

The image is a cover for the Baylor College of Medicine Graduate School of Biomedical Sciences. It features a photograph of a large, multi-story, light-colored building with a red-tiled roof, identified as 'The Roy and Lillie Cullen Building'. In the foreground, there is a large, circular fountain with multiple jets of water spraying upwards. To the right of the fountain, a large, green palm tree stands prominently. The sky is blue with scattered white clouds. The text 'Baylor College of Medicine' is in a white serif font on a dark blue rectangular background in the top right. Below it, 'GRADUATE SCHOOL OF BIOMEDICAL SCIENCES' is in a white sans-serif font. The building's name is visible on a sign above an entrance on the left. The fountain's name, 'Alkek', is partially visible on its base. The overall scene is a well-maintained campus area with trees and a paved plaza.

Baylor  
College of  
Medicine

GRADUATE  
SCHOOL  
OF BIOMEDICAL SCIENCES

The Roy and Lillie Cullen Building

Alkek

# TABLE OF CONTENTS

- 3 CHOOSE YOUR PATH
- 4 IMPACTFUL RESEARCH
- 6 RESEARCH RESOURCES TO SUPPORT YOUR SUCCESS
- 8 FLEXIBILITY TO MEET YOUR GOALS
- 10 LOCATION, LOCATION, LOCATION
- 12 STUDENT SUCCESS RESOURCES
- 14 STIPENDS AND BENEFITS
- 15 ADMISSIONS
- 16 FIND YOUR FIT | GRADUATE PROGRAMS

- 18 Cancer & Cell Biology (CCB)
- 20 Chemical, Physical & Structural Biology (CPSB)
- 22 Development, Disease Models & Therapeutics (DDMT)
- 24 Genetics & Genomics (GG)
- 26 Immunology & Microbiology (IM)
- 28 Neuroscience (Neuro)
- 30 Quantitative & Computational Biosciences (QCB)
- 32 Clinical Translational Research Certificate of Added Qualification (CTRCAQ)

- 34 PHYSICIAN-SCIENTIST TRAINING PROGRAMS
- 35 DIVERSITY AND INCLUSION
- 36 ABOUT BAYLOR COLLEGE OF MEDICINE

## DEAR PROSPECTIVE STUDENTS,

Thank you for your interest in the Graduate School of Biomedical Sciences at Baylor College of Medicine. Baylor College of Medicine is a health sciences university known for excellence and innovation in education, research and patient care. Our location in the Texas Medical Center, the largest medical complex in the world, and in Houston, the most diverse, large, metropolitan city in the United States, makes for an exciting environment in which to live and learn.



Our goal is to train the next generation of leaders in the biomedical sciences, and we know that success is individualized for each trainee. You will see throughout this view book the many different areas of research, our outstanding Advanced Technology Cores, as well as the support of our Student Success Resources. We prepare our students to be life-long learners ready for a variety of career options including academics, business, pharma and biotech and more.

This view book will introduce you to our interdisciplinary graduate programs, collaborative and unparalleled research resources and of course, our wonderful faculty and students. Despite the COVID-19 pandemic, significant advancements in research and training continue, and students are making exciting discoveries. We hope you like what you see, and that your future plans will include the Graduate School of Biomedical Sciences at Baylor College of Medicine.

Dr. Carolyn Smith  
Dean  
Graduate School of Biomedical Sciences  
Baylor College of Medicine

**“My thesis advisor told me when I graduated, ‘You have learned about a specific process, but more importantly you have learned how to learn.’ That has served me enormously throughout my career in that I know I can take a technical article in any discipline and read it and understand it.”**

OLGA CABELLO HENRY, PH.D.  
ALUMNA  
ENVIRONMENT, SCIENCE, TECHNOLOGY, AND HEALTH ADVISOR  
FOR THE WESTERN HEMISPHERE  
U.S. DEPARTMENT OF STATE

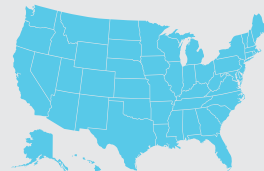
BAYLOR COLLEGE OF MEDICINE  
GRADUATE SCHOOL OF BIOMEDICAL SCIENCES  
**BY THE NUMBERS**

STUDENTS



**587**

NUMBER OF STUDENTS



**381**

DOMESTIC

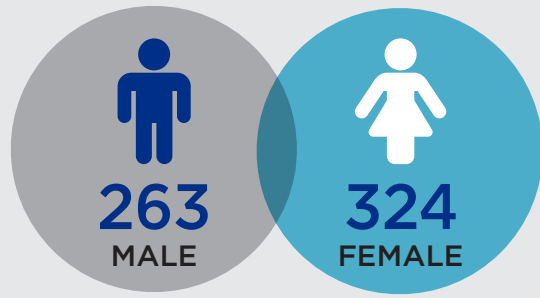
(After the state of Texas, the largest groups are from California and New York)



