

The Sixth Annual  
**Science Research Symposium**  
University of Illinois at Springfield



Brookens Auditorium, Lower Level Brookens Library  
&  
Health and Sciences Building  
21 April 2006

Note: \* = student; underline = presenter

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8:30-9:00      **INFORMATION TABLE & REFRESHMENTS**  
Health and Sciences Building, 1<sup>st</sup> Floor Student Lounge

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**MORNING ORAL PAPER SESSION (9:00-10:30 a.m.)**  
Chemistry and Mathematical Sciences  
Brookens Auditorium, Lower Level Brookens Library

**Moderator:**      Nicole Cosenza (UIS M.S. Student in Biology)

9:00-9:10      **Opening Remarks - Dr. Nada Chang**  
Professor of Biology and Organizer of the Symposium

9:10-9:30      **From Amazing Formulas to Elementary Particle Physics**  
Chan, Hei-Chi. Mathematical Sciences Program, University of Illinois at Springfield, Springfield, IL 62703

9:30-9:50      **The Impact of Peer Mentor Training on Leadership and Problem Solving Skills**  
Brown, Blair\* and Karen Kirkendall. University of Illinois at Springfield, Springfield, Illinois 62703

9:50-10:10      **Preparation of Lithium-Intercalated Cobalt Vanadates**  
Redwood, Patrick H.\* and Keenan Dungey. Chemistry Program, University of Illinois at Springfield, Springfield, Illinois 62703

10:10-10:30      **The Effects of Fertilization and Time of Mowing on Regeneration and Seed Production of *Dipsacus laciniatus* L. (Dipsacaceae)**  
Parrish, Megan E.\*<sup>1</sup>, Heather A. Metzelaars<sup>1</sup>, Judith A. D. Parrish<sup>1,2</sup>, Susan L. Post<sup>2</sup>, Charles G. Helm<sup>2</sup>, Robert N. Wiedenmann<sup>2,3</sup>. <sup>1</sup>Department of Biology, Millikin University, Decatur, IL. <sup>2</sup>Center for Ecological Entomology, Illinois Natural History Survey, Champaign, IL. <sup>3</sup>Department of Entomology, University of Arkansas, Fayetteville, AK.

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10:30      **REFRESHMENT BREAK**  
Health and Sciences Building, 1<sup>st</sup> Floor Student Lounge

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10:30-12:00 POSTER SESSION  
1st Floor Hallway, Health and Sciences Building  
(This is the time to interact with poster authors)

CHEMISTRY, PSYCHOLOGY, & BIOLOGICAL SCIENCES POSTERS

[1] Preparation of Porous Cobalt Oxide

Kilburn, Tony\* and Keenan Dungey. Chemistry Program, University of Illinois at Springfield, Springfield, IL 62703

[2] Urea Inclusion Complexes of Long Chain Alkanes

Gairani, Rhet\* and Gary Trammell. Chemistry Department, University of Illinois at Springfield, Springfield, IL

[3] Genetic Variation In *Quercus alba* From A Native Illinois Stand Based On Dna Microsatellite Data

Bonnett, Jessica\* and Lucia Vázquez. Biology Department, University of Illinois at Springfield, Springfield, IL 62703

[4] Integrative Data Analysis for Prostate Specific Antigen: A Prostate Cancer Biomarker

Cunningham, D. J. and R. J. Karnes. Division of Urology, Southern Illinois University School of Medicine, Springfield, IL 62974

[5] Alteration of Platelet Derived Growth Factor by Atorvastatin Calcium® in Prostrate Cancer

Cunningham, Daniel J. and R. Jeffery Karnes. Division of Urology, Southern Illinois University School of Medicine, Springfield, IL 62974

[6] C-Kit Disregulation in Bladder Cancer

Cunningham, Daniel J. and R. Jeffery Karnes. Division of Urology, Southern Illinois University School of Medicine, Springfield, IL 62974

