

David C. Rostal, Director

**Contact Information for COUR**

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“We Center on Undergraduate  
Research”

**COUR Committee Members**

Norman Schmidt	Chemistry
George Fu	CM&CE Technology
Brian Bossak	Geology and Geography
Scott Harrison	Biology
Jiehua Zhu	Mathematical Sciences
Frank Goforth	M&EE Technology
Sarah Higdon	Physics

The COUR committee is charged with furthering the mission of COUR. The COUR committee determines the recipients of the annual Paulson Scholarship Awards. The COUR committee gathers, organizes and disseminates information on undergraduate research experiences to the Georgia Southern community. Committee members serve as liaisons to their departments to further undergraduate research at Georgia Southern University.

Georgia Southern University  
COUR Website:

[http://cost.georgiasouthern.edu  
/resources/cour/](http://cost.georgiasouthern.edu/resources/cour/)

**COLLEGE OFFICE  
OF  
UNDERGRADUATE  
RESEARCH**

**(COUR)**

**2009-2010**

**ALLEN E.  
PAULSON**

**COLLEGE OF  
SCIENCE &  
TECHNOLOGY**



**2009 Paulson Student Research  
Symposium**

April 8, 2009, 3:00-5:00 pm

The **Allen E. Paulson College of Science and Technology** at Georgia Southern University is a diverse community of teacher-scholars, students, alumni, and friends engaged in the discovery, application, integration, and transformation of scientific and technological knowledge. Reflecting the best practices of our disciplines, the College provides undergraduate and graduate students with a challenging education that is research-based and technology-infused, and promotes life-long learning and stewardship for the benefit of the human, natural, and technological resources of Georgia, the nation, and the world.

**Mission:**

To further the Undergraduate Research Experience in Science & Technology at Georgia Southern University

**Objectives:**

- Support and enhance existing faculty-undergraduate research
- Facilitate the creation and support of new faculty-undergraduate research initiatives
- Showcase faculty-undergraduate research

Presenter / Mentor	Title
David Rostal	Introduction to Symposium
Wade Carruth / David Rostal (Biology)	Relationship among egg size, pelvis size, and female size in the gopher Tortoise, <i>Gopherus polyphemus</i>
Nicole Hutchinson / Scott Harrison (Biology)	Population Genetics of the Threatened Gopher Tortoise in Southeast Georgia
Joseph Kelley / Lissa Leege (Biology)	Effect of Fire on <i>Baptisia arachnifera</i> Germination Rates
Jeffery Lewis / Mosfequer Rahman (MEEET)	Study the Effect of Number of Blades on the Aerodynamic Characteristics of <i>Savoniusrotors</i>
Caitlin Madigan / Karen Welch (Chemistry)	Rational Design of Carbohydrate Replacements
Jacob McBride / Aniruddha Mitra (MEEET)	An Innovative Manufacturing Process and Mass Production
Ryan McDaniel / Gustavo Molina (MEEET)	Implementation of Photoemission Measurement Capabilities to a High Vacuum Instrument
Nancy Montgomery / Shannon Davis (Chemistry)	An Environmentally Friendly Oxidation of Cyclohexane to Adipic Acid
Ryan Mooney / Shahnam Navaee (MEEET)	Analysis of Beams Utilizing MATLAB and LabVIEW
Kyle Morse / Mosfequer Rahman (MEEET)	Improvement in Design, Performance and Fabrication of a Formula SAE Race Car
Samantha Peacock / Norman Schmidt (Chemistry)	SPME Analysis of Volatiles in a Bee Hive
Mary Pittman / Laura Frost (Chemistry)	Bile Salt - Phospholipid Aggregation Studies Using a Headgroup Labeled Fluorophore
Matt Smith / Lance McBrayer (Biology)	Determining the Influence of Testosterone Levels on the Foraging Behavior in a Nonterritorial Lizard Species
Kenneth Tabor / Laura Regassa (Biology)	Defining Spiroplasma Evolutionary Relationships: rpoB Sequence Divergence
Christopher Thompson / Sophie George (Biology)	Development Rates and Size Might Depend on Rearing Salinity and Nutritional State of Sea Urchin Larvae
Colin Westlake / Junan Shen (CMCET)	Triaxial Test of Stabilized Savannah Soil using Crumb Rubber

**Research Award Recipients  
2009-2010**

McDaniel, Ryan / Molina (MEEET) Implementation of wear and directional photoemission measurement capabilities to a high vacuum instrument

McHugh, Andrea C. / Trupe (Geology) Structural Geology of Paleozoic shear zones in the Blue Ridge thrust complex, western NC and eastern TN

Segal, Chad / Soloin (MEEET) Smart and Lean ECU for High Efficiency and Low Emissions Bio Ethanol Green Engine

Sparrow, Jessica / Rostal (Biology) Temperature variations within and among Loggerhead Sea Turtle (*Caretta caretta*) nests across the season: Possible influence on hatchling sex ratios.

Carruth, Wade / Harrison (Biology) Population genetics of the American alligator (*Alligator mississippiensis*)

Boring, James / Rios (MEEET) The Design Fabrication of an Autonomous Mission Specific Robot  
Carlson, Michelle / George (Biology) Shell Utilization by juvenile fiddler crabs varies with substrate quality and species

McElveen, Stephen / Tu (Geography) Using Geographic Information Systems (GIS) to Study Low Birth Weight (LBW) Prevalence in Georgia Public Health District 9

Labelle, Sara R. / Shen (CET) Application of GPS and GIS Technologies in Travel Time and Delay Study

Turner, Jonathan / Rahman (MEEET) Design Fabrication and Performance measurement of a Prototype Savonius Rotor Vertical Axis Energy Conversion System

Kritter, Alison / Cawthorn (Biology) Method of Insect Foraging in Owl Monkeys (*Aotus spp*): Sight or Sound?

Cheatham, JoAnna / Rios (MEEET) LEGO Robotics Research

Cooper, Vanessa N. / Wang (Math) Exploring extremal trees of chemical indices through algorithm design and computer programming

