



## 2008-2009 Academic Year Undergraduate Research Grants

Each grant list individual student researcher(s) with respective cooperating faculty member(s) in parenthesis.

### SAM AND IRENE BLACK SCHOOL OF BUSINESS

- Melanie Brewer (David Causgrove) - \$700  
"A New Kind of Vote: The 18-25 Year Old Influence on the 2008 Presidential Election"

### SCHOOL OF ENGINEERING

- Jeffrey Beers (Fadi Abu-Farha) - \$700  
"Elevated Temperature Material Testing of Magnesium Alloys"
- Steve Chilcott (Dean Lewis) - \$700  
"Research and Design for Adjustable Alignment Sample Gripping Fixture"
- Trevor Collins (Richard Englund) - \$700  
"Using Direct Current to Increase the Rollability of Aluminum"
- Glenn Craig (John Roth) - \$700  
"Investigating Effects of Stop-Start Machining Processes on Tool Wear and Tool Life"
- Brad Deeter (Fadi Abu-Farha) - \$700  
"Effects of Superplastic Forming on the Mechanical Properties of Various Lightweight Alloys"
- Tim Demetrio (Bob Edwards) - \$700  
"Development of a Two-Dimensional Heat Conduction Test Using an Electrical Analogy"
- Laura DeWalt (Oladipo Onipede and Sudarshan Nelatury) - \$700  
"Modeling of Capacitance and Electrostatic Forces in MEMS Devices"
- Gerrad Friedline (Fadi Abu-Farha) - \$700  
"Elevated Temperature Material Testing of Magnesium Alloys"
- Chad Green (John Roth) - \$700  
"Springback Elimination in Aluminum Alloy 6111 Using Applied Direct Current"
- Cody Griffin (Vibhuti Dave and Sudarshan Nelatury) - \$700  
"Implementation of Vedic Algorithms to Signal Processing Applications"
- Joshua Jones (John Roth) - \$700  
"Effect on the Compressive Formability of Magnesium AZ31B-O when a Continuous DC Electrical Current is Applied"
- Kyle Markwardt (William Lasher) - \$700  
"Development of a Photographic-Based Method for Analyzing Spinnaker Shapes"

- Ken Matsushita (William Lasher) - \$700  
"Development of Mechanical Device for Sail-Model Geometry Analysis"
- Timothy McNeal (John Roth) - \$700  
"The Microstructural Effects on Various Lightweight Alloys While Undergoing an Electrically Assisted Manufacturing Process"
- Justin Milner (John Roth) - \$700  
"Construction and Testing of Strain Gage Wear Monitoring Tool"
- Matthew Pitschman (Jun Zhou and John Roth) - \$700  
"Application of Electric Current in Friction Stir Welding"
- Josh Sabo (Fadi Abu-Farha) - \$700  
"Effects of Superplastic Forming on the Mechanical Properties of Various Lightweight Alloys"
- Wesley Salandro (John Roth) - \$700  
"Formability Enhancement Due to Electrical Pulsing of Various Sheet Metals While Undergoing 3-D Deformation"
- James Salerno (Bob Edwards) - \$700  
"A Three-Dimensional Heat Transfer Simulation of a Heat Sink Using an Electrical Analogy"
- Nigel Schneider (Yi Wu) - \$700  
"Investigation of Pressure vs. Volume Relation of Artificial Heart Stimulator"
- Daniel Syiek (William Lasher) - \$700  
"A More Efficient Model for Computing the Stability of Square-Rigged Vessels"
- Diana Tinlin (William Lasher) - \$700  
"Stability of the *Pride of Baltimore II*"
- Benjamin Wigg (Jun Zhou) - \$700  
"Thermal and Stress Analysis of Friction Stir Welding"

#### **SCHOOL OF ENGINEERING AND SCHOOL OF HUMANITIES AND SOCIAL SCIENCES**

- James Hodge, Jessica Schubert, Kaylee Curilla, Danielle Wilson, Ashley Martin, Janice Jerome, Neil Rufenacht, Terra Carrier, Marika Whiting, Aurora Blasko Drabik, Erin Bliley, and Jon Alquist (Dawn Blasko and Kathy Holliday-Darr) - \$7,000  
"Spatial Visualization Research and Assessment Project"

#### **SCHOOL OF HUMANITIES AND SOCIAL SCIENCES**

- Justin Amrhein (Jennifer Trich Kremer) - \$700  
"Usability Evaluation and Redesign of a College Alumni Web Site"
- LaSheena Barnes and Samantha DeDionisio (Victoria Kazmerski and Dawn Blasko) - \$1,100  
"Relational Aggression Influences on Processing of Sarcastic Prosody"