**206**

INTERNATIONAL

(After the U.S., the largest groups are from China, India, and Taiwan)



— **114** —  
UNDERREPRESENTED  
IN SCIENCES



AVERAGE TIME  
TO DEGREE

FACTS

**>\$550M**

TOTAL RESEARCH FUNDING

**20<sup>th</sup>**

RANK IN NIH FUNDING TO  
MEDICAL SCHOOLS

**9**

TOP 25 DEPARTMENTS IN NIH FUNDING

**>1 MILLION**

SQUARE FEET OF BASIC SCIENCE AND  
COMPUTATIONAL RESEARCH SPACE  
ON MAIN CAMPUS

**250,000**

SQUARE FEET OF ADDITIONAL BASIC  
AND CLINICAL RESEARCH SPACE  
THROUGHOUT TEXAS MEDICAL CENTER  
OCCUPIED BY BCM FACULTY AND STAFF

**13**

MEMBERS OF THE NATIONAL  
ACADEMY OF MEDICINE

**8**

MEMBERS OF THE NATIONAL  
ACADEMY OF SCIENCES

**7**

MEMBERS OF THE NATIONAL ACADEMY  
OF INVENTORS

**3**

HOWARD HUGHES MEDICAL INSTITUTE  
INVESTIGATORS

CHOOSE YOUR PATH

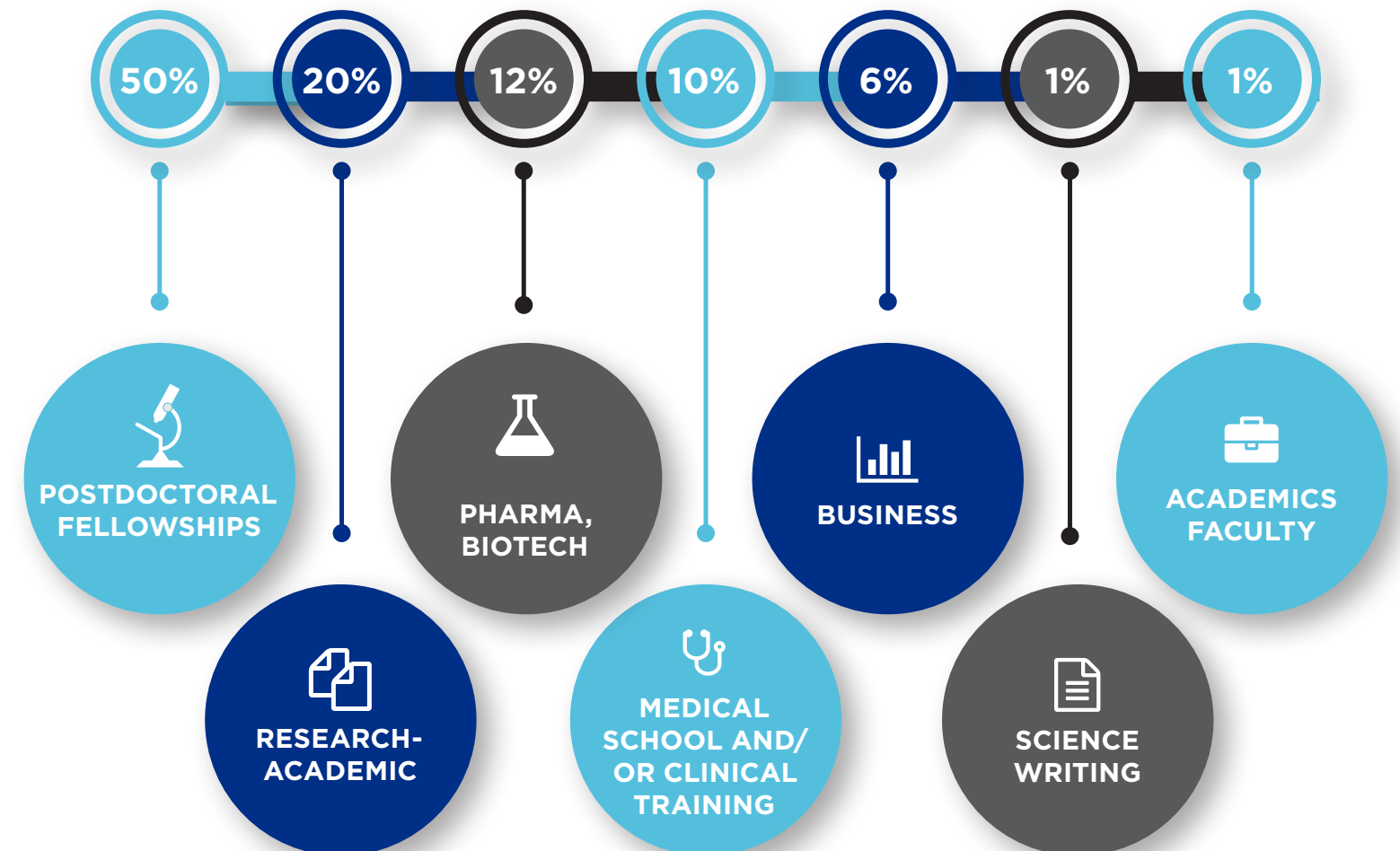
Many students begin a Ph.D. program envisioning a lifetime spent in an academic lab. For a growing number of Ph.D. graduates, career ambitions lie along alternative pathways in biotech, business, pharmaceutical industry, consulting, law, and more.

