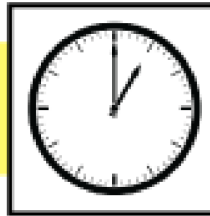




WELCOME TO THE
8th Annual
 UNDERGRADUATE RESEARCH
SPRING SYMPOSIUM & AWARDS



Thursday April 11th, 2013



1:00PM - 6:00 PM



Student Center Ballroom



8th Annual Undergraduate Research Spring Symposium

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Schedule of Events

Events	Times
Oral Presentations:	1:00 - 4:30 pm
Poster Session:	3:00 - 4:30 pm
Reception:	4:30 - 5:15pm
Awards Ceremony:	5:15 pm

Oral Presentations

Student Center, 3rd Floor

Session A: Architecture and Computing Student Center Room 319 Moderator: Ms. Kenya Payton, CAS

- 1:00 Virtual Simulation of Medication Delivery in Intensive Care Unit Layouts to Analyze Impact on Nurse Behavior**
Smruti Keshani, ARCH
Mentor: Dr. Matthew Swarts, ARCH
- 1:20 Formal Grammar of Ancient Greek Temples**
Emily Lenke, ARCH
Mentor: Dr. Athanassios Economou, ARCH
- 1:40 WARPIC: Animation Tool for Android Tablet**
Brian Edmonds, CS
Mentor: Dr. Jarek Rossignac, CS
- 2:00 Living Room Play**
Matthew Guzdial, CM
Mentor: Dr. Brian Magerko, LMC

Session B: Aerospace Engineering and Computing Student Center Room 320 Moderator: Ms. Ashley Edgar, DOPP

- 1:00 Improving Robot Behavior through Both Human Interaction and Independent Learning**
Ramya Ramakrishnan, CS
Mentor: Dr. Andrea Thomaz, CS
- 1:20 A Simulation-Based Probabilistic Approach to Calculating Airport Runway Capacity**
Hasan Tawab, AE
Harold Nikoue, AE
Mentor: Dr. John-Paul Clarke, AE
- 1:40 Streamlining and Optimizing the Implementation of Chemkin**
Ramon Romero, ChBE
Mentor: Dr. Tim Lieuwen, AE
- 2:00 Fast Implementations of Cryptographic Schemes based on Lattices**
Sam Kim, CS
Mentor: Dr. Chris Peikert, CS
- 2:20 Indian National Autism Registry**
Urvashi Goverdhan, CS
Mentor: Dr. Santosh Vempala, CS

Session C: Biomedical Engineering Student Center Room 301 Moderator: Dr. Sandi Bramblett, IRP/DSS

- 1:00 Postural Stability in Animals of Different Sizes, Shapes, and Neural Delays**
Harrison Bartlett, BME
Mentor: Dr. Lena Ting, BME
- 1:20 Cellular Response to Surface Wettability Gradient on Microtextured Titanium Surfaces**
Marc Plaisance, BME
Mentor: Dr. Rene Olivares-Navarrete, BME
- 1:40 Influencing Encapsulated Stem Cell Factor Secretion through Hypoxic Conditioning**
Mohamad Ali Najia, BME
Mentor: Dr. Todd McDevitt, BME

Session D: History, Technology and Society & Literature, Media and Communication Student Center Room 343 Moderator: Ms. Elizabeth Rolando, Library

- 1:00 Cinephilia and New Media**
Stuart Collier, STC
Mentor: Dr. Vinicius Navarro, LMC
- 1:20 The Historical Context of Unethical Human Experimentation on Disparities in the Modern HIV/AIDS Epidemic**
Joyce Sharpe, HTS
Mentor: Dr. Willie Pearson, HTS
- 1:40 The Impact of Cuban Media on Informed Consent in the US Army Yellow Fever Trials of 1900**
Marcela Moreno, HTS
Mentor: Dr. John Tone, HTS

**Session E: Chemistry and Biochemistry, Earth & Atmospheric
Sciences, and Psychology
Student Center Room 321
Moderator: Dr. Tris Utschig, CETL**

