

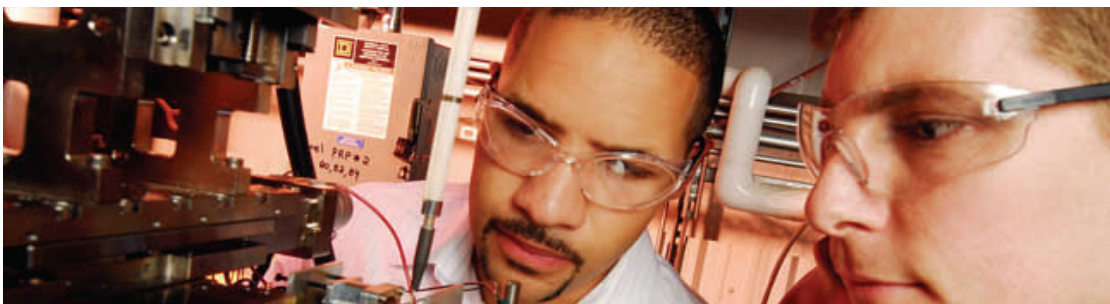
Welcome to the **5th Annual** Undergraduate Research **Spring Symposium**



Tuesday March 16, 2010

Time: 1:00 - 6:00 pm

**Location: Student Center Ballroom
and Surrounding Rooms**



5th Annual Undergraduate Research Spring Symposium

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Schedule of Events

<u>Event</u>	<u>Times</u>
Oral Presentations:	1:00 - 3:40 pm
Poster Session I:	2:00 - 3:00 pm
Poster Session II:	3:20 - 4:20 pm
Reception:	4:30 - 5:15pm
Awards Ceremony:	5:15 pm

Oral Presentations

Student Center, 3rd Floor

Session A: Society, Policy, and Collaboration Student Center Room 301

Moderator: Dr. Caroline Noyes, Office of Assessment

- 1:00** **Nanotechnology Development and the Chinese Military**
Ted Danowitz, INTA and Modern Languages
Mentor: Dr. Margaret Kosal, INTA
- 1:20** **Chattanooga Desegregation**
Kaitlyn Whiteside, HTS
Mentor: Dr. Ronald Bayor, HTS
- 1:40** **The Image of Women in Advertising**
Kelsey Martin, HTS
Mentor: Dr. Willie Pearson, HTS
- 2:00** **TwinSpace: Exploring Hybrid Physical-virtual Collaborative Spaces**
Enrique Santos, CS
Shashank Schamoli, CS
Akilesh Natarajan, CS
Mentor: Dr. Derek Reilly, Interactive Computing

Session B: Psychology, City Growth, and Economic Modeling Student Center Room 301

Moderator: Dr. Caroline Noyes, Office of Assessment

- 2:40** **ERP Correlates of Visuospatial Attention**
Andy Chung, Psych
Mentor: Dr. Paul Corballis, Psych
- 3:00** **EPHEMERAL CITIES: Eliciting Tent City Growth Pattern Cellular Automata Model Factors**
Brittany Utting, Arch
Mentor: Dr. Matthew Swarts, Arch
- 3:20** **Swarm Theory Applications to the Principles of Economics**
Erjia Guan, Econ
Mentor: Dr. Christine Ries, Econ

**Session C: Aerospace Engine Combustion
Student Center Room 319**

Moderator: Ms. Kathy Tomajko, Library

- 1:00 Newly-developed Optical Diagnostic Technique for Combustion Heat Release and Fuel Distribution Measurements**
Alex Klusmeyer, AE
Mentor: Dr. Ben Zinn, AE
- 1:20 Fluid Mechanical Instabilities of an Acoustically Excited, Turbulent Jet Flame**
Hsin-Hsiao Ma, AE
Mentor: Dr. Timothy Lieuwen, AE
- 1:40 Flame Edge Detection of a Premixed, Swirl-Stabilized Flame for Low Emissions Combustion Applications**
Michael Malanoski, AE
Mentor: Dr. Timothy Lieuwen, AE
- 2:00 Study and Modeling of Flame Characteristics in a Lean, Premixed, Swirl Stabilized Combustor**
Ianko Chterev, AE
Ryan Sullivan, ME
Mentor: Dr. Timothy Lieuwen, AE

