

## IBSP Tracks

- **Cancer and Developmental Biology**  
[uthsc.edu/grad/IBS/cdbiology.php](http://uthsc.edu/grad/IBS/cdbiology.php)
- **Cell Biology and Physiology**  
[uthsc.edu/grad/IBS/biology\\_physiology.php](http://uthsc.edu/grad/IBS/biology_physiology.php)
- **Microbiology, Immunology, and Biochemistry**  
[uthsc.edu/grad/IBS/mib.php](http://uthsc.edu/grad/IBS/mib.php)
- **Molecular and Systems Pharmacology**  
[uthsc.edu/grad/IBS/pharmacology.php](http://uthsc.edu/grad/IBS/pharmacology.php)
- **Neuroscience**  
[uthsc.edu/grad/IBS/neuroscience.php](http://uthsc.edu/grad/IBS/neuroscience.php)

The **Cancer and Developmental Biology** track is appropriate for students seeking training in the following areas:

- Animal models for tumorigenesis and development
- Tumor suppressor and oncogenic signaling pathways
- Angiogenesis
- Cell proliferation and cell death
- Differentiation
- Development
- Pathology
- Cancer stem cells/tumor-initiating cells
- Novel therapeutic approaches

The **Cell Biology and Physiology** track includes research on diverse topics, including cardiovascular, gastrointestinal, respiratory, neurodegenerative and hematopoietic diseases. Investigations are conducted at the cellular and molecular levels on specific topics like signal transduction, cell adhesion, cell division and death.

The **Microbiology, Immunology and Biochemistry** track has active research programs spanning a wide range of research interests, including:

- Molecular and cellular bases for bacterial and viral infectious diseases
- Mechanisms of normal and abnormal immune function
- Chronic inflammatory and immune-mediated diseases in humans
- Animal models of human diseases
- Vaccine design and development
- Cancer gene therapy
- Genomics, transcriptomics, proteomics, and methods to study large biological data sets
- Mechanisms of protein localization and transport
- Cell signaling
- Genetics, biochemistry, and cell biology of transcriptional regulation in prokaryotes and eukaryotes
- Bioinformatics

The **Molecular and Systems Pharmacology** track is uniquely positioned to integrate pharmacologic and molecular approaches to problems in addiction, cancer therapeutics, cardiovascular disease, cell signaling, and regulation of channels.

The **Neuroscience** track focuses on research in intracellular signaling pathways, neuronal excitability, synaptic transmission, sensory processing, retinal biology, neurological and neurodegenerative disorders, brain tumors, neurogenetics and neural development, and mental and addictive disorders.



## Contact Information



For detailed information on the graduate programs and research training, please visit:

[www.uthsc.edu/grad/IBS](http://www.uthsc.edu/grad/IBS)

### Graduate program administrator:

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### Graduate program director:

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St. Jude Children's  
Research Hospital

ALSAC • Danny Thomas, Founder



UTHSC and St. Jude Children's Research Hospital  
are EEO/AA/Title VI/Title IX/Section 504/  
ADA/ADEA employers.

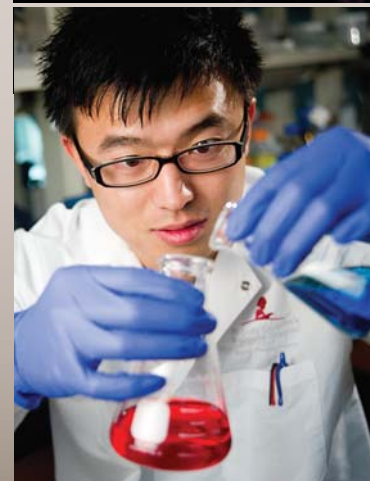
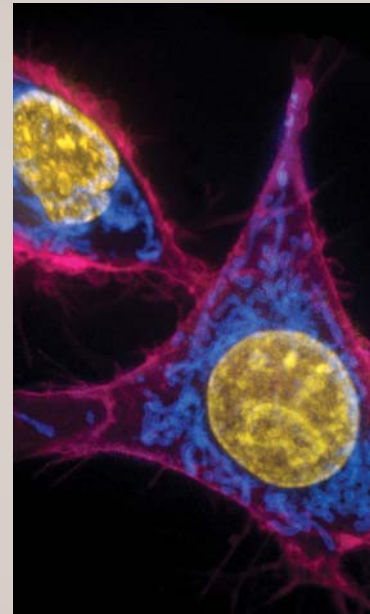
Produced by the Department of Biomedical Communications,  
St. Jude Children's Research Hospital, Memphis, TN 38105 (10/13 19300)

