**Systems Biology Area of Concentration:**

- **Multidisciplinary Faculty**
- **Multi-mentor graduate training**
- **Special courses:**
  - Introduction to Systems Biology
  - Optical Microscopy and Bioimaging
  - CAM Journal Club/Research in Progress
- Located in a new state-of-the-art facility (R&D Magazine’s “Renovated Lab of the Year 2011”)
- Shares facility with Genetics AoC & Technology Incubator.

**Multidisciplinary Research:** Interface of Biology, Physics, Chemistry, Biophysics, Mathematics, CS&E.

- **Modeling & Simulation**
  - Data Driven Analysis and Simulation
  - Modularity and Multistate Complexes
  - Modeling cellular processes in space and time
  - Agent-based Modeling
  - Stochastic Modeling and Discrete Particles

- **Optical Imaging**
  - Virtual Microscopy; Fluorescent Correlation Spectroscopy
  - Optical Probe Development
  - Non-linear Optical Microscopy
  - Single Molecule Imaging

- **Cell Biology & Biophysics**
  - Signal Transduction
  - Biological Signaling Platforms
  - Single Molecule and Particle Tracking
  - Cytoskeletal Dynamics and Morphogenesis

- **Omics analysis**
  - Pathway Analysis
  - Gene regulatory Networks
  - Gene expression & Proteomics analysis
  - Large scale modeling
  - Molecular Medicine

**PIs**:
- **Modeling & Simulation**: Blinov, Cowan, Loew, Mendes, Moraru, Slepchenko, Vera-Licona
- **Optical Imaging**: Acker, Cowan, Mayer, Mohler, Loew, Rodionov, Wu, Yan, Yu, Carson* (emeritus)
- **Omics analysis**: Blinov, Kshitiz, Mendes, Moraru, Vera-Licona
- **Cell Biology & Biophysics**: Cowan, Kshitiz, Loew, Mayer, Mohler, Rodionov, Wu, Yu, Carson*

**Cell Analysis and Modeling Center (CCAM)**: [https://health.uconn.edu/cell-analysis-modeling/](https://health.uconn.edu/cell-analysis-modeling/)

**Center for Quantitative Medicine (CQM)**: [https://health.uconn.edu/quantitative-medicine/](https://health.uconn.edu/quantitative-medicine/)

**AoC**: [http://health.uconn.edu/graduate-school/academics/programs/ph-d-biomedical-science/cell-analysis-and-modeling-graduate-program/](http://health.uconn.edu/graduate-school/academics/programs/ph-d-biomedical-science/cell-analysis-and-modeling-graduate-program/)

**Program Director**: Dr. Michael Blinov (blinov@uchc.edu). **Associate Director**: Dr. Yi Wu (yiwu@uchc.edu)
What you should know about our program

➢ An area of concentration within the Biomedical Sciences PhD Program
➢ Explores the cellular, molecular and genetic processes related to skeletal development, skeletal diseases, injuries and their regeneration
➢ A highly multi-disciplinary program that includes over 25 research labs at UCONN
➢ A vibrant educational environment that includes scientific symposia, seminar series, social events, and opportunities for outreach

Welcome

On behalf of the faculty representing the Skeletal Biology & Regeneration Program, we would like to welcome you to the UCONN Health Open House.

It's a very exciting time to be in the field of skeletal biology and tissue regeneration. Scientific breakthroughs in a variety of disciplines such as, stem cell biology, genomics, imaging, and tissue engineering have truly revolutionized our understanding of the human skeleton.

A common misconception of visiting students regarding our program is the belief that a background in skeletal biology is needed for entering our program. In reality, we view students educated and trained outside our immediate field as a strength.

Laboratories in Skeletal Biology and Regeneration work in human, mouse and zebra fish systems; study transcriptional, post-transcriptional and epigenetic mechanisms regulating gene expression; utilize mouse and iPSC models of human diseases; use novel biomaterials to facilitate drug delivery and defect repair.

All students interested in the Skeletal Biology and Regeneration Area of Concentration must first be accepted into the Biomedical Science PhD graduate program. Once accepted, you will rotate through various laboratories to help you decide on a lab and thesis advisor for your PhD work.

The link for the application is: http://grad.uchc.edu/prospective/programs/phd_biosci/apply.html

Please contact us if you have any questions about our program. We look forward to meeting you!

Archana Sanjay, PhD
asanjay@uchc.edu
Director of Skeletal Biology & Regeneration

Rosa Guzzo, PhD
guzzo@uchc.edu
Associate Director of Skeletal Biology & Regeneration

To Learn More About Our Program Please Visit:

http://health.uconn.edu/graduate-school/academics/programs/phd-biomedical-science/skeletal-biology-and-regeneration/
The Neuroscience Graduate Program at the University of Connecticut School of Medicine is an interdisciplinary and interdepartmental program with over 25 faculty members. Research in the program is aimed at understanding the development, organization, function, and dysfunction of the nervous system at the molecular, cellular, systems, and whole animal levels.