- 1:00 The effect of lowered sea level on climate in the Indo-Pacific region as simulated by the SPEEDY AGCM**
Eleanor Middlemas, MATH
Mentor: Dr. Kim Cobb, EAS
- 1:20 Re-scripting the Boring Lecture: Can an Inquiry-based Curriculum Improve 8th Grade Students' Physics Understanding?**
Lauren Morgan, PSY
Mentor: Dr. Brian Gane, PSY
- 1:40 Quantum Sympathetic Heating Spectroscopy**
Karl Burkhardt, CHEM
James Goeders, Chemistry,
Yon Choi, Chemistry
Ken Brown, Chemistry
Mentor: Dr. Ken Brown, CHEM & BCHM
- 2:00 Crystallization of Myocilin-OLF mutants K398R and E396D**
Dana Freeman, BCHM
Mentor: Dr. Raquel Lieberman, CHEM & BCHM

**Session F: Materials Science Engineering and Mechanical Engineering
Student Center Room 301
Moderator: Dr. Patrick Anthony, DOPP**

- 2:10 To Drip, Jet or Spray: The Hydrodynamics of Urination**
Jonathan Pham, BME
Patricia Yang, ME
Jerome Choo, BME
Mentor: Dr. David Hu, ME
- 2:30 Aerodynamics of tilted flexible flapping wings in ground effect**
Tsz Li, ME
Mentors: Dr. Alexander Alexeev, ME & Peter Yeh, ME
- 2:50 Self-powered Nano Device as an Active sensor and Energy Generator**
Yean Lee, ME
Mentor: Dr. Zhong Lin Wang, MSE

**Session G: Biology
Student Center Room 343
Moderator: Ms. Sally Hammock, CAE**

- 2:10 A novel direct sRNA target in the quorum sensing pathway of V. cholerae**
Joseph Elsherbini, BIO
Mentor: Dr. Brian Hammer, BIO
- 2:30 Ribonucleotides Embedded in Yeast Genomic DNA are Targets of RNase H type 2 and Nucleotide Excision Repair**
Alli Gombolay, BIO
Lahari Shetty, Major: BIO
Mentor: Dr. Francesca Storici, BIO
- 2:50 Genetic Analysis of Differential Paternity and Sex Ratios of Offspring in Polyandrous Red Flour Beetles**
Malvika Kapoor, BIO
Mentor: Dr. Michael Goodisman, BIO

**Session H: Mechanical Engineering
Student Center Room 319
Moderator: Ms. Wendy Hagenmaier, Library**

- 2:30 Epoxy/Copper Interfacial Delamination Study Through Magnetic Actuation**
Luis Valles, ME
Mentor: Dr. Suresh Sitaraman, ME
- 2:50 Water Exit of Spheres and Application to Fish Leaping**
Sulisay Phonekeo, ME
Ke Xu, ME
Mentor: Dr. David Hu, ME
- 3:10 Comparison of Uranium Properties using EAM and MEAM Potentials**
Elton Chen, NRE
Mentor: Dr. Chaitanya Deo, ME

**Session I: Biomedical Engineering & Chemical and
Biomolecular Engineering
Student Center Room 321
Moderator: Mr. Fred Rascoe, Library**

- 2:50 Comparison of Image Processing Methods for De-blurring DESI-MS Images**
Sanaiya Sarkari, BME
Mentor: Dr. May Wang, BME
- 3:10 A Call to Arms: Oxidative and Phosphorylative Control of T-Cell Receptor Activation**
Anish Potnis, BME
Mentor: Dr. Melissa Kemp, BME
- 3:30 Sorption and Diffusion of Ethanol and Water in Fluoride Mediated Silicalite-1**
Michelle Dose, CHBE
Mentor: Dr. William Koros, ChBE
- 3:50 Synthesis of pNIPAAm by Reversible Addition Fragmentation Chain Transfer (RAFT) Polymerization in Inverse Miniemulsion System**
Shun Xi, CHBE
Mentor: Dr. Francis Schork, ChBE

**Session J: Economics
Student Center Room 320
Moderator: Ms. Beatriz Hegidio, CAS**

- 2:50 Do Small Businesses Create Jobs: A Cross-Sectional Analysis**
Trevor Lindsay, ECON
Justin Bunch, ECON/INTA
J. Dorrier Coleman, EE
Mentor: Dr. Shatakshee Dhongde, ECON
- 3:10 Taxation in a Recovery: The Effect of State Income Taxes on Economic Output**
Trevor Lindsay, ECON
Mentor: Dr. Shatakshee Dhongde, ECON
- 3:30 Does Greater Campaign Spending Lead to a Higher Chance of Electoral Victory?**
Yameen Huq, ECON
Alice Kwak, ISYE
Darion Carter, BA/ECON
Mentor: Dr. Shatakshee Dhongde, ECON
- 3:50 Who Will Strike Next? An Economic Regression of Terrorism and Poverty**
Andrew Townsend, ECON
Ryan Birmingham, ECON/CS
Ben Goldberg, ECON/INTA
Mentor: Dr. Shatakshee Dhongde, ECON