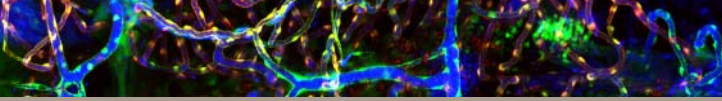
# Integrated Biomedical Sciences Program

An Interdisciplinary Graduate Program



HEALTH SCIENCE CENTER





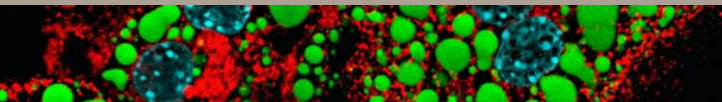
# Integrated Biomedical Sciences Program

## An Interdisciplinary Graduate Program

The Integrated Biomedical Sciences Program (IBSP) is an interdisciplinary, research-oriented graduate program in which students train in faculty laboratories at the University of Tennessee Health Science Center, St. Jude Children's Research Hospital, and the Veteran Affairs Medical Center. Students who would like to train in any one of the five research tracks should apply to the IBSP, and will then have the option of considering multiple tracks or directly entering a specific track.

The IBSP features:

- Over 150 participating faculty members from the University of Tennessee Health Science Center, St. Jude Children's Research Hospital, and the Veterans Affairs Medical Center
- Five different tracks representing the best of contemporary biology
- Flexibility: students may select from laboratories in any of the tracks to identify a research advisor and are not limited by departmental barriers found in traditional graduate programs
- Stipends, tuition and health insurance is paid for all doctoral students. Stipends are \$25,000 per year.
- Exceptional, yet affordable, living in a metropolitan setting



## Admission Requirements

Minimum requirements include:

- Bachelor's degree
- 3.0 grade-point average (GPA)
- Minimum combined score of 1,000 (old scale) or 300 (new scale) on GRE verbal and quantitative sections
- Minimum TOEFL score of 213 (computer-based exam) or 79 (Internet-based exam) if English is not native language

All applicants must arrange for official transcripts, official test scores, and 3 recommendation letters to be sent to the UTHSC Enrollment Services office. International transcripts from non-U.S. institutions must be verified and evaluated course-by-course, generating a GPA based on a 4.0 scale, through an independent educational-evaluation service such as WES or ECE.

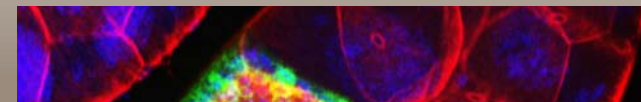
## Stipends and Scholarships

IBSP students receive an annual stipend, tuition coverage and other benefits—see details at [www.uthsc.edu/grad/IBS/stipends\\_scholarships.php](http://www.uthsc.edu/grad/IBS/stipends_scholarships.php). Outstanding graduates of U.S. institutions are eligible for Alumni Endowment Scholarships that contribute up to \$3,000 of additional annual support.

## How to Apply

Applying online is free and easy. Simply go to the UTHSC website at [www.uthsc.edu/apply](http://www.uthsc.edu/apply) and follow the directions. Then, arrange for supporting documents to be mailed to the following address:

The University of Tennessee Health Science Center  
Office of Enrollment Services  
910 Madison Avenue, Suite 520  
Memphis, TN 38163



## The University of Tennessee Health Science Center



The University of Tennessee Health Science Center (UTHSC) was established to improve human health through education, research, clinical care and public service. UTHSC serves as the educational hub of one of the nation's oldest and largest medical centers. The university employs approximately 4,000 faculty and staff who are joined by over 2,800 graduate and health-care profession students. UTHSC houses 5 research Centers of Excellence and hosts 57 endowed professorships, of which 19 are Chairs of Excellence. UTHSC has received national and international attention for basic



and applied research in a variety of disciplines.

[www.uthsc.edu](http://www.uthsc.edu)

## St. Jude Children's Research Hospital



During the past 50 years, St. Jude Children's Research Hospital has become the world's premier treatment and research center for children with cancer, sickle cell disease and other life-threatening illnesses. The St. Jude faculty includes some of the world's top scientists and physicians, including a Nobel laureate, Howard Hughes Medical Institute Investigators, and members of the National Academy of Sciences. Home to the first and only National Cancer Institute-designated Comprehensive Cancer Center devoted solely to children, St. Jude



offers excellent resources and facilities, as well as an outstanding research environment for students wishing to study the fundamental causes of human disease.

[www.stjude.org](http://www.stjude.org)