

**Special Thanks!**

**Thank you to the many offices and individuals whose hard work and dedication made this event possible!**

Provost Ralph L. Pearson

Dr. Alan Seadler, Julie Christy, and the Office of Research

Dr. Alexandra Gregory, Melanie Simile, and the Office of Academic Affairs

**And finally – the Student Planning Committee:**

Kristen Friedrich - Chair

Kaitlyn Burrier

Susan Dattalo

Margaret Inden

Kylie LaSota

Lauren Marbella

Bryan Seybert

Thanks for all of your hard work, great ideas, and dedication to the event!

**First Annual  
Undergraduate Research and  
Scholarship Symposium**

**Power Center Ball Room  
April 15<sup>th</sup>, 2009**



Sponsored by:  
Office of the Provost  
Office of Research  
Center for Biotechnology

## Formal Presentations

### Schedule of Events

<b>11:00<sup>am</sup></b>	<b>Doors open to the public</b>
<b>11:00<sup>am</sup> - 1:00<sup>pm</sup></b>	<b>Informal poster session*</b>
<b>1:00<sup>pm</sup> Official welcome</b>	<b>Provost Ralph L. Pearson</b>
<b>1:00<sup>pm</sup> – 4:00<sup>pm</sup></b>	<b>Formal presentations</b>
<b>4:30<sup>pm</sup> Awards and Keynote Speaker</b>	<b>Speaker: Dr Michael Irwin</b>
<b>5:15<sup>pm</sup></b>	<b>Remarks: President Charles J. Dougherty</b>
<b>5:30<sup>pm</sup></b>	<b>Reception</b>
<b>5:00<sup>pm</sup> – 6:00<sup>pm</sup></b>	<b>Informal poster session*</b>
<b>6:00<sup>pm</sup></b>	<b>Closing remarks</b>

\*Guests are encouraged to walk around, peruse students' projects, and engage with the students

Time	Presenter(s) and Title
1:00	<b>Peter Horne</b> A.J. Palumbo School of Business Administration <i>Trust and Market Efficiencies</i>
1:20	<b>Kaitlyn Yoha</b> Bayer School & McAnulty College <i>Determining the Position of Adiabatic Demagnetization Refrigerator in the Micro-X Sounding Rocket</i>
1:40	<b>Steven Barrows</b> Bayer School of Natural and Environmental Sciences <i>Kinetics of Growth and Chromium Reduction in Geobacter metallireducens and Sulfurospirillum barnesii Grown on Nitrate and Chromium</i>
2:00	<b>Casey Myburgh, Nikki Cargiene, Shane Smith, &amp; Zach Braun</b> McAnulty College and Graduate School of Liberal Arts <i>Internalizing our Universities: Case Studies in Authentically Connection Mission-driven Universities to International Students</i>
2:20	<b>James Vogelgesang</b> A.J. Palumbo School of Business Administration <i>Does the Effect of Government Size on Social Welfare Vary with Level of Economic Development?</i>
2:40	<b>Matthew J. Taylor</b> Bayer School of Natural and Environmental Sciences <i>Efficacy of Environmentally Friendly Reducing Agents in Copper(II) Catalyzed Atom Transfer Radical Addition</i>
3:00	<b>Sara Heinlein</b> McAnulty College and Graduate School of Liberal Arts <i>Social and Emotional Development in Infancy: The Impact of Toys</i>
3:20	<b>Beverly Flaherty</b> School of Education <i>Using Interest of a Few to Spark the Interest of the Whole: Students as Experts in Museum Exploration</i>
3:40	<b>Amanda Sgroi &amp; Josh Koslosky</b> McAnulty College and Graduate School of Liberal Arts <i>Perceptually Adaptive Bilateral Filtering – A Denoising Technique for Image Fidelity Numerical Methods for Total Variation Based Denoising</i>

## Participants by Location Posters and Papers

1 - Jordan C. Humphrey  
Bayer School of Natural and Environmental Sciences  
**Characterization of Steroid Sulfatase in the Human MG-63 Pre-Osteoblastic Cell Line**

2 - Maria K. Barron  
McAnulty College and Graduate School of Liberal Arts  
**Citizen 'Jane': Orson Welles, *Jane Eyre*, and Wartime Women**

3 - Cara Fisher  
Bayer School of Natural and Environmental Sciences  
**Degenerate Cloning of *DEADSouth* in *Eleutherodactylus coqui***