**Session K: Chemical & Biomolecular Engineering and
Electrical & Computer Engineering
Student Center Room 301
Moderator: Ms. Sally Hammock, CAE**

- 3:20 A Network Security Attack Repository for a Competition-Based Network Security Lab**
Priya Bajaj, EE
Mentor: Dr. John Copeland, ECE
- 3:40 A sparse coding model of V1 produces surround suppression effects in response to natural scenes**
Allison Del Giorno, ECE
Mentor: Dr. Christopher Rozell, ECE
- 4:00 A Precise System for the 3-D tracking of Tongue Movements**
Shurjo Banerjee, CMPE
Mentor: Dr. David Anderson, ECE

**Session L: International Affairs & History, Technology and Society
Student Center Room 343
Moderator: Ms. Caroline Anderson, DOPP**

- 3:20 Digital Gaming and Weapons of Mass Destruction: Adherence to International Laws and Treaties**
Adam Thigpen, EIA
Mentor: Dr. Margaret Kosal, IA
- 3:40 U.S. Nuclear Weapons Testing**
Shaudie Fassih, IAML
Mentor: Dr. Margaret Kosal, IA
- 4:00 Nuclear Proliferation and Interstate Conflict**
Sarah Grace Parr, IAST
Mentor: Dr. Margaret Kosal, IA
- 4:20 The FBI's Missed Opportunity: Sebold, Duquesne, and Nazi Espionage in America**
Ben Belden, HTS
Mentor: Dr. Kristie Macrakis, HTS

Poster Session

Student Center Ballroom 3:00 - 4:30 PM

- 1 **A Behavioral Imaging Approach to Characterize Progression of Mild Cognitive Impairment (MCI) and Alzheimer 's Disease (AD) by Analysis of Walking Motions**
Daniel Castro, CS
Mentor: Dr. Irfan Essa, CS
- 2 **Using Machine Learning to Classify Smart Phone Users Based on Behavior**
Samuel Clarke, CS
Mentor: Dr. Dueng Horng (Polo) Chau, CS
- 3 **Usable Context-Aware Policy scheme for Android**
Suk Hwan Hong, CS
Mentor: Dr. Santosh Pande, CS
- 4 **Searching for Informal Learning Opportunities in the Atlanta-area**
Cecili Reid, CS
Mentor: Dr. Betsy DiSalvo, CS
- 5 **American Sign Language Assessment Instrument**
Pavleen Thukral, CS
Mentor: Dr. Thad Starner, CS
- 6 **Comparing the performance of plasma impedance probes and Langmuir probes for RF plasma diagnostics**
Ethan Dale, AE
Mentor: Dr. Mitchell Walker, AE
- 7 **Expansions to the Turbulent Flame Speed Testing Facility**
John Forbes, AE
Tim Heffner, ME
David Bertram, AE
Mentor: Dr. Tim Lieuwen, AE
- 8 **High Pressure Full Scale Single Nozzle Testing with Traditional and Alternative Fuels**
Kelvin Murphy, ME
David Wu, ME
Mentor: Dr. Tim Lieuwen, AE
- 9 **Characterization of covarying surface protein expression in T-cell populations.**
Marisa Casola, BMED
Mentor: Dr. Linda Kippner, BMED
- 10 **Does vascular occlusion play a role in sickle cell disease bone destruction?**
Binbin Chen, BMED
Jonathan Lin, ChBE
Mentor: Dr. Manu Platt, BMED
- 11 **Cell to Cell Variation of ROS Production in T-Cells under Antimycin A and Rotenone Inhibition over Time**
Adam Cooke, BMED
Mentor: Dr. Melissa Kemp, BMED
- 12 **Mass Spectrometry Analysis of Traumatic Brain Injury**
Connor Crowley, BCHM
Brian Rooney, BCHM
Facundo Fernandez, BCHM
Rachel Bennett, BCHM
Mentor: Dr. Michelle LaPlaca, BMED
- 13 **Minor in Neurotechnology**
Eric Eisner, BMED
Josh Cherian, BMED
Mentor: Dr. Barbara Fasse, BMED
- 14 **Characterization of Osteoarthritis Progression in a Mouse Medial Meniscal Destabilization Model Using Contrast-Based Micro-CT**
Chelsea Fechter, BMED
Mentor: Dr. Robert Guldberg, BMED
- 15 **Fabrication Parameters of Small Intestinal Submucosa Scaffolds Modulate the Shear-Induced Expression of PECAM-1 and eNOS**
Ruth Fogg, BMED
Mentor: Dr. Ajit Yoganathan, BMED
- 16 **Leg, Vertical, and Joint Stiffness Levels in Rear-foot and Fore-foot Strike Landings**
Allison Gainer, BMED
Mentor: Dr. Young-Hui Chang, BMED
- 17 **Agarose Cryogel Scaffold as a Vehicle for EG7-OVA Cell Delivery**
Unbyeol Goh, BMED
Mentor: Dr. Julia Babensee, BMED
- 18 **The Role of Shear Stress on Thrombospondin-1 Expression in Human Aortic Valvular Endothelial Cells**
Shuntol Holloway, BMED
Mentor: Dr. Hanjoong Jo, BMED