Wherever your ambition leads, we will help you reach your goal. You will be following a path well worn by BCM alumni who have built successful careers across diverse endeavors.

**“BCM opened up my world to what is possible in terms of everything I wanted to do scientifically and academically. If you find a job you love, you never have to work a day in your life.”**

WARREN ZIMMER, PH.D.  
ALUMNUS  
PROFESSOR OF GENETICS AND  
TOXICOLOGY  
TEXAS A&M UNIVERSITY

JOB PLACEMENT/ADVANCED TRAINING FOR 2020/2021 GRADUATES\*



\*These data are for graduates from July 1, 2020, to June 30, 2021.

# IMPACTFUL RESEARCH

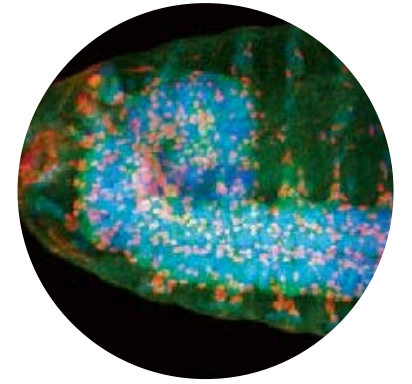
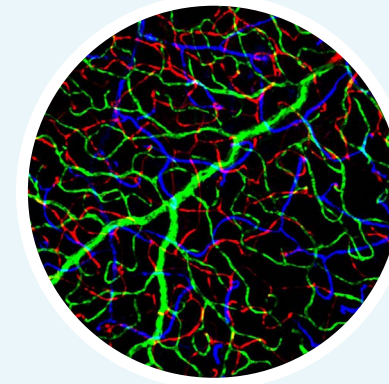
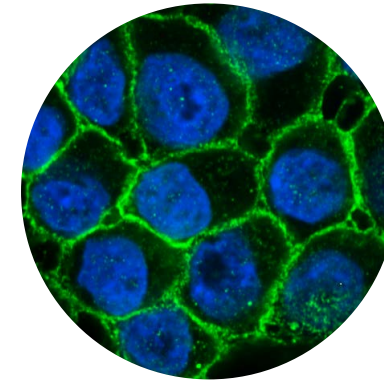
Baylor College of Medicine ranks among the **top 40** academic life science institutions in the world and top 30 in North America in the **2020 Nature Index**. In the Reuters listing of the **World's Most Innovative Universities**, BCM ranks in the **top 50**.

Research by BCM faculty generated \$70 million in revenue for the College with **98 disclosures** and **61 licenses**.

Addressing contemporary challenges in biomedical research and healthcare requires collaborative teams of scientists and clinicians from multiple disciplines. This has long been routine at BCM. On all questions related to collaborative culture, Baylor consistently scores significantly higher than national benchmarks on faculty engagement surveys.

The College's membership in the Texas Medical Center (TMC) expands the culture of collaboration and innovation beyond BCM.

TOGETHER, THE INSTITUTIONS OF THE TMC ARE SECOND IN THE NATION IN FUNDING FROM THE NATIONAL INSTITUTES OF HEALTH.



A hundred years of achievement in biomedical research, exceptional scientists and trainees, and a resource-rich research enterprise create an exceptional environment for basic, clinical, and translational research. Examples of findings include:



**“If there is something you are interested in that has anything to do with biomedical sciences, there is someone here who does it or knows somebody who does. There are an astounding number of labs here, which offers a lot of opportunity for collaboration.”**

RACHEL CURRY  
STUDENT

Human breast epithelial cells are organized as a cobblestone layer revealed here by e-cadherin (epithelial-cadherin, green), a cell-adhesion protein located on the cell surface. Cell nuclei are highlighted in blue. Carcinoma arises from breast epithelial cells that acquire genetic alterations leading to cancerous behavior, including metastasis. The image is from the laboratory of Dr. Chonghui Cheng and was in a paper published in *Nature Communications*.

