

A distinguishing feature of MCG's molecular medicine graduate program is its vertically integrated study of individual human diseases using approaches ranging from basic research through translation to the clinic. Our faculty hold degrees in more than a dozen disciplines and are drawn from many departments and centers. Some are practicing physicians familiar with frontline challenges of clinical medicine; others are experts in molecular and cellular approaches as well as animal models of human disease.

As a student, you will gain from the diversity of the expertise and viewpoints represented among our faculty. Your education will provide you with the knowledge required to become an independent scientist, allowing you to solve challenging problems of your own selection, within an academic medical center, research institute, government laboratory, or pharmaceutical company.

**Preparing you for a career in  
molecular medicine.**

### World Class Facilities

Many Molecular Medicine faculty are based in the state-of-the-art Interdisciplinary Research Building on Laney-Walker Boulevard. Additional faculty are located in the adjacent Sanders Research & Education Building and the newly completed Cancer Research Center.

Molecular Medicine faculty administer several hi-tech core facilities for MCG, including:

- The Cell Imaging Core
- Transgenic Mouse & Embryonic Stem Cell Core
- Transgenic Zebrafish Core
- Flow Cytometry Core
- Proteomics & Mass Spectrometry Core

These core facilities are available for use by Molecular Medicine graduate students to address key research questions.

Graduate Program in

# Molecular Medicine



## contact

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From molecular science to  
medical therapy...



**Medical College of Georgia  
School of Graduate Studies**





Emphasizing the molecular processes underlying human diseases.

**The Molecular Medicine Ph.D. program** was initiated in 1997 to train students for leadership positions in biomedical research. The interdisciplinary program emphasizes the molecular processes underlying human diseases, with particular application to translating research from the bench to the bedside. Molecular Medicine comprises over 40 faculty with diverse research interests. Some of the areas in which Molecular Medicine students can specialize are:

**Developmental Neurobiology:** the study of the molecular mechanisms underlying development, function and diseases of the nervous system.

- Erhard Bieberich:** ceramides & neural development
- Cesar Borlongan:** therapies for neurological disorders
- Darrell Brann:** hormones & neuroprotection
- Richard Cameron:** brain development
- Quansheng Du:** asymmetric cell division in brain
- David Kozlowski:** ear development in zebrafish
- Huashun Li:** asymmetric cell division in brain
- Lynnette McCluskey:** developmental biology of taste
- Lin Mei:** neuromuscular junctions & synapses
- Shirley Poduslo:** genetics of Alzheimer's & MS
- Xingming Shi:** bone biology & osteoporosis
- Wen-Cheng Xiong:** tyrosine kinases & cell adhesion
- Robert Yu:** glycosphingolipids & neuronal diseases
- Guichao Zeng:** glycosphingolipids & cancer

**Gene Regulation and Cancer Biology:** the study of gene expression and genome stability with applications to cancer development and cancer radiotherapy.

- William Dynan:** DNA repair & radiotherapy
- Hernan Flores-Rozas:** DNA mismatch repair & cancer
- Stephen Hsu:** green tea polyphenols & cancer prevention
- Tohru Ikuta:** sickle cell disease & globin expression
- Lan Ko:** nuclear receptor coactivators & cancer
- Andrew Phillips:** apoptosis & cancer
- Hubert Stöppler:** papillomaviruses & cervical cancer

**Molecular Chaperones and Radiobiology:** the study of proteins that function to protect cells against stresses such as radiation, with involvement in cancer and neurodegenerative diseases.

- Anil Cashikar:** molecular chaperones
- Anatolij Horuzsko:** transplantation immunology
- Tom Hu:** imaging techniques to study disease
- Joseph Kaminski:** gene therapy
- Nahid Mivechi:** molecular chaperones & cell stress
- Dimitrios Moskofidis:** viral infectious diseases
- Shinichi Takayama:** regulation of apoptosis in stress responses

**Molecular Immunology:** the study of the development and function of the immune system, with the goal of developing improved therapies in autoimmune and chronic infectious diseases and cancer.

- Yehia Daaka:** receptor signaling & disease
- Makio Iwashima:** T lymphocyte activation
- Pandelakis Koni:** dendritic cells, T cells & cancer
- Andrew Mellor:** immunotherapy & cancer
- David Munn:** T cell biology & cancer
- Stephen Peiper:** chemokine receptors & cancer

**Regenerative Medicine:** the study of tissue regenerative processes with the goal of repairing degenerating tissues in diseases such as osteoporosis and wound healing.

- Wendy Bollag:** lipid signals in skin cancer & hypertension
- Catherine Chew:** acid secretion & ulcer disease
- Carlos Isales:** bone biology & osteoporosis
- Paul McNeil:** wound healing
- Nurul Sarkar:** breast cancer virology

**Reproductive Medicine:** the study of infertility and reproductive assistive measures.

- Ali Eroglu:** cell & tissue preservation methods
- Lawrence Layman:** reproductive disorders
- Ying Song:** cryopreservation of tissues

[www.mcg.edu/Institutes/IMMAG](http://www.mcg.edu/Institutes/IMMAG)

## An Affordable Education...

Biomedical science students at the Medical College of Georgia are eligible for a graduate research assistantship, which provides an annual stipend of \$23,000 for 2007-2008. Graduate student fees and a reduced tuition rate total only ~\$300 per semester.

## A Promising Future...

MCG's graduate program in Molecular Medicine has been highly successful in training tomorrow's leaders. Graduates of the program have continued their training at a number of prestigious institutions, including Harvard University, University of North Carolina (Chapel Hill), the National Institutes of Health, Vanderbilt University, Wake Forest University, University of Chicago, University of Connecticut and the University of Wisconsin (Madison) and have gone on to faculty positions in public and private universities.

Success in training tomorrow's leaders.