- 19 Clustering analysis of single-unit action potentials recorded in vivo from a rat barrel cortex model**
Robert Kretschmar, BMED
Mentor: Dr. Ravi Bellamkonda, BMED
- 20 The Effects of Osmolytes on Viability and Differentiation of Cells Microencapsulated in Alginate**
Eric Pinsker, BMED
Mentor: Dr. Barbara Boyan, BMED
- 21 Angular Tuning in Layer 2/3 of the Rat Barrel Cortex**
Dylan Richards, BMED
Mentor: Dr. Garrett Stanley, BMED
- 22 Effect of Flow Pulsatility and Wall Compliance on the Energy Loss in the Total Capulmonary Connection**
Harish Srinimukesh, BMED
Sulisay Phonekeo, ME
Mentor: Dr. Ajit Yoganathan, BMED
- 24 Enzymatic Hydrolysis of Phosphoric Acid Swollen Cellulose**
Jessica Curtis, Chemistry
Mentor: Dr. Andreas Bommarius, ChBE
- 25 Design of a Microfluidic-Based Platform for Spatially Controlled Drug Treatment in Cichlid Early Development**
Jiyuan Ding, ChBE
Mentor: Dr. Hang Lu, ChBE
- 26 Effects of Substrate Rigidity on Metastatic Cancer Cell Adhesion**
Jason Iandoli, BMED
Daniel J. McGrail, BMED
Quang Kieu, BMED
Mentor: Dr. Michelle Dawson, ChBE
- 27 Colloidal Sand Castles**
Kyle Jones, ChBE
Mentor: Dr. Sven Behrens, ChBE
- 28 Engineering Gelatin Scaffold Mechanics for Tissue Engineering**
Min Jeong Kim, ChBE
Tuyet Lam, Biochemistry
Mentor: Dr. Michelle Dawson, ChBE

- 30 Investigation of mass transfer limitations in the heterogeneous oxidative Heck reaction**
Joshua Mysona, ChBE
Mentor: Dr. Christopher Jones, ChBE
- 31 Role of Fiber Length on Phagocytosis & Inflammatory Response**
Carahline Stark, ChBE
Mentor: Dr. Julia Champion, ChBE
- 32 Characterization of different types of Aerosols in Midtown Atlanta Using Factor Analysis**
Sriram Suresh, ChBE
Mentor: Dr. Nga Lee Ng, ChBE
- 33 Role of SDF-1-CXCR4 Axis on the Mobility of Metastatic Breast Cancer Cells**
Vinh Trang, Biochemistry
Mentor: Dr. Michelle Dawson, ChBE
- 34 Measurement of Transcriptional Insulin Gene Expression in Genetically Engineered Enteroendocrine Cells for the Treatment of Insulin-Dependent Diabetes (IDD)**
Jose Vasquez Porto-Viso, BMED
Mentor: Dr. Athanassios Sambanis, ChBE
- 35 Polymerization of Malic Acid**
Jingya Ying, ChBE
Irena Mamajanov, ChBE
Francis J Schork, ChBE
Chelsea A Walker, ChBE
Mentors: Dr. Martha Grover, ChBE and Dr. Nicholas Hud, ChBE
- 36 Isolation and Identification of Bacteria from Lake Lanier that Biodegrade 2,4-Dichlorophenoxyacetic Acid and 3-Nitrotyrosine**
Rajkumar Krishnan, ENVE
Mentor: Dr. Konstantinos Konstantinidis, CEE
- 37 Integrating Building Information Modeling and RFID Technology for Increased Construction Site Safety and Production**
Audrey Shaak, CE
Aaron Costin, CE
Mentor: Dr. Jochen Teizer, CEE

