



Undergraduate Research Conference at Missouri S&T

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Apr 6th, 2011 - 5:00 PM

## 7th Annual Undergraduate Research Conference Winners

Missouri University of Science and Technology

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# 7<sup>th</sup> Annual Undergraduate Research Conference Awards Winners

## Oral Session Awards

### Engineering Oral Session:

**3<sup>rd</sup> Place – Tamas Erdos** – Thermal Magic Formula Based Tire Model for Simulation Use in Racing Applications – *Research Advisor, Dr. Ryan Hutcheson / Mechanical & Aerospace Engineering*

**2<sup>nd</sup> Place – Mariana Escalona Diaz** – Vortex Induced Lift Augmentation: Case Study – *Research Advisor, Dr. Fathi Finaish / Mechanical & Aerospace Engineering*

**1<sup>st</sup> Place – Anan Takroori**- Influence of Flow Baffles on Mixing of Two Air Streams - *Research Advisor, Dr. Fathi Finaish / Mechanical & Aerospace Engineering*

### Sciences Oral Session:

**3<sup>rd</sup> Place – Kristin Kelly** – Genomic Analysis of an Unknown Gene Family in Glycine Max - *Research Advisor, Dr. Ronald Frank / Biological Sciences*

**2<sup>nd</sup> Place – Tiffany Ramsey** – Removal of Sulfamethoxazole in Water Samples Using Nano-materials and Activated Carbon, *Dr. Yinfa Ma / Chemistry*

**1<sup>st</sup> Place – Erica Shannon** – Changes in the Gene Expression of Muscarinic Acetylcholine Receptors as a Result of a Constitutively Active Phenotype - *Research Advisor, Dr. Robert Aronstam / Biological Sciences*

### Social Sciences Oral Session:

**3<sup>rd</sup> Place – Joseph Pieczynski** – Virtual Communities in an Enterprise Portal and the Effect on Corporate Governance for Generation Y - *Research Advisor, Dr. Bih-Ru Lea / Information Science & Technology*

**2<sup>nd</sup> Place – Lauren Summerville** - Second to Fourth Digit Ratio: A Measure of Intelligence - *Research Advisor, Dr. Jacqueline Bichsel / Psychology*

**1<sup>st</sup> Place – Frank Keehn** – Collective Efficacy and Group Performance in Computer Mediated Settings - *Research Advisor, Dr. Nancy Stone / Psychology*

### **Arts and Humanities Oral Session:**

**3<sup>rd</sup> Place – Evan Mobley** – Know When to Fold'Em: The Portrayal of Compulsive Gambling and Gamblers Anonymous in News Articles, 1956-1999 - *Research Advisor, Dr. Larry Gragg / History & Political Science*

**2<sup>nd</sup> Place – Samantha Lucker** – When Nature is Not Enough: Frederick Douglass' Desire to Enter Human Society in Narrative of the Life of Frederick Douglass: Ann American Slave - *Research Advisor, Lindgren H Johnson / English & Technical Communication*

**1<sup>st</sup> Place – Ashley Grace** – Public Policy on Pathological Gambling: An Examination of Federal Recommendations and the Gaming industry's Response - *Research Advisor, Larry Gragg / History & Political Science*

### **Poster Session Awards**

#### **Sciences Poster Session:**

**3<sup>rd</sup> Place – Crystal Twenter** – The Origin of Minor Folds Associated With A Structural Dome Along the Seiyal Fault in the Western Desert of Egypt - *Research Advisor, Dr. John Hogan / Geological Sciences& Engineering*

**2<sup>nd</sup> Place – Alexis Martin and Megan Koerner** – Honokiol Blocks Store Operated Calcium Entry in CHO Cells Expressing the M3 Muscarinic Receptor - *Research Advisor, Dr. Robert Aronstam / Biological Sciences*

**1<sup>st</sup> Place – Casey Burton** – Sarcosine Detection by Dichlorofluorescein as a Hydrogen Peroxide Probe - *Research Advisor, Dr. Yinfa Ma / Chemistry*

#### **Research Proposal Poster Session:**

**3<sup>rd</sup> Place – Daniel Hillis** – Inspection Methods for Porosity and Disbonds of Polyaniline (PANI) Coating on Aluminum Alloy 6061 - *Research Advisor, Dr. Reza Zoughi / Electrical & Computer Engineering*

**2<sup>nd</sup> Place – Joseph Kurtz** – Balancing Limited Resources for Speech Transcription on Mobile Devices - *Research Advisor, Dr. Daniel Tauritz / Computer Science*

**1<sup>st</sup> Place – Amanda Foster and April Pummill** – Saving the Honeybees: A Synthetic Biology Approach – *Research Advisor, Dr. David Westenberg / Biological Sciences*

### **Engineering Poster Session:**

**3<sup>rd</sup> Place – Rachel Bartz and Jordan Wilson** – Effect of Groundwater Depth on Aerobic Biodegradation of BTEX Using In-Planta Measurements – *Research Advisor, Dr. Joel Burken / Civil, Architectural & Environmental Engineering*

**2<sup>nd</sup> Place – Caille Carlile** – Effect of Fly Ash on Growth of Mustard and Corn - *Research Advisor, Dr. Joel Burken / Civil, Architectural & Environmental Engineering*

**1<sup>st</sup> Place – Benjamin Weideman** – Effects of Thermal Loading on Oil Well Cement - *Research Advisor, Dr. Runar Nygaard / Geological Sciences & Engineering*

### **2011-12 OURE Fellows / Award Recipients:**

1. **Emily Kackley and Jacob Mueller** – Spectral Analysis of Basal Cell Carcinoma - Dr. Joe Stanley, Dr. Randy Moss, Dr. Bijaya Shrestha, Dr. Joe Stanley and Dr. William Stoecker/Electrical and Computer Engineering, Research Advisors
2. **Austin Ramsey** – Ionic Liquids as the Working Fluid in a Cooling System – Dr. Klaus Woelk, Research Advisor
3. **Amanda Foster and Erica Shannon** – Public Opinion of Synthetic Biology in Response to Education, Dr. David Westenberg/Biological Sciences, Research Advisor
4. **Abhinav Saxena and Levi Malott** – Adversarial Localization in Wireless Sensors Networks: Theories, Algorithms and Implementation, Dr. Akim Adekpedjou, Dr. Maciej Zawodnick and Dr. Sriram Chellappan/Mathematics & Statistics, Computer Engineering, Computer Science, Research Advisors

### **Best Bibliography Award Recipients:**

Engineering – **Andrew Brune** - Aerodynamic Heating Analysis of Hypersonic Cruise Vehicles in Conceptual Design

Sciences – **Erica Shannon** – Changes in the Gene Expression of Muscarinic Acetylcholine Receptors as a Result of a Constitutively Active Phenotype

Social Sciences – **Joseph Pieczynski** – Virtual Communities in an Enterprise Portal and the Effect on Corporate Governance for Generation Y

Arts & Humanities – **Evan Mobley** - Know When to Fold 'Em: The Portrayal of Compulsive Gambling and Gamblers Anonymous in News Articles, 1956-1999