- Samantha DeDionisio, LaSheena Barnes, and Paris Norwood (Dawn Blasko) - \$680  
"The Effects of Worry Elicited by Anxiety on Working Memory"
- Jesse Eisert and Melissa Punk (Victoria Kazmerski) - \$786  
"The Effect of Text Messaging on Driving Performance"
- Luis Fernandez (Dawn Blasko) - \$700  
"The Effects of Leaders' Extraversion on Group Performance and Perception"
- Chrissy Giuliano, Chris Brown, Beth Bimber, Dan Hido, Matt Shuster, Jenna Floro, Zach Goncz, and Merve Sengular (John Gamble) - \$2,400  
"Comprehensive Statistical Database of Multilateral Treaties (CSDMT) Project"
- Ashton Haas (John Champagne) - \$700  
"Women Superheroes in Television - Research at the UCLA Film and Television Archives"
- Mark Hoke and Kristin Stranahan (Dawn Blasko) - \$600  
"Sexually Explicit Content in Advertisements and the Effects on Memory"
- Kaylee Curilla and Ashley Martin (Victoria Kazmerski) - \$400  
"Academic Self-Esteem and Memory"
- Derek McKay, Jillian Mrozowski, and Amanda Tyler (Eric Corty) - \$697  
"Making Silk Purses out of Sows' Ears: An Investigation of Inattention by Undergraduate Research Pool Participants"
- Derek McKay, Jillian Mrozowski, and Amanda Tyler (Carl Kallgren) - \$1,385  
"The Roles of Maternal Warmth and the Forty Developmental Assets as Resilience Factors in Children Witnesses of Domestic Violence"
- Jen Moczulski, Kandyss Moir, and Kaitlin Schafer (Dawn Blasko) - \$700  
"The Effects of Parenting Style on the Eating Behavior of College Students"
- Linh Nguyen and Cara Jones (Victoria Kazmerski and Jennifer Trich Kremer) - \$1,067  
"Relation of Environmental Conditions and Academic Achievement and Attitudes"
- Linh Nguyen, Sara Praetzel, and Abby Zehe (Victoria Kazmerski) - \$700  
"The Influence of Parenting Styles on College Students' Adjustment"
- Jessica Schubert (Dawn Blasko) - \$700  
"The Effects of Anxiety on Schema Reliance and Working Memory"
- Odalys Urena, Tekhara Watson, and James Svolos (Dawn Blasko) - \$700  
"The Effects of Terror Management Theory on Pro-Social Behavior"
- Danielle Wilson and Janice Jerome (Victoria Kazmerski) - \$700  
"School Features and Their Influence on Learning: Taking a Look at Green Kids"

## SCHOOL OF SCIENCE

- Richard Anderson, Jeffrey Karstaedt, and Matthew Ohler (Charles Burchard and Gary Walker) - \$2,100  
"Graphical Authentication Password System"
- Elliot Blackstone (Boon Wee Ong) - \$700  
"The Ring of Formal Power Series with Integer Coefficients"
- Amy Caroline (Beth Potter) - \$700  
"Identification of Bacterial Isolates from Nests of Three Native American Songbirds"
- Landon Chambers (Paul Olson) - \$700  
"Surreal Number Values for Iterative Games"
- Jonathan Chisholm (Sarah Ewing) - \$700  
"Analysis of the Concentration of Chemical Elements in Vernal Ponds Adjacent to New Development within and near Penn State Erie, The Behrend College"
- Danielle Chung (Alan Jircitano) - \$700  
"Synthesis and Structural Characterization of Transition Metal Complexes with Macrocyclic Ligands"
- Laura Cirillo (Beth Potter) - \$700  
"A Coimmunoprecipitation Approach to Identifying N-Glycan-Dependent Sorting Machinery in Polarized Cells"
- Paul Crawford (Carley Gwin) - \$700  
"Analysis of Spatial Migration Patterns of the Spotted Salamander, *Ambystoma maculatum*, Inhabiting Penn State Erie Wetlands"
- Amanda Dechant (Michael Justik) - \$700  
"Initial Survey into the Synthesis of Phenoxathiin 10,10-Dioxides Using a Novel 2-Sulfonyloxydiphenyliodonium Betaine"
- Todd Eckroat (Martin Kocielek) - \$700  
"Synthesis of Isoxazolone Analogues of *N*-Acylhomoserine Lactones"
- R. Wesley Flynn (James Warren Jr.) - \$700  
"Analysis of Folate Metabolism and its Effects on Neural Tube Development in the Early Zebrafish (*Danio rerio*) Embryo"
- Ashley Frank (Carley Gwin) - \$700  
"Analysis of Algae Found in Gelatinous Matrix of *Ambystoma maculatum* Salamander Embryos"
- Casey Fye (Michelle Previte) - \$700  
"An Example of a Vertex Replacement Rule that Gives Convergence as Well as Exponential Growth"
- Nicole Gall (Bruce Wittmershaus) - \$700  
"Enhanced Fluorescence from Dye-Coated Silver Nanoparticles"