This image shows the three vascular layers of the retina that are important for normal visual function. The image is part of a study led by Dr. Melanie Samuel that discovered novel genes involved in the organization of vascular layers in the mouse retina. The Samuel lab combines nanoscopic imaging tools and techniques for circuit analysis, novel genetic animal models, and computational approaches to circuit mapping to discover the mechanisms, genes, and molecules involved in regulating nervous system networks. The study was published in *Cell Reports*.

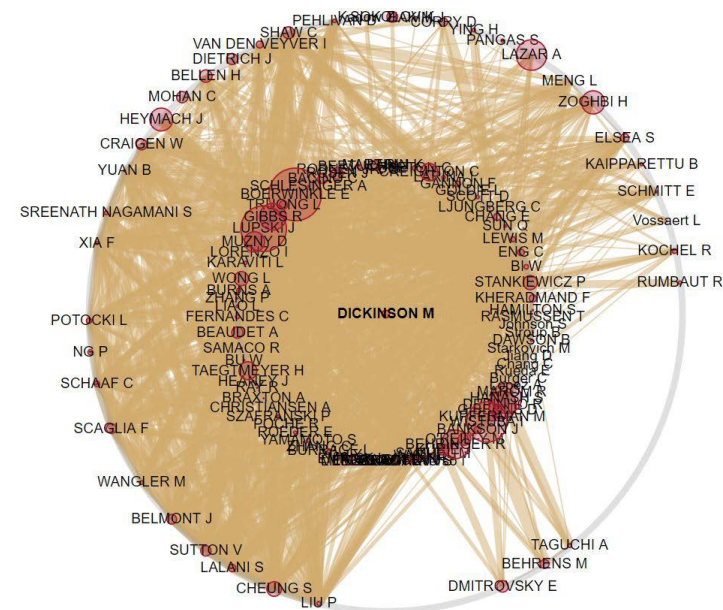
The fruit fly is a valuable animal model to unravel the genetic causes of both rare and more common human diseases. Dr. Hugo Bellen and his colleagues investigate the mechanisms involved in neural development and function in the fruit fly, *Drosophila melanogaster*. In many instances their approach includes developing new technologies to manipulate genes and creating the reagents to implement these techniques for most fruit fly genes. This image of a fruit fly embryo from one of the laboratory's publication's in *The American Journal of Human Genetics* shows the location of Schizo, a protein involved in neural development.

DISCOVER THE LATEST RESEARCH ADVANCES FROM BAYLOR COLLEGE OF MEDICINE. FOLLOW OUR RESEARCH BLOG AT [fromthelabs.bcm.edu](http://fromthelabs.bcm.edu)



**“The most appealing aspects of BCM for me is that the faculty collaborate across departments and the research spans from clinical to animal models with a focus on translation so that research has an impact on human health.”**

SHELTON BOYD  
STUDENT



This radial graph shows the web of interactions between Dr. Mary Dickinson, senior vice president and dean of research, by showing her co-authors and the connections these researchers have to others through their publications.

# RESEARCH RESOURCES TO SUPPORT YOUR SUCCESS

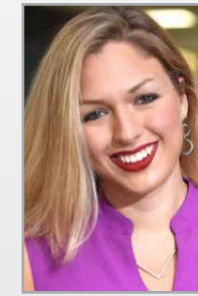
As a student of the BCM Graduate School of Biomedical Sciences, you will leverage the resources from one of the nation's preeminent research institutions in the world's largest medical complex.



ADVANCED TECHNOLOGY CORES

Advanced technology core laboratories provide state-of-the-art instrumentation and technologies, as well as consultation on experimental design, data analysis, and training. Through the cores, students not only gain access to tools and techniques that support cutting-edge research, they also receive training and mentorship. Exceptional facilities available at BCM include:

- Antibody-Based Proteomics
- Bioengineering
- Biostatics & Informatics
- Cell-Based Assay Screening
- Core for Advanced MRI Imaging
- Cryo Electron Microscopy
- Cytometry & Cell Sorting
- Gene Vector
- Genetically Engineered Rodent Models
- Genomic & RNA Profiling
- Human Stem Cell
- Human Tissue Acquisition & Pathology
- Integrated Microscopy
- Macromolecular X-Ray Crystallography
- Mass Spectrometry Proteomics
- Metabolomics
- MHC Tetramer
- Mouse Metabolic and Phenotyping
- MS Proteomics
- NMR and Drug Metabolism
- Optical Imaging & Vital Microscopy
- Patient Derived Xenograft & Advanced In Vivo Models
- Population Biosciences Biorepository
- Protein & Monoclonal Antibody Production
- RNA In Situ Hybridization
- Single Cell Genomics
- Small Animal MRI



“Whatever you think you might need to get involved in or have in order to advance your experience as a Ph.D. student, you can find it here.”