**Session D: Fluid Mechanics; Vehicle Operations and Control
Student Center Room 319**

Moderator: Ms. Kathy Tomajko, Library

- 2:40 Turbulent Flame Speed Measurements of Syngas Fuels**
Juan Pedroza, AE
Mentor: Dr. Timothy Lieuwen, AE
- 3:00 Development and Application of a Rapid Military Operations Model Development Framework**
Nelson Andriano, AE
Mentor: Dr. Dimitri Mavris, AE
- 3:20 Decentralized Multi-Vehicle Control Algorithms for Consensus and Formation**
Luis Reyes Castro, AE
Mentor: Dr. Panagiotis Tsiotras, AE
- 3:40 Comparison of Locomotory Biomechanics of Antarctic and Pacific Krill**
Nadir Kabir, ME
Mentor: Dr. Donald Webster, CEE

Session E: Biomedical Engineering and Computational Chemistry
Student Center Room 320

Moderator: Ms. Lori Critz, Library

- 1:00 Novel Method for Quantification of Mitral Regurgitation Flow Rate: the Role of Correction for Angle Between Ultrasound Beam and Velocity Direction**
Katherine Wallon, BME
Mentor: Dr. Ajit Yoganathan, BME
- 1:20 Quantification of Senescence in Cultured Primary T Cells**
Abby Hill, BME
Mentor: Dr. Melissa Kemp, BME
- 1:40 The Effect of Pdia3 Gene Disruption on Embryonic and Skeletal Development**
Kelsie Riemenschneider, BME
Mentor: Dr. Barbara Boyan, BME
- 2:00 The Implementation of Density Fitting for Efficient Self-Consistent Field Methods in Quantum Chemistry**
Robert Parrish, ME
Mentor: Dr. C. David Sherrill, CHEM/BCHM
- 2:20 Optimal Cannulation Location**
Philsun Jung, BME
Mentor: Dr. Ajit Yoganathan, BME

Session F: Nanotechnology
Student Center Room 320

Moderator: Mr. Rob Rogers, DOPP

- 3:00 Luminescent Nanocrystals/Quantum Dot Functionalized Paper**
Thomas Rogers, MSE
Mentor: Dr. Zhitao Kang, GTRI
- 3:20 Amorphous Silicon and Carbon Nanotube-Based 3D Photovoltaics**
Justin Nguyen, PTFE
Mentor: Dr. Jud Ready, GTRI
- 3:40 Nanocomposite Strain Sensors**
Christopher Tzanavaris, ME
Mentor: Dr. Kyriaki Kalaitzidou, ME

Session G: Optimization and Modeling
Student Center Room 321
Moderator: Dr. Joyce Weinsheimer, CETL

- 1:00 eDemocracy**
Duncan Osborn, CMPE
Mentor: Dr. Edward J Coyle, ECE
- 1:20 World Food Programme Supply Chain Optimization**
James Wade, ISyE
Joy Peak, ISyE
Santiago Aviles, ISyE
Elhadj Bah, ISyE
Manuel Jimenez, ISyE
Lawrence Li, ISyE
Alvaro Morales, ISyE
Mentors: Dr. Ozlem Ergun, ISyE
- 1:40 A Local Solution to the Pursuit/Evasion Graph Problem**
David Vandergrift, ISyE
Mentor: Dr. Craig Tovey, ISyE
- 2:00 Visual Network Traffic Classification Using Multi-Dimensional Piecewise Polynomial Models**
Sean Sanders, CMPE
Sahitya Jampana, CMPE
Mentor: Dr. Henry Owen, ECE

Session H: Robotics and Actuation
Student Center Room 321
Moderator: Dr. Tris Utschig, CETL

- 2:40 Wearable Sensorimotor Enhancer for Fingers**
Danielle Martin, ME
Mentors: Dr. Jun Ueda, ME
- 3:00 Size Switching in Formation Control**
Sam Coogan, EE
Mentor: Dr. Magnus Egerstedt, ECE
- 3:20 Development of Demo Robot for Piezoelectrically Actuated Gripper**
Timothy McPherson, ME
Mentor: Dr. Jun Ueda, ME