- 38 Potential of Leading Indicator Data Collection and Analysis for Proximity Detection and Alert Technology in Construction**
Jeremy Wetherford, CE
Eric Marks, CE
Mentor: Dr. Jochen Teizer, CEE
- 40 RFID Optimization for a Pharmaceutical Compliance Monitoring System**
Jessica Block, EE
Mentor: Dr. Maysam Ghovanloo, ECE
- 42 A Biocompatible, Biodegradable Battery Utilizing Lactic Acid Solutions**
William Cangelosi, ChBE
Mentor: Dr. Mark Allen, ECE
- 43 GUSTO: Gesture-based 3D User Authentication Technique with Biometric Features**
Penyen Chi, ECE
Mentor: Selcuk Uluagac, ECE
- 44 Multi-Dimensional Model of US Power Network during Hurricane Sandy**
Suvrat Jain, ECE
Mentor: Dr. Chuanyi Ji, ECE
- 45 Voltage-Dependent Magnetization of Li_{1-x}MO₂ via In Situ Lithium-Ion Battery Testing**
Kevin Bogaert, MSE
Mentor: Dr. Faisal Alamgir, MSE
- 46 Alzheimer's Disease Drug Candidates Erythrosine B and Brilliant Blue G as Amyloid β Oligomer Inhibitors: a Molecular Dynamic Simulation Approach**
Lydia Choi, Chem
Doyeon Koo, BMED
Juho Lee, Chem
Euisun Pyo, Biochemistry
Mentor: Dr. Seung Soon Jang, MSE
- 47 Co-precipitation synthesis of YAG:Dy nanophosphor and its temperature dependent luminescent properties**
Joo Chong, ChBE
Mentor: Dr. Zhitao Kang, MSE
- 48 Thin Films Made from Colloidal Antimony Tin Oxide Nanoparticles for Transparent Conductive Applications**
Abigail Halim, MSE
Mentor: Dr. Rosario Gerhardt, MSE
- 49 Effect of Temperature on Nanophase-segregation and Transport in Polysulfone-Based Anion Exchange Membrane Fuel Cell: Molecular Dynamics Simulation Approach**
Kwan Ho Ko, ME
Mentor: Dr. Seung Soon Jang, MSE
- 50 Molecular Dynamics Simulations of DNA-Mediated Aggregation of Bi-Disperse**
Rolando Lama, BMED
Mentor: Dr. Seung Soon Jang, MSE
- 51 Ceramic Graphite Coatings for the Transport of Molten Metals**
Patrick Shower, MSE
Mentor: Dr. Kenneth Sandhage, MSE
- 52 Molecular Dynamics Simulations of Radiation-Induced Damage in Zirconium**
Varija Agarwal, NRE
Mentor: Dr. Chaitanya Deo, ME
- 53 Characterizing Cell Mimetic from PDMS using Atomic Force Microscopy**
Arnab Barua, BMED
Lorraine Arambu, BMED
Mentor: Dr. Todd Sulchek, ME
- 54 Mosquitos are Unable to Fly in Fog**
Bruce Berry, NE
Peter Shankles PTFE
Mentor: Dr. David Hu, ME
- 55 Mediating Internalin A-dependent Internalization of a Pathogen Mimetic in Host Cells**
Kshama Bhyravabhotla, BIO
Maya Ramachandran, ISyE
Mentor: Dr. Todd Sulchek, ME
- 56 Application of MEMS and Microfluidic Technologies for Malaria Diagnosis and Surveillance**
Becky Byler, BMED
Mentor: Dr. Todd Sulchek, ME
- 57 Mechanistic modeling of biological cells**
Monique Chang, ME
Mentor: Dr. Alexander Alexeev, ME
- 58 How eyelashes reduce shear on eye surface**
Joel Clewis, ME
Mentors: Dr. David Hu, ME & Guillermo Amador, ME