BRITTANY BARRETO, PH.D.  
ALUMNA  
FOUNDER & EXECUTIVE DIRECTOR OF FEMTCH FOCUS

## COLLABORATIVE RESEARCH CENTERS

Collaborative research centers create dynamic communities where faculty and students engage across traditional scientific divides. Center-organized seminars and workshops are open to all graduate students.

### BCM research centers include:

- Alkek Center for Metagenomics and Microbiome Research
- Cardiovascular Research Institute
- Center for Alzheimer's and Neurodegenerative Diseases
- Center for Cell and Gene Therapy
- Center for Drug Discovery
- Center for Precision Environmental Health
- Dan L Duncan Comprehensive Cancer Center
- Dan L Duncan Institute for Clinical and Translational Research
- Huffington Center on Aging
- Human Genome Sequencing Center
- Stem Cells and Regenerative Medicine Center
- Therapeutic Innovation Center

### FOR MORE INFORMATION ON RESEARCH RESOURCES VISIT

[bcm.edu/research](http://bcm.edu/research)

## DATA ACCESS

As the home of one the world's premier human genome sequencing centers and co-owner of Baylor Genetics, BCM has access to high-quality genetic data. Through the College's involvement in the Human Microbiome Project, National Institutes of Health Brain Initiative, and other major national and international collaborations, BCM researchers have access to extensive data repositories.

The College's partnership with CommonSpirit Health, which has more than 700 care sites in 21 states, collaboration with Baylor Scott & White, the largest not-for-profit healthcare system in Texas, and affiliations with large healthcare providers in the Texas Medical Center, provide our researchers access to clinical data warehouses.



“When I was interviewing here, people highlighted the cores and the clinics, but it didn't mean anything to me at the time. Now I see how the cores and collaborations with clinicians have pushed my research forward in what feels like a really short time.”

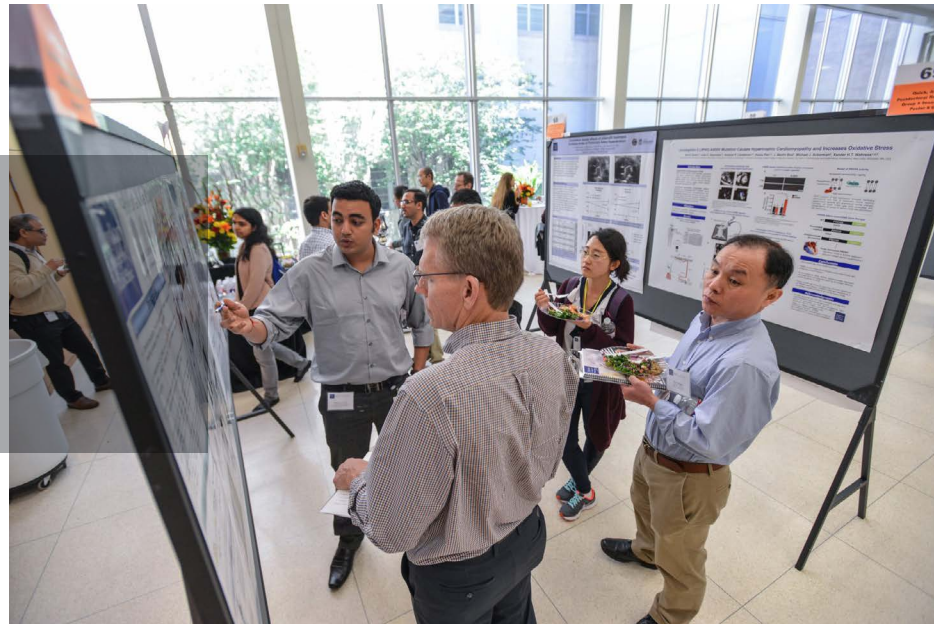
ELIZABETH BOWLING  
STUDENT

# FLEXIBILITY TO MEET YOUR GOALS

Enrolling in the BCM Graduate School of Biomedical Sciences opens doors to educational opportunities both within the College and with other outstanding institutions. We encourage students to customize their training to fit their individual career goals. You may choose to gain teaching experience, complete internships, work with young students, take courses at neighboring institutions, or take advantage of other opportunities at the College.

## CROSS-CUTTING CURRICULUM

While it remains critical for Ph.D. students to gain deep knowledge of their specific field of specialization, this is no longer sufficient. The graduate school redefined the curriculum so that students gain knowledge and skills in a variety of areas, including human subjects research, ethics, rigor, leadership, mentoring, time management, and teamwork.



