Research Opportunities in the URM Program

The research programs of 30 faculty members in four participating departments (Botany, Chemistry and Biochemistry, Microbiology and Zoology), involve a range of organisms (plants, animals and microbes), and a wide range of areas that includes neurobiology, developmental biology, cell biology, molecular genetics, gene regulation, and microbial pathogenesis.

Two 8 week research rotations or 16 week lab experiences are available during the Spring semester of each year as part of BCMZ 103 (Introduction to Research in Biology). Students may continue in this lab until graduation or move to another lab after the initial semester.

Faculty Research Areas:

- **Luis Actis (Micro)**
  - Molecular mechanisms of bacterial pathogenesis

- **Eileen Bridge (Micro)**
  - Adenovirus host cell interactions

- **Phyllis Callahan (Zoo)**
  - Neural regulation of anterior pituitary function

- **Joe Carlin (Micro)**
  - Understanding Chlamydial infections

- **Michael Crowder (Chm)**
  - Mechanistic and structural characterization of metalloenzymes

- **Katia Del Rio Tsonis (Zoo)**
  - Cellular and molecular basis of tissue regeneration

- **Joyce Fernandes (Zoo)**
  - Cell Interactions during neuromuscular development

- **Benjamin Gung (Chm)**
  - Organic Synthesis, Natural Product Total Synthesis, Synthetic Method Development

- **Susan Hoffman (Zoo)**
  - Molecular Evolution in Mammals

- **Lori Isaacson (Zoo)**
  - Neuronal Survival; Aging and Neurodegeneration

- **Paul James (Zoo)**
  - Molecular Physiology; Membrane Transport; Sodium Pumps

- **Jim Janik (Zoo)**
  - Neural regulation of anterior pituitary function

- **Michael Kennedy (Chm)**
  - Structural genomics, NMR spectroscopy, x-ray crystallography

- **Kathleen Killian (Zoo)**
  - Synaptic plasticity and integration, neural basis of behavior

- **Andor Kiss (Zoo)**
  - Stability of non-enzymatic globular proteins

- **John Kiss (Bot)**
  - Gravitropism in higher and lower plants, space biology

- **Marcia Lee (Micro)**
  - Use of ice-nucleating active bacteria & fungi for biological control

- **Richard (Rick) Lee (Zoo)**
  - Ecophysiological Cryobiology

- **Chun Liang (Bot)**
  - Bioinformatics; plant genomics, Biological databases and data mining

- **Quinn Li (Bot)**
  - Genetic engineering of plant resistance to pathogens

- **Gary Lorigan (Chm)**
  - Properties of membrane-bound proteins; interactions within the lipid bilayer

- **Chris Makaroff (Chm)**
  - Molecular and cellular biology of meiosis

- **Rachel Morgan-Kiss (Micro)**
  - Evolutionary genetics and genomics, evolution of sexual reproduction systems

- **Richard Moore (Bot)**
  - Evolutionary genetics and genomics, evolution of sexual reproduction systems

- **David Pennock (Zoo)**
  - Cellular/molecular biology; microtubule-based motility

- **Michael Robinson (Zoo)**
  - Cell signaling events in lens development

- **Claire Shi (Zoo)**
  - Neural and hormonal control of energy balance & glucose regulation

- **Nancy Solomon (Zoo)**
  - Comparative Physiology, Muscle & Energy Metabolism

- **David Tierney (Biochem)**
  - Bioinorganic and physical inorganic chemistry; magnetic resonance; x-ray spectroscopy

- **Blanton Tolbert (Biochem)**
  - Biophysical chemistry of HIV Gene Expression

- **Jack Vaughn (Zoo)**
  - Molecular evolution of genes and their introns - plasticity and integration