Session I: Gene Therapy and Biomaterials
Student Center Room 343

Moderator: Dr. Paul Hurst, Fellowship Communication Program

- 1:00 High Fidelity Photopatterning and Characterization of Hydrogels for Three-Dimensional Cell Co-Culture**
Nathaniel Bloodworth, BME
Mentor: Dr. Johnna Temenoff, BME
- 1:20 Heparin Modification of Gelatin Microparticles to Modulate Growth Factor Release in Embryonic Stem Cells**
Katy Hammersmith, BME
Mentor: Dr. Todd McDevitt, BME
- 1:40 Investigation of Motile Mesenchymal Stem Cell Microrheology in Response to Soluble Tumor Secreted Proteins**
Daniel McGrail, ChBE
Mentor: Dr. Michelle Dawson, ChBE
- 2:00 Identifying Adhesive and Growth Factor Ligands to Optimize Hepatocyte Culture in Vitro**
Martha Lesniewski, MSE
Mentor: Dr. Ken Gall, MSE
Dr. Todd McDevitt, BME

Session J: Materials Science
Student Center Room 343

Moderator: Ms. Sandi Bramblett, IRP

- 2:40 Comparing Dispersion Methods for Producing Exfoliated Graphite Nanoplatelets Polypropylene and Nanokaolin Polypropylene**
Kent Bartlett, ME
Ashely Stanford, ME
Vanessa Tseng, ME
Mentor: Dr. Kyriaki Kalaitzidou, ME
- 3:00 X-ray Determination of the Stacking Order in C-face Graphene**
Holly Tinkey, Physics
Mentor: Dr. Edward Conrad, Physics
- 3:20 Identification of Mechanism(s) Responsible for the Lithium Ion Conductivity of the Glass-ceramic Electrolyte Prepared from the Li₂S-P₂S₅ System**
Robert Daniel, Physics
Mentor: Dr. Faisal Alamgir, MSE
- 3:40 Investigation of Fading in the Dose Response of Radiosensitive Polymer Gels**
Katherine Dextraze, NRE
Mentor: Dr. Sang Hyun Cho, ME

Poster Session I

Student Center Ballroom 2:00 - 3:00 PM

- 1 Altering Fibrin Structure and Polymerization Dynamics Using PEGylated Fibrin Knob Peptides**
Nader Aboujamous, BME
Mentor: Dr. Thomas Barker, BME
- 2 The Effects of a Three-Dimensional Saddle-Shaped Annulus on Tricuspid Valve Leaflet Strain**
Dana Buice, BME
Mentor: Dr. Ajit Yoganathan, BME
- 3 Analysis of Optiflo Physiology on Patient Specific Geometries**
Kalpi Desai, BME
Mentor: Dr. Ajit Yoganathan, BME
- 4 In Silico Reconstruction of Synthetic Bacterial Systems**
Andre Forbes, Applied Biology
Mentor: Dr. May Wang, BME
- 5 Effects of Serotonin on Cardiac Heart Valves**
Samiya Hussain, Chem
Mentor: Dr. Ajit Yoganathan, BME
- 6 PIV Studies in the Total Cavopulmonary Connection of the Fontan Circuit**
Jessica Kanter, BME
Mentor: Dr. Ajit Yoganathan, BME
- 7 In Vitro study of a Combination Drug Therapy to Treat Malignant Glioma**
Rania Khan, BME
Mentor: Dr. Ravi Bellamkonda, BME
- 8 Engineering Fibrin-PEG Hydrogel Using GPRPx-PEG Conjugates**
Christine Lee, BME
Mentor: Dr. Thomas Barker, BME
- 9 Targeting in Vitro Glioblastoma Stem Cells with Antibody Conjugated Liposomes**
Shalini Nemani, BME
Mentors: Dr. Ravi Bellamkonda, BME
- 10 Assistive Robot Design and Fabrication**
Mrinal (Neal) Rath, BME
Mentor: Dr. Charles Kemp, BME
- 11 Polycatechin Nanoparticles: A Novel ROS-Scavenging Drug Delivery Vehicle**
Sydney Shaffer, ChBE
Mentor: Dr. Niren Murthy, BME