4 - Kylie LaSota  
School of Education  
**Darwin 2009: Footprints of Our Past Bridging Our Future**

5 - Miles Kaltenbach  
Bayer School of Natural and Environmental Sciences  
**Dibenzoylmethane Complexes of Cobalt: Nature of the Cobalt Complexes and Diazoaromatic Bases vs. the Structures**

6 - Jacqueline Bliley & Caitlin Feth  
John G. Rangos Sr. School of Health Sciences & Bayer School of Natural and Environmental Sciences  
**Reproductive Condition Affects Locomotory Activity in Salamander**

7 - Roberta Diller  
Bayer School of Natural and Environmental Sciences  
**Examination of the Bacterial Composition of Murphy's Bottom Wetland Before, During, and After Restoration**

8 - Taylor Gentile  
Mylan School of Pharmacy  
**Diamond-like Semiconductors**

9 - Nicole Aucoin  
Bayer School of Natural and Environmental Sciences  
**Developing Tools for *in vivo* Transposon Mutagenesis of *Streptomyces coelicolor***

10 - Chistina Helen Calise  
A.J. Palumbo School of Business Administration  
**Forecast and Failure Models: Light of Life's Bridge Housing Program**

11 - Lauren Marbella  
Bayer School of Natural and Environmental Sciences  
**The Design and Development of a New Fluorescent Pb<sup>2+</sup> Sensor**

12 - Hayley Stack  
McAnulty College and Graduate School of Liberal Arts  
**Israel's Human Rights Violation: The Use of Cluster Bombs in Lebanon**

13 - Emily Adams  
Bayer School of Natural and Environmental Sciences  
**Estimating Female Effective Population Size of Bluebreast Darter Populations Using Heteroplasmic Mitochondrial Repeat Element**

14 - James Vogelgesang  
A.J. Palumbo School of Business Administration  
**Does the Effect of Government Size on Social Welfare Vary with Level of Economic Development?**

15 - Ashley Biernesser  
Bayer School of Natural and Environmental Sciences  
**A Study of the Fluxional Behavior of Nitrogen-based Heterocyclic Copper(II) Complexes in Atom Transfer Radical Addition**

16 - Casey Myburgh, Nikki Cargiene, Shane Smith, & Zach Braun  
McAnulty College and Graduate School of Liberal Arts  
**Internalizing our Universities: Case Studies in Authentically Connection Mission-driven Universities to International Students**

17 - Christine Swanson  
Bayer School of Natural and Environmental Sciences  
**Analysis of Lead and Barium Concentrations in Bullets, Shell Casings, and GSR**

18 - Peter Horne  
A.J. Palumbo School of Business Administration  
**Trust and Market Efficiencies**

19 - Jena Patterson  
Bayer School of Natural and Environmental Sciences  
**Organization of Microbiota in the Lumen of Arsenic Treated Mice**

20 - Erika Tenner  
John G. Rangos Sr. School of Health Sciences  
**Current Driver's Reaction Times: Comparing Populations**

21 - Bryan Seybert  
Bayer School of Natural and Environmental Sciences

22 - Johanna Bezjak  
Mylan School of Pharmacy  
**Preparation of Amorphous Dispersion Using Plasdone K-29/32 (PVP) and Carbamazepine**

23 - Jordan VerPlank  
Bayer School of Natural and Environmental Sciences  
**Differential Expression and Alternative Splicing of TRPV1 in Rats**