Contact Us
Neuroscience Graduate Program
https://health.uconn.edu/neuroscience
Program Director: Eric Levine, Ph.D.
eslevine@uchc.edu
Associate Director: Stephen Crocker, Ph.D.
crocker@uchc.edu

Faculty research interests include:
- Development of neural tissue
- Synaptic integration and plasticity
- Organization of sensory systems
- Injury repair in the visual system
- Regeneration and transplantation
- Neurobiology of Alzheimer’s disease
- Glial-neuronal interactions
- Human stem cells models of autism
Students interested in understanding the molecular mechanisms that underlie human disease will find a home in the Molecular Biology and Biochemistry (MBB) Graduate Program. From cancer to host-pathogen interactions, our students study the proteins and pathways involved with an eye toward improving disease diagnosis, prevention and treatment. MBB students are affiliated with the Department of Molecular Biology and Biophysics, which provides a rigorous, yet supportive community of faculty, students and staff to guide them through the Ph.D. degree process.

The primary goal of the MBB Graduate Program is to train students for the broad range of careers available in biomedical science. Whether you pursue a career in academic research, biomedical industry, teaching, government or any of the other careers now available to Ph.D. scientists in biomedical science, we attempt to prepare you with a solid base of knowledge, critical thinking skills and the confidence in your abilities to be successful.

**Focus on you**

**Structural Biology and Biophysics**
- Irina Bezsonova*
- Wolfgang Peti*
- Ann E. Cowan
- Michael Gryk
- Bing Hao*
- Jianbin Ruan*

**Cancer Biology**
- Christine Beck*
- Irina Bezsonova*
- Bing Hao*

**Microbiology and Infectious Diseases**
- Jeffrey Hoch*
- Stephen M. King*
- Dmitri Korzhnev*
- Rebecca Page*
- Adam Schuyler*

**Computational Biology**
- Ann E. Cowan
- Jeffrey Hoch*
- Hamid Eghbainia

**Mentors**
- Melissa Caimano*
- Bing Hao*
- Wendy Mok*
- Rebecca Page*

**Cellular Pathways**
- Jeffrey Hoch*
- Adam Schuyler*

**Structural Biology and Biophysics**
- Jeffrey Hoch*
- Stephen M. King*
- Dmitri Korzhnev*
- Rebecca Page*
- Adam Schuyler*

**Computational Biology**
- Jeffrey Hoch*
- Hamid Eghbainia

**Cellular Pathways**
- Rebecca Page*
- Wolfgang Peti*
- Jianbin Ruan*
- Stephen M. King*

*currently accepting rotation students

More about us: mbb.uchc.edu
Why IGP?

- Immunology is at the forefront of 21st century’s approach to treat and control diseases including cancer.
- The mission of the Immunology Graduate Program is to train the next generation of basic and applied immunologist who will make significant contributions to 21st century medicine.
- The IGP has trained >120 students, who have secured postdoctoral fellowships in world-renowned laboratories, faculty positions at academic institutions and scientist positions in biomedical industry.

IGP has a vibrant research portfolio focusing on a diverse range of interrelated topics within the fields of infectious disease, autoimmunity and cancer biology.

Contact information:

Director: Dr. Vijay Rathinam, D.V.M., P.hD.
Associate Director: Dr. Adam Adler, Ph.D.

More info: http://health.uconn.edu/immunology
The Genetics and Developmental Biology area of concentration (GDB AoC) provides qualified students with fundamental interdisciplinary training in modern molecular genetics and developmental biology, emphasizing cellular and molecular aspects as well as tissue interactions. Areas of research include the mapping and cloning of human genes responsible for disease, RNA processing (including RNA editing, alternative splicing, antisense regulation, and RNA interference), the molecular mechanisms of aging, signal transduction pathways, microbial pathogenesis, developmental neurobiology, cell differentiation, musculoskeletal development, morphogenesis and pattern formation, reproductive biology and endocrinology. Faculty members are from several basic science and clinical departments and study a wide range of organisms including yeast, parasites, worms, fruit flies, birds, mice, zebrafish and humans. Students are encouraged to obtain in-depth training in molecular genetics and developmental biology. The GDB AoC prepares students to compete for job opportunities in traditional medical and dental school departments as well as a productive research career in either academia or industry.
Where are Cell Biology Labs?

Cell Biology Area of Concentration

- Center for Vascular Biol
- Cardiology Center
- Dept of Immunology
- Dept of Cell Biol
- Dept of Reconstructive Science
- Dept of Neuroscience
- Dept. of Surgery
- Dept. of Medicine
- Center for Cell Analysis & Modeling
- The Jackson Laboratory
What do we offer?

We offer a comprehensive training program leading to a PhD in Biomedical Sciences with specialization in Cell Biology.

Research Areas:

- Cell Organelle
- Cardiovascular Biology
- Brain Injury & Repair
- Stem Cell Biology
- Cancer Biology
- Signal Transduction
- Reproductive Biology
- Computational Biology
Signaling through nanotubes in Stem Cell Niche (Dr. Mayu Inaba’s Lab)

“Car Garage” stack organization of the Golgi Apparatus (by Dr. Mark Terasaki)

Brain Vasculature by Two-Photon Imaging

Embryo in the making (by Dr. Lisa Mehlmann)