- 12 Examination of Ectopic/Hypertrophic Bone Formation in the Neural Foramen with BMP-2 in Transforaminal Lumbar Interbody Fusion Procedures**
Clarisse Tallah, BME
Mentor: Dr. Paul Benkesser, BME
- 13 The Effect of Cyclic Stretch and Pressure on the Differentiation of Aortic Valve Interstitial Cell Phenotype**
Patrick Thayer, BME
Mentor: Dr. Ajit Yoganathan, BME
- 14 Regional Analysis of Dynamic Aortic Valve Leaflet Deformation Characteristics Under Normal and Tachycardic Conditions**
Michael Weiler, BME
Mentor: Dr. Ajit Yoganathan, BME
- 15 Plasma Enhanced Chemical Vapor Deposition (PECVD) of Limonene**
Jeong Kim, ChBE
Mentors: Dr. Dennis Hess, ChBE
- 16 Construction and Characterization of a Thermodenuder in Order to Directly Measure the CCN Properties of Organic Aerosol Across the Volatility Spectrum**
Molly McLaughlin, ChBE
Mentor: Dr. Athanasios Nenes, ChBE
- 17 Improving Amino Ester Hydrolase Thermostability for use in Antibiotic Synthesis**
Michael Ricketts, Chem
Mentor: Dr. Andreas Bommarius, ChBE
- 18 Ultrasound-induced Enhancement of Supramolecular Packing in Poly(3-hexylthiophene)**
Sven Schlumpberger, ChBE
Mentor: Dr. Elsa Reichmanis, ChBE
- 19 Deposition Of Metal Oxide Nanostructures On Zeolite Surfaces**
Jing Yan, ChBE
Mentor: Dr. Pei Yoong Koh, ChBE
- 20 In Vitro Culturing of Alginate Microcapsules to Assess In Vivo Stability**
Chun Yong, BME
Mentor: Dr. Athanassios Sambanis, ChBE
- 21 Hand Gesture Recognition/Analysis of Traffic Patterns**
Rahul Dewan, CMPE
Mentor: Dr. Scott Will, ECE
- 22 Optimizing Wave-Pipelined Encoding (WPE) Circuits for Gigascale Integration (GSI)**
Sarah El-Helw, EE
Mentor: Dr. Jeff Davis, ECE

- 23 Power Optimized Waveform Designs to Improve Range and Reliability of RFID**
Santiago Hassig, EE
Jayson Jenkins, EE
Courtney Drewski, EE
Rodrigo Quinteros, EE
Mentor: Dr. Gregory Durgin, ECE
- 24 Enhancing Extreme Environment Robotic Mobile Sensor Network To Collect Global Warming Data (Sno Motes II)**
Michael Hurst, ME
Mentor: Dr. Ayanna Howard, ECE
- 25 Using the Tongue Drive System to Control a Robotic Arm**
Jeremy Jones, EE
Jeremy Thompson, CMPE
Mentor: Dr. Maysam Ghovanloo, ECE
- 26 Mobile Robots with Wheeled Inverted Pendulum Base in Human Environments**
Ashish Katariya, CMPE
Mentor: Dr. David Taylor, ECE
- 27 Effect of Drug Concentration on Polymerization, Mechanical Properties, and Degradation of Poly (Beta-Amino Ester) Networks for Biomedical Applications**
Shivani Bhatnagar, BME
Mentor: Dr. Ken Gall, MSE
- 28 Enhancement of the Mechanical Properties of Poly (Beta-Amino Ester) Networks for Toughness and Failure Strain**
Yameen Huq, ChBE
Jacob Crabtree, BME
Mentor: Dr. Ken Gall, MSE
- 29 Electric Double-layer Capacitors Based on Carbon with Ordered Micropores**
Adam Kajdos, MSE
Frank Jones, MSE
Mentor: Dr. Gleb Yushin, MSE
- 30 Incorporation of High Performance Engineering Materials to Increase the Strength of Shape-Memory Polymers**
Matt Karesh, ME
Mentor: Dr. Ken Gall, MSE
- 31 Optimizing Thermo-mechanical Properties of Shape-Memory Polymer Blends in Aqueous Environments for Biomedical Applications**
Victor Lesniewski, BME
Mentor: Dr. Ken Gall, MSE
- 32 Using Double Stranded DNA Probes for the Detection of RNA**
Gita Mahmoudabadi, BME
Mentor: Dr. Valeria Milam, MSE