- 24 - Susan Datallo  
McAnulty College and Graduate School of Liberal Arts  
**Women in Plato's Republic**
- 25 - Steven Barrows  
Bayer School of Natural and Environmental Sciences  
**Kinetics of Growth and Chromium Reduction in Geobacter metallireducens and Sulfurospirillum barnesii Grown on Nitrate and Chromium**
- 26 - Josh Koslosky  
McAnulty College and Graduate School of Liberal Arts  
**Numerical Methods for Total Variation Based Denoising**
- 27 - Kenneth Drombosky  
Bayer School of Natural and Environmental Sciences  
**Carbometallation Using Metallated Nitriles**
- 28 - Beverly Flaherty  
School of Education  
**Using Interest of a Few to Spark the Interest of the Whole: Students as Experts in Museum Exploration**
- 29 - Candice Kruth  
Bayer School of Natural and Environmental Sciences  
**Discovery of a Novel TRPM8 Splice Variant in Rats and its Implication in Neuropathic Pain**
- 30 - Sara Heinlein  
McAnulty College and Graduate School of Liberal Arts  
**Social and Emotional Development in Infancy: The Impact of Toys**
- 31 - Sean Noonan  
Bayer School of Natural and Environmental Sciences  
**Atom Transfer Radical Addition (ATRA) using Triethylboraneair as a Reducing Agent at Low Temperatures**
- 32 - Carli Henson  
McAnulty College and Graduate School of Liberal Arts  
**Female Circumcision in Africa: The Challenge of Eradication**
- 33 - Andrea Jacobs  
Bayer School of Natural and Environmental Sciences  
**Using the Patella for Sex Identification of Human Skeletal Remains in a Pilot Study**
- 34 - Kaitlyn Burrier  
McAnulty College and Graduate School of Liberal Arts
- 35 - Brinley Kantorski  
Bayer School of Natural and Environmental Sciences  
**Improving Science Literacy at Pittsburgh Cultural and Educational Institutions**
- 36 - Katie Park  
Mylan School of Pharmacy  
**The Nitroreductase from Clostridium oremlandii sp. strain OhLAs**
- 37 - Kailey Ruskowski & Gabriela Cabanilla  
Bayer School of Natural and Environmental Sciences  
**Hepatitis C Viral RNA Interactions Occur via Kissing Loop Interactions**
- 38 - Caitlin Conko  
McAnulty College and Graduate School of Liberal Arts  
**Women in the Workplace: Getting Through the Day**
- 39 - Dominik Beer  
Bayer School of Natural and Environmental Sciences  
**The Role of Ectoderm/Mesenchyme Interactions on Limb Bud Development**
- 40 - Edward Strauser  
McAnulty College and Graduate School of Liberal Arts  
**Gender Differences in Neuropsychological Performance Among Concussed Athletes, a Secondary Data Analysis**
- 41 - Katelyn Boone  
Bayer School of Natural and Environmental Sciences  
**Characterization of Novel Pigments in the Darters Etheostoma caeruleum and E. blennioides**
- 42 - Jason Vigneault  
A.J. Palumbo School of Business Administration  
**Forecasting GDP Quarterly Utilizing Monthly Data**
- 43 - Jordan Espenshade  
Bayer School of Natural and Environmental Sciences  
**A Pilot Study of Sexual Dimorphism in Human 5<sup>th</sup> Metatarsal Bones**
- 44 - Amanda Sgroi  
McAnulty College and Graduate School of Liberal Arts  
**Perceptually Adaptive Bilateral Filtering – A Denoising Technique for Image Fidelity**
- 45 - Kelly DiMattio  
Bayer School of Natural and Environmental Sciences  
**Identification and Analysis of Novel Gorilla Numts**
- 46 - Kaitlyn Yoha  
Bayer School of Natural and Environmental Sciences & McAnulty College  
**Determining the Position of Adiabatic Demagnetization Refrigerator in the Micro-X Sounding Rocket**
- 47 - Kourtney Krohn  
Bayer School of Natural and Environmental Sciences  
**Expression of Tbx4 in Limb Development of the Xenopus laevis tadpole**

48 - David Richie  
McAnulty College and Graduate School of Liberal Arts  
**Stopping the Violence: Small Arms and International Efforts to Regulate the Trade**

49 - Benjamin Latoche  
Bayer School of Natural and Environmental Sciences  
**The Murphy's Bottom Ecological Project Website**

50 - Christopher M. Sidun  
Mylan School of Pharmacy  
**Docking Simulation Workbook**

51 - Allison Pogue  
Bayer School of Natural and Environmental Sciences  
**Darwin 2009: A Year of Education and Celebration**

52 - Ronald T. Baumiller Jr.  
McAnulty College and Graduate School of Liberal Arts  
**Imitation, the Nobel Lie, and a Broader Argument in Plato's *Republic***

53 - Matthew J. Taylor  
Bayer School of Natural and Environmental Sciences  
**Efficacy of Environmentally Friendly Reducing Agents in Copper(II) Catalyzed Atom Transfer Radical Addition**

54 - Bridget M. Fitzpatrick  
A.J. Palumbo School of Business Administration  
**Gendering in Virginia Woolf's *Orlando*, *Mrs. Dalloway*, and "A Room of One's Own", and Film Adaptation**