STUDENTS HAVE MANY OPPORTUNITIES TO PRESENT THEIR WORK AT ON-CAMPUS EVENTS AS WELL AS AT LOCAL, NATIONAL, AND INTERNATIONAL SCIENTIFIC MEETINGS.



**“I chose BCM because of the strong emphasis on cutting-edge approaches to research. It was a perfect fit for my research interests and educational aims.”**

JAIME REYES  
STUDENT

## INDIVIDUAL DEVELOPMENT PLAN

Every graduate student has an Individual Development Plan (IDP). The IDP enables each of our trainees to identify professional goals that match their interests and values for the purpose of developing appropriate career-specific skills. The creation and regular review of the IDP encourages discussions between students and mentors about career goals early in the training process and implements a course of action to achieve these goals.

## TIERED CURRICULUM

Our three-tiered curriculum is designed to ensure that all students have the strong foundational knowledge and quantitative skills essential for all biomedical scientists, while providing the opportunity to dive deep into their chosen fields. During the first two terms of the year, students in most programs participate in a rigorous pair of foundations courses that provide all students, regardless of specialty, a breadth of knowledge across the biological sciences. Beyond the foundations, each of our Ph.D. programs has a core of required courses to provide students with an in-depth understanding of their field. The third tier of our cross-cutting curriculum allows students to select elective coursework that supports their interests. In year two, students continue with coursework focused on building the knowledge and skills required for their area of focus.



**“During my application process, one of my main priorities was to find a school that truly appreciates and supports its graduate students. Even from my very first interaction with Baylor personnel, I could see these qualities in the GSBS program. I never doubted that Baylor could give me excellent training and that I’d be able to work in a lab that fit my interests, but the support and camaraderie of the GSBS faculty and staff was truly the deciding factor for me.”**

LARISSA NEVES  
STUDENT

# LOCATION, LOCATION, LOCATION

When selecting where to pursue your doctoral degree, you are choosing your professional and personal home for the next several years. As with any home, location is the key. Baylor College of Medicine's location is ideal for anyone wishing to pursue a career in biomedical sciences while maintaining a high quality of life.

## A LEADING HEALTH SCIENCES UNIVERSITY

BCM is home to researchers, clinicians, and educators dedicated to improving lives for individuals and communities locally and globally. The healthcare, education, and research programs of BCM consistently rank among the best in the nation. The College's students and faculty receive prestigious awards and honors for their contributions.

BCM fosters diversity among its students, trainees, faculty, and staff. In the AAMC Diversity Engagement Survey, BCM's community ranked in the top third among institutions for having an inclusive environment.



**“My mom told me I need to work for the tourist office of Houston because I try to convince everyone to move here. I couldn't imagine going back to live somewhere without the diversity of cultures, restaurants, events, and activities. Other cities may offer as much to do as Houston, but the low cost of living here means that you can actually take advantage of everything the city has to offer as a graduate student.”**

KRISTYN HOFFMAN, PH.D.  
ALUMNA

## THE WORLD'S LARGEST MEDICAL COMPLEX

Along with BCM, many of the top-ranked research and clinical institutions in the nation are members of the Texas Medical Center, including:

- Baylor St. Luke's Medical Center
- Harris Health System
- MD Anderson Cancer Center (the world's largest cancer hospital)
- Rice University
- Texas Children's Hospital (the world's largest children's hospital)

The exceptional size and scope of the TMC biomedical research community creates unique opportunities to leverage resources as well as the talents and experience of faculty, staff and students. The culture and environment of a large medical center provide students with opportunities to obtain education and practical experience in both basic and applied research.

## THE CITY OF HOUSTON: A GREAT PLACE TO LIVE, LEARN, WORK, PLAY AND RAISE A FAMILY

### HOUSTON FACTS & FIGURES

- 1st** AMONG NATION'S 10 MOST POPULOUS CITIES IN TOTAL ACREAGE OF PARK LAND
- 2nd** LARGEST CONCENTRATION OF FORTUNE 500 COMPANIES IN THE U.S.
- 4th** LARGEST CITY IN U.S.: 2.3 MILLION RESIDENTS
- 23%** BELOW THE AVERAGE COST OF LIVING IN THE 20 MOST POPULOUS U.S. CITIES
- 60** DEGREE GRANTING COLLEGES, UNIVERSITIES AND TECHNICAL SCHOOLS
- 145** LANGUAGES SPOKEN
- 500** INSTITUTIONS DEVOTED TO PERFORMING AND VISUAL ARTS, HISTORY, AND SCIENCE



**“I went from Brazil to Washington, D.C., and from Washington to Texas. Because of the Southern hospitality, the way people treat you, how open things are, and how diverse Houston is, it was a fairly easy transition. I love this place!”**

WANDERSON REZENDE  
STUDENT



THE MOST DIVERSE LARGE METROPOLITAN AREA IN THE U.S.



