Department of Physics:

Atmospheric Physics Program

Edward J. Strobach, Lynn C. Sparling, Mentor
"Determining the Effect That a Moving Platform has on Doppler LIDAR Estimates of Wind Shear and Turbulence Through Forward and Inverse Model Techniques"

Physics Program

Paul J. Burkins, Anthony M. Johnson, Mentor
"Femtosecond Z-Scan Measurements in Novel Materials with Emphasis on Managing Thermal Effects and Mid-IR Femtosecond Spectroscopy of Quantum Cascade Devices and Lasers"

Graduate Programs in Natural and Mathematical Sciences:

Department of Biological Sciences:

Biological Sciences Program

Abdullah Almatrouk, Weihong Lin, Mentor
"Expression and Functions of Phospholipase C Isoforms in Mouse Main Olfactory Epithelium"

Mariann M. Gabrawy, Jeff Leips, Mentor
"Effects of Natural Variation and Lisinopril Treatment on Age-Related Decline of Physical Performance in Drosophila: A Genome-Wide Association Study"

Archer F. Larned, Bernard Lohr, Mentor
"Integrating Behavioral Studies into Conservation Applications with the Florida Grasshopper Sparrow"

Ryan McDonald, Harold Schreier, Mentor
"Characterization of the Enteric Microbiome of the Wood Eating Catfish Panaque Nigrolineatus"

Rudolph V. Park, Stephen Miller, Mentor
"Transforming the Chloroplast of Chlorella Vulgaris and Nannochloropsis Oceanica"

Juan Valdez, Phyllis Robinson, Mentor
"The Structural Basis of Melanopsin Signaling and Function"

Mary K. Willard, Thomas Cronin, Mentor
"Extraocular Photoreception in Stomatopod Crustaceans"

Molecular & Cell Biology Program

Margarita Correa Mendez, David Eisenmann, Mentor
"Identification of Transcription Factors that Regulate Pax-3 Expression in The C. Elegans Hypodermis"

Neurosciences and Cognitive Sciences Program

Kayla Lemons, Weihong Lin, Mentor
"The Role of Cholinergic Microvillus Cells in Olfactory Protective Responses to Inhaled Xenobiotic Chemical Irritants"

Department of Chemistry and Biochemistry:

Chemistry Program

Evgenia Barannikova, Mark Allen, Mentor
"Peptide-Templated Synthesis and Assembly of Nanostructured Materials for Li-Ion Batteries"

Kenneth C. Childers, Elsa Garcin, Mentor
"Structural Studies of Soluble Guanylate Cyclase"

Eric R. Languirand, Brian M. Cullum, Mentor
"Characterization and Validation of a Novel Nano Imaging Technique"

DeLauren McCauley, William LaCourse, Mentor
"Detection of Off-Flavor Compounds in Recirculating Aquaculture Systems Using Gas Chromatography-Mass Spectrometry"

Adam A. Meares, Marcin Ptaszek, Mentor
"Strongly Conjugated Hydroporphyrin Dyads: Near Fluorophores and Activatable Singlet Oxygen Photosensitizers"

Scott J. Riley, Mark Allen, Mentor
"Direct Enhancement of Lithium Ion Batteries via Bio-Templated Cathode Materials"

Arunendra Saha Ray, Marie-Christine Daniel, Mentor
"Multifunctional Gold Nanoparticles for Combination Drug Delivery"

Danielle Schmitt, Songon An, Mentor
"Reversible Compartmentalization of Metabolic Pathways and their Influence on Cellular Energetics"

Pietro Strobbia, Brian M. Cullum, Mentor
"Material Optimization of Multilayer-Enhanced Nanostructures"

Brian Szychowski, Marie-Christine Daniel, Mentor
"Synthesis of Molecularly Bridged Gold Nanoparticle Dimers to Mimic the Detection of Protein-Protein Interactions"

Department of Mathematics and Statistics:

Applied Mathematics Program

Maria Barouti, Jacob Kogan, Mentor; Yaakov Malinovsky, Co-Mentor
"Monitoring Distributed Data Streams"

Zois Boukouvalas, Tulay Adali, Mentor; Anindya Roy, Co-Mentor
"Independent Vector Analysis: Algorithms and Applications"

Mona S. Hajghassem, Andrei Draganescu, Mentor
"Multigrid Solution of Distributed Optimal Control Problems Constrained by Parabolic PDEs"

Juyoung Jeong, Muddappa S. Gowda, Mentor
"On the Lyapunov Rank of Permutation Invariant Cones and Spectral Cones"

Samuel Khuvis, Matthias K. Gobbert, Mentor
"Research Opportunities on Modern Cpus and Many-Core Processors"

Michael J. Orlitzky, Muddappa S. Gowda, Mentor
"Lyapunov Rank and Linear Games over Proper Cones"

Hyekyung Park, Florian Potra, Mentor; Weining Kang, Co-Mentor
"Robust Portfolio Selection Problem with Value-at-Risk (VAR) Constraint"

Statistics Program

April C. Albertine, Bimal Sinha, Mentor
"Some Aspects of Statistical Meta-Analysis"

Rowena Bastero, Bimal Sinha, Mentor; Chuanhua Xing, Co-Mentor
"A Swapping Method Based on Covariates Classification for Average Treatment Effect Estimation"

Marilena Flouri, Thomas Mathew, Mentor
"Tolerance Limits and Confidence Limits for Cost-Effectiveness Analysis"

Peter E. Linton, Anindya Roy, Mentor; Tucker S. McElroy, Co-Mentor
"Causal and Invertible VARMA Modeling"

Ginto J. Pottackal, Thomas Mathew, Mentor
"Some Tests, Confidence Limits and Tolerance Limits for Assessing Biosimilarity"

Aijun Ye, Anindya Roy, Mentor
"Efficient Designs for Cyclic Data Generated by Multivariate Harmonic Mixed Models"