- 59 Measuring Energetic Cost of Snake Locomotion Using NMR Spectroscopy**
James Cook, NRE
Mentors: Dr. David Hu, ME & Hamidreza Marvi, ME
- 60 Nanoindentation of Fused Silica and Copper**
Katie Cook, NRE
Mentor: Dr. Chaitanya Deo, ME
- 61 Physical, Chemical and Biological Propulsion Methods of Microparticles**
Jordan Garth, BMED
Tanvi Dave, BMED
Dave McNavish, BMED
Derek Globin, CMPE
Da Som Heo, BMED
Nick Emamifar, BMED
Mentor: Dr. Todd Sulchek, ME
- 62 A Vector Autoregressive Model for Interpolating Missing Meteorological Data for Use in Building Simulation**
Alisha Kasam, ME
Mentor: Dr. Chris Paredis, ME
- 63 Selectin Adhesion Assay Chamber Design**
Mason McClatchey, ME
Mentor: Dr. Susan Thomas, ME
- 64 Shear Pre-Conditioning Enhances the Pericyte Function of Mesenchymal Stem Cells in vitro**
Rachel Meltzer, ChBE
Mentors: Dr. Robert Nerem, ME & Dr. Lisa McGinley, ChBE
- 65 Modeling Synthetic Vesicles that Release and Capture Solutes**
Katherine Polhemus, ME
Mentor: Dr. Alexander Alexeev, ME
- 66 The Mechanics of Sidewinding on Sand**
Jason Shieh, ME
Gladys Tamayo, ME
Kim Quyen Tran, ME
Mentor: Dr. David Hu, ME
- 67 Multi-scale CAD/CAE Tools for Nanocomposites**
Johnny Worthy, AE
Ravi Haskar, ME
Davis Hoffman, ME
Joshua Price, AE
Mentor: Dr. Raghu Pucha, ME
- 68 Gang Prevention and Intervention Through Boys & Girls Clubs of America**
Hattie Arnau, HTS
Mentor: Dr. Willie Pearson, HTS
- 69 The Future of the Iran – Hezbollah Alliance**
Nicholas Barker, INTA
Soheil Shayegh, ISyE
Mentor: Dr. Lawrence Rubin, INTA
- 70 Investigating the causes of the rising rate of unintended pregnancies in the U.S.**
Amanda Figeredo, EIA
Jess Shimko, MATH
Lauren Foley, ECON
Mentor: Dr. Shatakshee Dhongde, ECON
- 71 Analyzing the Impact of Educational Attainment and Income on Home Ownership**
Nabila Nazarali, ECON
Lawrence Kim, ECON
Muhammad Yadudu, ECON
Mentor: Dr. Shatakshee Dhongde, ECON
- 72 Income Inequality and Violent Crime**
Julian Quiñones, ECON
Alexa Steingaszner, ECON
Istvan A Papp-Chang, ECON
Mentor: Dr. Shatakshee Dhongde, ECON
- 74 More: The Socio-Cultural Implications of Artificial Intelligence**
Nikita Rao, STC
Mentor: Dr. Hugh Crawford, LCC
- 75 Cognitive Heuristics in Science & Technology Policymaking (and the Implications for Educating Future Participants in the Policymaking Process)**
Jordan Lockwood, PUBP
Mentor: Dr. Roberta Berry, PUBP
- 76 Cellular Basis of Brain Overgrowth in Pten Haploinsufficient Mice**
Ankit Kaushik, BMED
Mentor: Dr. Damon Page, BMED
- 77 Locomotor compensations after peripheral nerve injury revealed by analysis of ground reaction forces**
Fariha Alam, BMED
Mentor: Dr. Boris Prilutsky, AP
- 78 Motor Adaptation to Orthotic Ankle Constraint during Walking**
Jaemin Sung, BMED
Katie Eckert, BMED
Mentor: Dr. Christopher Hovorka, AP