[7] Moving Microbes in a Winogradsky Plate: A Time Lapse Study

George, Roza A. \* and Michael J. Lemke. Department of Biology, University of Illinois at Springfield, Springfield, IL 62703

[8] Expanded Uses of Black Walnut Extracts for Controlling Weeds: Response of Waterhemp

Czapar, Anna\* Rochester High School, Rochester, IL 62563

[9] Development of a Classification System for Illinois Streams

Hinz Jr., Leon C., Ann M. Holtrop, and David Day. Illinois Natural History Survey, One Natural Resources Way, Springfield, IL 62702; Pennsylvania Fish & Boat Commission, Harrisburg, PA 17110

[10] Analysis And Characterization Of *En/Spm*-Like Transposons In *Quercus* Species

Janssen, Katherine\* and Lucia Vázquez. Biology Department. University of Illinois at Springfield. Springfield, IL 62703

[11] Design Of A Pcr Primer For The P<sub>sb</sub> Intron And Testing Of Its Phylogentic Utility At Different Taxonomic Levels

Janssen, Katherine\*, Michael Cavanaugh and Lucia Vázquez  
Biology Department, University of Illinois at Springfield, Springfield, IL 62703

[12] Determination of Humane Endpoints in Longevity Research

Johnston, Nancy A., Maria Ray\*, and Linda A. Toth. Pharmacology. Southern Illinois School of Medicine, Springfield, IL, 62974

[13] Effects of *Eisenia foetida* (Lumbricidae) on the Biomass of *Glycine max* (Fabaceae)

Klopchin, Megan\* and Judy Parrish. Millikin University, Decatur, Illinois 62522

[14] Effectiveness of Agricultural Best Management Practices on the Ecological Integrity of a Mackinaw River Subwatershed, Illinois

Lemke, Maria\* and David Kovacic<sup>2</sup>. <sup>1</sup>The Nature Conservancy, 301 SW Adams St., Suite 1007, Peoria, IL, USA, 61602. <sup>2</sup>University of Illinois at Urbana-Champaign

**[15] Benthic Macroinvertebrate Communities From Two Illinois River Wetland Habitats Differing in Connectivity and Restoration Status**

**Negro, Jaclyn\***<sup>1</sup> and **A. Maria Lemke**<sup>2</sup>. <sup>1</sup>Biology Department. University of Illinois at Springfield. <sup>2</sup>The Nature Conservancy, Illinois Chapter, 301 SW Adams St., Suite 1007, Peoria, IL 61602

**[16] Comparison of Bacterial Community Recovery From Different Cryogenic Treatments For Creation of Archiving Techniques at The American Museum of Natural History, NY**

**Paver, Sara F.\***<sup>1</sup>, **J. Bonacum**<sup>1</sup>, **A. Corthals**<sup>2</sup>, **R. DeSalle**<sup>2</sup>, and **M. J. Lemke**<sup>1</sup>. <sup>1</sup>University of Illinois at Springfield, Springfield, IL 62703. <sup>2</sup>American Museum of Natural History, New York, NY 10024.

**[17] Assessing the Culturability and Cryopreservation of Sediment Bacteria From Central Park, NY**

**Rossetto, Michael A.\***<sup>1</sup>, **James Bonacum**<sup>1</sup>, **Angelique Corthals**<sup>2</sup>, **Rob DeSalle**<sup>2</sup>, **Michael J. Lemke**<sup>1</sup>. <sup>1</sup>Department of Biology, University of Illinois at Springfield, Springfield, IL 62703-5407. <sup>2</sup>The American Museum of Natural History, New York, NY10024-5192

**[18] The Bacterial Community on Polycaprolactone Beads Associated with Denitrification of Water**

**Roy, Ryan\***, **James Bonacum** and **Michael Lemke**. University of Illinois at Springfield, Springfield, IL 62703

**[19] The Effects of Mycoplasma Contamination on Primary Culture Trophoblast Cells**

**Tibbs, Kylea M.\***<sup>1,2</sup>, **Dennis T. Crouse**<sup>2</sup>, **Donald S. Torry**<sup>3</sup>. <sup>1</sup>Department of Biology, University of Illinois at Springfield, IL. <sup>2</sup>Department of Pediatrics, Southern Illinois University School of Medicine, Springfield, IL. <sup>3</sup>Department of Medical Microbiology, Immunology, and Cell Biology, Southern Illinois University School of Medicine, Springfield, IL 62974