- 33 Hydrogels**
Basma Osman, BME
Claire Couch, BME
Mentor: Dr. Seung Soon Jang, MSE
- 34 The Effect of Long Term Hydrated Conditions on the Toughness of Photopolymerizable (Meth) Acrylate Networks**
Phillip Trusty, BME
Mentor: Dr. Ken Gall, MSE
- 35 Effect of Particle Incorporation on Mechanical Properties of Hydrogel Systems**
Taisia Tsukruk, MSE
Mentor: Dr. Johnna Temenoff, BME
Dr. Ken Gall, MSE
- 36 The Effect of the Physiological Environment on the Mechanical Properties of Photopolymerizable (Meth) acrylate Networks for Biomedical Applications**
Beatrice Wan, BME
Mentors: Dr. Ken Gall, MSE
- 37 Measuring the Mechanical Properties of Skeletal Muscles Using Natural Vibrations Generated by Muscles during Voluntary Contractions**
Perry Atangcho, BME
Mentor: Dr. Karim Sabra, ME
- 38 Manufacturing and Mechanical Testing of Chemically Stimulated Tissue-Engineered Blood Vessel Constructs**
Rafeed Chaudhury, BME
Mentor: Dr. Rudolph Gleason, ME
- 39 Gas-Cooled Fast Reactor**
Timothy Flaspoebler, NRE
Mentor: Dr. Bojan Petrovic, ME
- 40 Polymer Nanocomposites for Automotive Paint Application**
Travis Holt, ME
Kent Bartlett, ME
Mentor: Dr. Kyriaki Kalaitidou, ME
- 41 Efficient Calculation of Acoustic Absorption in Parallel Microtubes Exploiting Mesh Periodicity**
Jason Kulpe, ME
Mentor: Dr. Michael Leamy, ME
- 42 Transducers with Directional Characteristics Or Distributed Sensing**
Yasaman Nematbakhsh, ME
Mentor: Dr. Yves Berthelot, ME

Poster Session II

Student Center Ballroom 3:20 - 4:20 PM

- 1 Evaluation of Rehabilitation Strategies for High Performance Green Buildings**
Aubrey Winship, Building Construction
Mentor: Dr. Daniel Castro-Lacouture, Architecture
- 2 Models for Predicting Construction Cost**
SeungHo Shin, ISyE
Rustann Solomero, ISyE
Mentor: Dr. Baabak Ashuri, Building Construction
- 3 Parallel Semi-automatic Image Segmentation**
Robert Rayborn, CS
Mentor: Dr. Geroge Biro, CSE
- 4 Online Distributed Traffic Simulation**
Brian Stebar, CS
Mentor: Dr. Richard Fujimoto, CSE
- 5 Guardian Angel: A Reliable RFID Location Service**
Stewart Butler, CS
Brent Rowswell, CS
Mentor: Dr. Umakishore Ramachandran, CS
- 6 Towards Interactive Scientific Simulations with the GPU**
Chris McClanahan, CS
Mentor: Dr. Matthew Wolf, CS
- 7 Development in OpenFlow**
Dan Moore, CS
Mentor: Dr. Russ Clark, Computing Science and Systems
- 8 EasySLAM**
Jonathan Cohen, CS
Mentor: Dr. Frank Dellaert, Interactive Computing
- 9 Haptic Gesture Watch: Mobile Gesture Interaction Using Wearable Tactile Displays**
BoHao Li, CS
Mentor: Dr. Thad Starner, Interactive Computing
- 10 Investigation of Round Touchscreen Wristwatch Interaction**
Alex Samarchi, CS
Mentor: Dr. Thad Starner, Interactive Computing
- 11 Two-thumb Chording on a Mobile Phone Keypad**
Phong Si, CMPE
Mentor: Dr. Thad Starner, Interactive Computing

