



# MATHEMATICS

RESEARCH EXPERIENCES FOR  
UNDERGRADUATES  
JUNE 3, 2013 - AUGUST 2, 2013



## RESEARCH, EDUCATION AND TRAINING IN MATHEMATICS AND NONLINEAR DYNAMICS OF BIOLOGICAL, BIO-INSPIRED AND ENGINEERING SYSTEMS

### EARN WHILE YOU LEARN!

#### Research Areas

- Modeling using deterministic and stochastic differential equations
- Computational biology, biomechanics
- Mathematics of Materials
- Nonlinear dynamics and Micro Air Vehicles
- Mathematics Education

#### Program Eligibility

Minimum 3.3 GPA  
Must be currently in junior/senior year  
Must be a US Citizen or Permanent Resident

#### Financial Support

Stipend (\$3,375)  
Travel Allowance (\$550)  
Housing and dining provided

#### Application Deadline

March 1, 2013



#### Contact

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**About the Program:** The Department of Mathematical Sciences at GMU will host a multidisciplinary undergraduate research program in computational mathematics and nonlinear dynamics of biological, bio-inspired and engineering systems. This program will expose **twelve** mathematics undergraduate students and **two K-12 teachers** to advanced topics in mathematics and mathematics education, problem-solving techniques and multidisciplinary applications. Selected problems range from Aneurysm mechanics and Design of Smart Materials to Modeling of Micro Air Vehicles, Porous substrates and Materials engineering applications to Exploratory Data analysis in mathematics education applications. The overall goal of this program is to encourage students and teachers to learn by discovery and enhance their understanding of the multidisciplinary role of mathematics in engineering, science and medicine. The metro region of Washington, DC is a particularly fertile area for research and work opportunities, including consulting, teaching, and government. Women and minorities are especially encouraged to apply.

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