- Bennett Giardina (Michael Campbell) - \$700  
"Real Time RT-PCR Analysis of *NDP1* and *OHP2* Expression in *NDP1* Knockout Mutants over a 24-hour Light Cycle"
- Nicholas Hetro (Joseph Previte) - \$700  
"Construction of a Coupled Oscillator Model that Mimics a Sea Lamprey"
- Jack Horst, Christopher Hoffman, and Geoffrey Osborne (Charles Burchard and Gary Walker) - \$2,100  
"Graph Algorithm Visualizer"
- Kaitlin Hoyt (Heather Jones and James Warren Jr.) - \$700  
"Expression Patterns and Functional Analysis of SK3 in Zebrafish Embryos"
- Ashley Kingston (Carley Gwin) - \$700  
"A Study of the Spatial Migration Patterns of *Ambystoma maculatum* (Spotted Salamander) on the Penn State Erie Campus"
- Andrew Law (Martin Kociolek) - \$700  
"Investigation into the Synthesis of Flavanone and Anthocyanin Antioxidants"
- Corey Lewandoski (Jennifer Holt) - \$700  
"Optimizing the Inclusion of a Dipolar Dye into Random and Ordered ZSM-5 Crystallites"
- Nicholas Lowrie (Carley Gwin) - \$700  
"Identification of Algae and Its Symbiotic Relationship with Developing *Ambystoma maculatum* Embryos"
- Jeffrey McCausland (G. William Baxter) - \$690  
"Jamming in Low Aspect-Ratio Granular Media"
- David Miller, Timothy Herzog, and Tommy Zajac (Joseph Previte and Ronald DelPorto) - \$2,100  
"Statistical Arbitrage Investing"
- Julie Ober, Moriah Johngrass, and David Stull (James Warren Jr.) - \$2,100  
"Optimizing Protocols for the Raising of Baby Zebrafish (*Danio rerio*)"
- Kellie O'Rourke (Heather Jones) - \$700  
"Effects of Nitric Oxide Donors on hIK1 Endocytosis"
- Dennis Paskorz (Sarah Ewing) - \$700  
"Optimizing Zebrafish (*Danio rerio*) Dimethylbenz[*a*]anthracene (DMBA)-Induced Tumorigenesis and Elucidating Acute Effects of DMBA on Zebrafish Embryos"
- Michael Piscitelli and Jessica Burnett (Beth Potter) - \$1,400  
"Determining the Role of N-glycans in Apical Sorting within Polarized Epithelial Cells"
- Amie Pittner (Heather Jones and Charisse Nixon) - \$700  
"Physiological Effects on Relational Aggression"

- Daniel Ranayhossaini (Margaret Voss and Michael Campbell) - \$700  
"An Investigation of the Hemotoxicity of the Secretion of the Duvernoy's Gland of the Northern Water Snake (*Nerodia sipedon*)"
- Marcie Ryhal, Angelica Jones, and Julie Palmer (Yi-Hong Wang) - \$2,100  
"Evaluation of a Retrotransposon Sequence as a Regulatory Element in *Arabidopsis*"
- Tyler Schmidt and Roxanne Alsbury (Michael Campbell) - \$1,400  
"Investigation of the Role of CDKs in Cell Division of 1,4 Dimethylnaphthalene-Treated *Solanum tuberosum* Meristems"
- Patrick Sharbaugh (Jay Amicangelo) - \$700  
"A Novel Empirical Measurement of Silicon Nitrogen Complex Interaction Energies Using Matrix-Isolation Infrared Spectroscopy"
- Heather Sopher (Michael Justik) - \$700  
"Synthesis of New Heterocycles Using Pyridine N-oxide and Alkynyliodonium Salts"
- Andrew Stauffer (Michael Naber and Anthony Foyle) - \$700  
"Methods to Renovate Paths in Wintergreen Gorge by Examination of Erosion Patterns"
- Joseph Synowka (Blair Tuttle, Ronald McCarty, and Gary Walker) - \$700  
"Multi-Threaded Modeling of Amorphous Materials"
- Colleen White (Pamela Silver) - \$700  
"Effects of Salinity and Temperature on Oxygen Consumption of *Aeshnidae* Larvae"
- Michelle Wunderley (Michael Naber and Anthony Foyle) - \$700  
"Walking Routes for the Penn State Behrend Arboretum"

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