## ACTIVITIES AND ATTRACTIONS

- Professional, collegiate, and recreational sports leagues
- Theater, ballet, concerts, opera, and museums
- Nightlife options around town
- Shopping galore
- 350 parks; 95 miles of nature, hiking, and bike trails; and three state parks nearby
- More than 10,000 restaurants representing 70 countries and U.S. regions
- Water recreation within a short drive (Galveston beaches, Clear Lake, Lake Conroe, and Lake Livingston)

## TMC FACTS

- 50 million** DEVELOPED SQUARE FEET
- 8th** LARGEST BUSINESS DISTRICT IN THE U.S.
- 10 million** PATIENT VISITS PER YEAR
- 180,000+** SURGERIES ANNUALLY
- \$3 billion** IN CONSTRUCTION PROJECTS IN PROGRESS
- 106,000+** EMPLOYEES



# STUDENT SUCCESS RESOURCES

Student resources at BCM are designed to help you successfully navigate through your education and into the workforce.



## CAREER DEVELOPMENT CENTER

Our Career Development Center works with students at every stage of their education to help them explore options and learn about different career paths. Through affiliations and connections with institutions and companies throughout the Houston area and beyond, the center staff, as well as faculty and leadership at BCM, help students find opportunities to gain experience and build connections that match their career interests.

Learn more at [bcm.edu/careerdevelopment](http://bcm.edu/careerdevelopment)

## HEALTH & WELLNESS

Taking care of yourself is a prerequisite for success in school and beyond. At BCM you will have many options to participate in individualized or group wellness programs, activities and events run by the graduate school, the College, and the Texas Medical Center as well as organizations throughout Houston.

For a full listing of Student Wellness services, visit [bcm.edu/student-wellness](http://bcm.edu/student-wellness)



## ACADEMIC EXCELLENCE

If you need help with a specific course, accommodations for a disability, veteran's affairs services, counseling, or assistance finding resources in the Texas Medical Center Library, a wide-range of services are available to you at BCM.

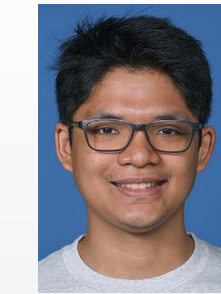
For a full listing of Student Success Resources

visit [bcm.edu/student-services](http://bcm.edu/student-services)



“BCM really focuses on meeting your needs that are not specific to the lab or the classroom. There are a lot of opportunities for social outreach, volunteering and engagement in student groups.”

ANDREW LOPEZ  
ALUMNUS



“My lab mates are Chinese, Indonesian and Mexican-American and I’m from the Philippines. Everyone’s opinions are valued. It doesn’t matter where you come from or where you are now, all that matters is what you can bring to the table.”

CARLO CRISTOBAL  
STUDENT

## NETWORKING & STUDENT ENGAGEMENT

Your opportunities to build your support and networking communities begin as soon as you arrive on campus for orientation. Throughout your years at BCM, you will have many opportunities to participate in and lead organizations and committees within the graduate school and the College. Diverse student-led organizations facilitate networking and building social connections with students who share your interests.

Learn more at [bcm.edu/graduate-student-council](http://bcm.edu/graduate-student-council)





# STIPENDS AND BENEFITS

At BCM we are focused on you and your training. If your vision for your future includes teaching, you may choose to gain experience as a teaching assistant for graduate courses or through other opportunities available to our students. Teaching is not required in order to receive a stipend and other benefits. You have the freedom to focus exclusively on your education and research as well as work with your mentors to take advantage of other BCM resources that match your career interests.

- Students receive:
- **\$34,500 stipend in 2022/23**
  - **Health insurance**
  - **Students do not pay tuition**

Students who successfully compete for outside funding receive a \$3,000 Dean's Excellence Award.

\*Baylor College of Medicine reserves the right to increase, decrease, or alter benefits. Up-to-date information on benefits is provided at [bcm.edu/gradschool](http://bcm.edu/gradschool).



**“I chose Baylor College of Medicine because it offers a combination of opportunity and affordability that is unmatched by other options for my graduate training. The collaborative culture was also one of the key attributes that drove me to choose BCM. My colleagues and I had projects with labs from across the hall to around the world. These relationships were essential for networking and exploring future opportunities in ways that would not be possible without the collaborative efforts at all levels of the institution.”**

PATRICK MITCHELL, PH.D.  
ALUMNUS  
STAFF ENGINEER, NATIONAL CENTER FOR  
MACROMOLECULAR IMAGING

# ADMISSIONS

We look at every applicant as a whole person, not a collection of statistics. We seek students who are pursuing science because their interest in it is so strong that they cannot imagine doing anything else.