- 12 Turbulent Flame Speed Measurements of Syngas Fuels**
Edouard Bahous, ME
Thomas Wasmund, ME
Amit Mandalia, AE
Mentor: Dr. Tim Lieuwen, AE
- 13 Application of Modified Garabedian McFadden Technique to improve Airfoil Performance**
Bhanu Chiguluri, AE
Mentor: Dr. Lakshmi Sankar, AE
- 14 Modeling and Analysis of Laminar Flames with Applications to Turbine Engines**
Matthew Clay, AE
Sarah Vaden, AE
Mentor: Dr. Jerry Seitzman, AE
- 15 Reduced-Order Modeling Of Unsteady Aerodynamics For Wind Energy Devices**
Brendan Dessanti, AE
Ankit Tiwari, AE
Pierre Valdez, AE
Mentor: Dr. Narayanan Komerath, AE
- 16 Closed Gas Cycle for Micro-Renewable Power Systems**
Sean Hwang, AE
Christopher Cone, AE
Kevin Goal, AE
Joel Greinke, AE
Ranjit, Mantri, AE
Ankit Tiwari, AE
Pierre Valdez, AE
Mentor: Dr. Narayanan Komerath, AE
- 17 Flame Brush Thickness and Combustion Speeds of an Acoustically Excited, Turbulent Swirl Flame**
Adam Kay, AE
Hsin-Hsiao Ma, AE
Mentor: Tim Lieuwen, AE
- 18 High Speed Chemiluminescence of Low Temperature Ratio Bluff Body Stabilized Flames**
Julia Lundrigan, AE
Harold Davis, AE
Mentor: Dr. Tim Lieuwen, AE
- 19 Sling Loads: Physics of Unsteady Bluff-Body Flow Separation**
Ranjit Mantri, AE
Brendan Dessanti, AE
Adam Kolojechick-Kotch, A
Kishen Raghunath, AE
Sumant Sharma, AE
Judson Simmons, AE
Vivek Viswanathan, AE
Mentor: Dr. Narayanan Komerath, AE

- 20 Effect of Convective Mach Number on Mixing in Compressible Shear Layers**
 Subbiah Ramasamy, AE
 Ananad Nallathambi, AE
 Mentor: Dr. Jeff Jagoda, AE
- 21 Hydrogen Powered Supersonic Airliner Concept Exploration**
 Pierre Valdez, AE
 Christopher Cone, AE
 Anant Patel, AE
 Alex Forbes, AE
 Mentor: Dr. Narayanan Komerath, AE
- 22 VOSTURB**
 Diana Quintero, CEE
 Garrett Klingensmith, CEE
 Juan Sanchez, CEE
 Nicholas Sigalas, CEE
 Ethan Sommer, CEE
 Sheila Sororian, CEE
 Mentor: Dr. Francesco Fedele, CEE
- 23 Influence of Small Vessel Operation and Propulsion System on Loggerhead Sea Turtle Injuries**
 Jennifer Stewart, CEE
 Mentor: Dr. Paul Work, CEE
- 24 Identification and Assessment of Water, Sanitation and Hygiene Practices in Two Rural Communities in Accra Ghana**
 Andrew Foote, CEE
 Mentor: Dr. Christine Moe, Emory University
- 25 Behavioral Observations of Male Cotton-top Tamarins (*Saguinus oedipus*)**
 Emily Weigel, Applied Biology
 Mentor: Dr. Roland Gerstmeier, TUM-Weihenstephan
- 26 Observing the Developmental Time in Invertebrate Larvae when Exposed to Harmful Algal Blooms, *Karenia Brevis* and *Alexandrium Fundyense***
 Aakanksha Angra, Applied Biology
 Mentor: Dr. Jeannette Yen, Biology
- 27 Induction and Effects of Heat Shock Proteins in *Brachionus Manjavacas***
 Ashleigh Burns, Applied Biology
 Mentor: Dr. Terry Snell, Biology
- 28 Mannose Receptor-like Molecule Acts as Mate Recognition Pheromone Receptor in the Male Rotifer *Brachionus Manjavacas***
 Laura Couser, Applied Biology
 Mentor: Dr. Terry Snell, Biology

