Efficiency Analysis for a Portable, Powered Ankle-foot Orthosis
Lee Ann Monaghan, Mechanical Engineering, ENG

Monodisperse Disulfide Bridged Polysilsesquioxane Nanoparticles in Drug Delivery and Release
Stephanie Nemece, Materials Science and Engineering, ENG

LMS Equalization on Nonuniformly Spaced Tapped Delay Lines for Underwater Acoustic Communication
Liana Nicklaus, Electrical Engineering, ENG

Convenient Care EHR System Effects on Patients and Clinicians
Rachael Ramsey, Industrial Engineering, ENG

Guatemala Water Project
Nora Sadik, Civil and Environmental Engineering, ENG

Experimental Study of 3D Swept Wings with Ice Accretions: Smoke Flow Visualization
Paul Schlais, Aerospace Engineering, ENG

Evaporation Based Microfluidic Platform for Solid Form Screening of Pharmaceutical Parent Compounds
Cassandra Schneider, Chemical Engineering, LAS

Clean Micro/nanoscale Waviness From Oxidized PDMS
William Smith, Engineering Mechanics, ENG

Flexible Flapping Flight
Amanda Stowers, Mechanical Engineering, ENG

Shape Memory Alloys
Maria Warnock, Civil and Environmental Engineering, ENG

Characterization of Quantum Dot Metal Cavity Micro-lasers
Eric Wei, Electrical Engineering, ENG

Variability in Kinematics of Gait in Persons with MS
Matthew Wesly, Bioengineering, ENG

Characterization of a Novel Class of Flavin-binding Fluorescent Proteins as Oxygen-independent Biological Imaging Probes
Kevin Weyant, Chemical Engineering, LAS

Optimization of Single-walled Carbon Nanotube Growth Using Ferritin and PVA via Water Assisted Growth
Wen Yang, Materials Science and Engineering, ENG

Investigation on Flexible Printed Antenna Using Silver Nano-ink
Yuou Zhang, Electrical Engineering, ENG

**View this program online at
provost.illinois.edu/ugresearch/URS2012.**

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