**[20] Cloning And Characterization Of Three Putative Hmt-Homologue Yeast Genes In *Arabidopsis thaliana***

**Vitale, Vincenzo\*** and **Lucía Vázquez**. Biology Department, University of Illinois at Springfield, Springfield, IL 62703

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**12:00 - 1:00 Lunch**

On your own; for our guests, we suggest dining at the UIS Food Court, Lower Level, Public Affairs Center (PAC)

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**AFTERNOON ORAL PAPER SESSION (1:00-3:00 p.m.)**

**Biological Sciences**

**Brookens Auditorium, Lower Level Brookens Library**

**Moderator:** Doyn Kellerhals (UIS M.S. Student in Biology)

**1:00-1:20 Anti-Cancer Activity of Bio-Active Phytosterols in Prostate Cancer**

**Cunningham, Daniel J.** and **R. Jeffery Karnes**. Division of Urology, Southern Illinois University School of Medicine, Springfield, IL 62974

**1:20-1:40 Expression Patterns, Mutagenesis, and Protein Interactions of *Arabidopsis thaliana* DRG Interaction Protein-2 (DRI-2)**

**Kubic, Jennifer\*** and **Joel Stafstrom**. Department of Biological Sciences, Northern Illinois University, DeKalb, IL

**1:40-2:00 Sub-Cellular Localization of Drg Family Proteins**

**Nelson, Benjamin\*** and **Joel Stafstrom**. Department of Biological Sciences, Northern Illinois University, DeKalb, IL 60115

**2:00-2:20 Interactions Between the Ampa-Type Glutamate Receptor and Stargazin**

**Suzuki, E., M. Kessler** and **A. C. Arai**. Department of Pharmacology, Southern Illinois University School of Medicine, Springfield, IL 92794-9629

2:20-2:40 ***Nautilus: Concordance Between Phylogeny and Biogeography***  
**White, A. Jeannette,\* and James Bonacum.** Department of Biology, University of Illinois at Springfield,  
Springfield, Illinois 62703-5407

2:40 - 3:00 **Potential Energy Production by Aquatic Microbes**  
**Wang, Rachel \*<sup>1</sup>, Michael Lemke<sup>2</sup> and Keenan Dungey<sup>3</sup>,** <sup>1</sup>Glenwood High School, Chatham, Illinois 62629;  
<sup>2</sup>Biology Department and <sup>3</sup>Chemistry Department, University of Illinois at Springfield, Springfield, IL

Closing Remarks - Dr. Michael Lemke

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3:00 - 4:00 **KEYNOTE ADDRESS**  
Brookens Auditorium

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4:00-5:00 **SOCIAL & AWARDS: Best Student Poster and Paper**  
Health and Sciences Building, 1<sup>st</sup> Floor Student Lounge; Refreshments available

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KEYNOTE ADDRESS

**Dr. THOMAS OWENS**  
Department of Plant Biology  
Cornell University, Ithaca, New York



***“Light, Photosynthesis and Life -  
- A Brief Walk Through Biology’s Ultrafast Lane”***

**Dr. Owens** uses physiological and biophysical techniques to study how plants regulate the utilization of sunlight in photosynthesis. Plants cannot shade themselves from the sun under stress conditions, such as drought or temperature extremes, that directly affect the capacity for photosynthesis, but not the capacity to absorb light. Excess light absorption leads to photo-oxidative damage and cell death. Plants have several highly regulated mechanisms for dissipating excess absorbed light energy. Understanding these regulatory processes is a foundation for engineering plants that are more tolerant to stress conditions.  
(source: <http://research.cals.cornell.edu/entity?home=2&id=5373>)