- 79 Changes in the electromyographic activity and joint moments due to the self-reinnervation of the lateral gastrocnemius and soleus muscles**
Wendy Wang, BMED
Mentor: Dr. Boris Prilutsky, AP
- 80 PLA2 Expression Profiling of C2C12 and C57 Differentiated Myotubes**
Gary Mallow, BIO
Mentor: Dr. Thomas Burkholder, AP
- 81 Biomimetic rocker profile restores lower limb progression when walking with constraint of ankle motion**
Simisola Oludare, AP
Tiffany Yan, BMED
Mentor: Dr. Christopher Hovorka, AP
- 82 Copepod Sex Appeal: Determining Male Scent Preference in Hesperodiaptomus shoshone According to Female Life Stage**
Brooke Beaulieu, BIO
Mentor: Dr. Jeannette Yen, BIO
- 85 Initiation and cryopreservation of Fraser fir (*Abies fraseri* [Pursh] Poir.) embryonic tissue for somatic embryogenesis**
Taylor Fischer, BIO
Mentor: Dr. Gerald Pullman, BIO
- 86 Spatial Variation of Picoplankton Community Structure in the Northern Gulf of Mexico**
Katie Geddes, BIO
Mentor: Dr. Joseph Montoya, BIO
- 87 Analyses of Patterns of Gene Expression in *Acropora millepora* Under Exposure to Differential Sunscreen Treatments**
Agnes Ho, BIO
Mentor: Dr. Terry Snell, BIO
- 88 Effects of Hsp104 levels on prion poisoning within *Saccharomyces paradoxus***
Kudo Jang, BIO
Mentor: Dr. Yury Chernoff, BIO
- 89 The response of beach sand microbial communities to the Deepwater Horizon oil spill**
Kala Marks, BIO
Mentor: Dr. Joel Kostka, BIO
- 90 Examining allelopathic competition of red tide alga *Karenia brevis* within two different marine communities**
Elizabeth McMillan, BIO
Mentor: Dr. Julia Kubanek, BIO
- 91 The origin of eye size differences in cichlid fish ecotypes**
Mary Michaels, BIO
Mentor: Dr. Todd Strelman, BIO
- 92 Defining Tooth And Taste Bud Density Through Development**
Kristine Phillips, BIO
Mentor: Dr. Todd Strelman, BIO
- 93 Exogenous expression of miR-429 induces mesenchymal-to-epithelial transition in ovarian cancer cells**
Ashley Reavis, BMED
Mentor: Dr. John McDonald, BIO
- 94 The Effects of Host-Association on the Genetic Expression of Deep-Sea Symbionts**
Abigail Shockey, BIO
Mentor: Dr. Frank Stewart, BIO
- 95 Synthesis of Gold Nanoparticles for Cancer Theranostic Applications**
Ant Yucesoy, BMED
Mentor: Dr. Tianmeng Sun, BMED
- 96 Narrowband composite pulse sequences for addressing errors**
John Addison, PHYS
Mentor: Dr. Ken Brown, CHEM
- 97 Mercury Remediation via Functionalized Magnetic Nanoparticles**
Austin Bennett, CHEM
Mentor: Dr. John Zhang, CHEM
- 98 Assessing the Conformational Shift of transfer RNA- Phenylalanine in the Presence of Magnesium(II)**
Spencer Hoskyns, BCHM
Mentor: Dr. Loren Williams, CHEM
- 100 Synthesis of Triaryl-substituted Pyrazoline Fluorophore**
Vishwa Ravleker, CHEM
Mentor: Dr. Christoph Fahrni, CHEM

Oral Presentations Index

- 102 Precise Size Control in Microgel Synthesis for “Designer Polydispersites”**
Akriti Singh, BCHM
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- 104 Adaptive Optics in a Biological Medium**
Zachery Enderson, PHYS
Mentor: Dr. Jennifer Curtis, PHYS
- 105 Modeling Binary Black Hole Collisions**
Rita Garrido, PHYS
Mentor: Dr. Deirdre Shoemaker, PHYS
- 106 Effect of magneto-hydrodynamics and radiation pressure on the reionization of dwarf galaxies**
Martin Halicek, PHYS
Mentor: Dr. John Wise, PHYS
- 107 Osmotic Pressure of Microgel Suspensions**
George Markou, CHBE
Mentor: Dr. Alberto Fernandez-Nieves, PHYS
- 108 The Effect of Retrospective Attention on Memory Systems**
Shruti Chandramouli, BIO
Mentor: Dr. Audrey Duarte, PSYCH
- 110 Augmented Reality Learning: Applying Optimal Augmentation Techniques for Visual Pattern Categorization**
Gregory Hughes, PSYCH
Mentor: Dr. Richard Catrambone, PSYCH
- 111 A Multi-faceted Approach to Investigating Younger and Older Adults’ Trust in Service Robots**
Shelby Long, PSYCH
Mentor: Dr. Tracy Mitzner, PSYCH
- 112 The effect of acute resistance exercise on long-term memory of emotional stimuli**
Lydia Maleknia, BIO
Mentor: Dr. Audrey Duarte, PSYCH

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