- 29 Seismic Occupant Sensor**
Kanitha Kim, ME
David Gray, ME
Mentor: Dr. Jeannette Yen, Biology
- 30 Incorporating Pathogens into Community Assembly**
Carrie Stallings, Applied Biology
Mentor: Dr. Lin Jiang, Biology
- 31 Synthesis of Donor-Acceptor Oligomers for Organic Field-Effect Transistors**
Kristen Brown, ChBE
Mentor: Dr. Seth Marder, CHEM/BCHEM
- 32 Entering the RNA world: Intercalation as a Means to Suppress Strand Cyclization and Promote Polymerization of Base-pairing Oligonucleotides**
Michael Chen, CHEM
Mentor: Dr. Nicholas Hud, CHEM/BCHEM
- 33 Symmetry-breaking in a Linear Ion Trap**
Kaley McCluskey, Physics
Mentor: Dr. Kenneth Brown, CHEM/BCHEM
- 34 Mining for cryptic nonribosomal peptide synthetase systems in *Streptomyces laurentii***
Tala Suidan, BCHEM
Mentor: Dr. Wendy Kelly, CHEM/BCHEM
- 35 Intracellular Transport of Low-Density-Lipoprotein: Automation of Data Analysis**
Jairo Zapata, BCHEM
Mentor: Dr. Christine Payne, CHEM/BCHEM
- 36 Dessins and Manturov Bracket Shuffles**
Michelle Delcourt, Discrete Math
Mentor: Dr. Neal Stoltzfus, Math
- 37 Age Differences in Associative Memory: The Influence of Emotional Stimuli**
Rachel Newsome, Psychology
Mentor: Dr. Audrey Duarte, Psychology
- 38 Effects of Visual Distractors on Visual Processing of Object Movement**
Alison Williams, Psychology
Mentor: Dr. Gregory Corso, Psychology
- 39 Exploring the Effect of Induced Negative Mood on the Positivity Effect in Memory**
Kendell Worden, Psychology
Mentor: Dr. Audrey Duarte, Psychology
- 40 Differentiating the Effects of the Subprime Mortgage Boom and Bust on Naturalized Immigrants, Non-naturalized Immigrants and Native Citizens in the United States**
Gabrielle Sirow, Econ
Mentor: Dr. Ruth Uwaifo Oyelere, Econ

- 41 Deterring Bioterrorism**
Katherine Lange, INTA
Mentor: Dr. Margaret Kosal, INTA
- 42 MMOG (Game Research)**
Samer Ead, Computational Media
Rose Peng, Computational Media
Mentor: Dr. Celia Pearce, LCC
- 43 Thoreau's House**
Drew Marlatt, CEE
Derek Buffardi, CEE
Daniel Murphy, ME
Jonathan Walker, AE
Mentor: Dr. Hugh Crawford, LCC
- 44 Air Quality in Relation to Behavioral Response**
Trent Noll, Public Policy
Mentor: Dr. Robert Kirkman, Public Policy
- 45 Determination of IKK Glutathionylation During T-cell Receptor Stimulation**
Debika Mitra, BME
Mentor: Dr. Melissa Kemp, BME
- 46 Design of Biaxial Testing Device for Assessment of Biological Tissue Mechanical Properties**
Maya Uddin, BME
Mentor: Dr. Gilda Barabino, BME
- 47 Optimization of Ampicillin Production Yields Using Different Substrate Ratios, Temperatures, and Organic Co-Solvents**
Carolina Perez, CHBE
Mentor: Dr. Andreas Bommarius, CHBE
- 48 Conductive Nano adhesives for BGA Lid Bonding**
Sae Kim, MSE
Mentor: Dr. C.P. Wong, MSE
- 49 Modeling Particles in Microfluidic Channels with Ciliated Walls**
Jaclyn Branscomb, ME
Mentor: Dr. Alexander Alexeev, ME

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Chtere, Ianko	C	319	2:00pm	Tinkey, Holly	J	343	3:00pm
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