Of course we look at your GPA. But numbers are not the primary factors we value in our students. So what are we looking for?

**Research Experience  
Motivation**

**Commitment  
Diversity**

Applicants are encouraged to select both a first- and second-choice program. If the first program you list is unable to accept your application, it will automatically be sent to the second for consideration.

**1,443  
APPLICANTS**

**181  
OFFERS**

**109  
ENTERING  
CLASS IN 2021**



**“I chose BCM because of the supportive atmosphere. I am thankful to have peers in the graduate school who understand how I perceive what is going on around me as a first generation Latina. Having people I can open up to when I’m struggling, who won’t diminish how I understand the world around me, and who celebrate little things that mean so much more for a URM.”**

MARLYD MEJIA  
STUDENT

## IMPORTANT DATES

- SEPT. 1 ..... **FREE APPLICATION SYSTEM OPENS.**
- JAN. 1 ..... **APPLICATION DEADLINE.** Applications received by **Dec. 1** will be considered for early review and are strongly encouraged. Late applications will be considered on a space-available basis.
- JAN./FEB. .... **INTERVIEWS ARE HELD BY INDIVIDUAL PROGRAMS.**
- FEB./MARCH/APRIL ... **ADMISSION OFFERS ARE EXTENDED.**
- APRIL 15. .... **FINAL DECISIONS BY STUDENTS TO ACCEPT AN OFFER.**

TO BEGIN YOUR APPLICATION, VISIT [bcm.edu/gsbs/admissions](http://bcm.edu/gsbs/admissions)

# FIND YOUR FIT

With more than **600 STUDENTS** and **600 FACULTY MEMBERS**, you will have a diverse group of potential colleagues, mentors, and advisors at Graduate School of Biomedical Sciences at Baylor College of Medicine.

But, no need to worry that you will be lost in the crowd. Our graduate programs provide each student a smaller community within the whole. While strongly grounded in BCM's collaborative, innovative culture, each interdisciplinary program has its own personality and unique offerings.

## DIVERSE PERSPECTIVES

Interdisciplinary programs integrate related research across basic science and clinical departments and academic centers. Our faculty members have the freedom to select the programs that align with their research. Rather than be bound by the department or center into which they were hired, faculty opt into participation in graduate programs that align with their research interests. This ensures that you will interact with faculty who bring diverse backgrounds, perspectives, and experience to your chosen field of study.

## FLEXIBILITY TO PURSUE YOUR PASSIONS

Your program will provide a home base, set your required coursework and qualification requirements and provide a network of faculty and students who share your interests. However, when selecting laboratories in which to rotate, and ultimately the one in which you will pursue your dissertation research, all the resources of BCM are open to you. In addition to rotations in laboratories of faculty in your program, you have the option to complete rotations with any member of the graduate school faculty.



**“The graduate programs and curricula have been designed with you, the student, as our first priority. You will choose your mentor from over 600 faculty members and select courses that fit your research interests.”**

CAROLYN SMITH, PH.D.  
DEAN, GRADUATE SCHOOL  
OF BIOMEDICAL SCIENCES

# STUDENT LIFE

You will be able to have a life outside of the classroom and the lab during graduate school. Whether you opt for participating in College-run intramural sports, social and community service projects organized by the Graduate Student Council, or exploring the Houston restaurant scene, you will find plenty to network and take your mind off school..

FOR MORE INFORMATION [bcm.edu/gsbsstudentorgs](http://bcm.edu/gsbsstudentorgs)



# CANCER & CELL BIOLOGY GRADUATE PROGRAM

## CONTACT US

713.798.6557 cancer-cell@bcm.edu

## GENERAL ADMISSIONS QUESTIONS

713.798.4029 gradappboss@bcm.edu

Acquire the knowledge and skills you need to break barriers in cancer and cell biology.

Our faculty includes members of the National Institutes of Health-designated comprehensive cancer center—the Dan L. Duncan Comprehensive Cancer Center, and the BCM Department of Molecular and Cellular Biology, which is ranked in the top ten in the country for National Institutes of Health funding.

You will receive broad, interdisciplinary training in the fundamentals of normal cell function and cancer with an emphasis on a wide spectrum of genomic analyses to growth, invasion, and metastasis. Small class size facilitates one-on-one interactions with some of the nation's leading scientists. Your choices for curriculum can be individualized depending on what courses you have taken during your undergraduate and/or master's studies and your interests. The program is supported by NIGMS Training Grant T32GM136560.



**“I chose to pursue a career in cancer research because I wanted a chance to help people. I believe that our discoveries will translate into new medicines and new treatment strategies based on the underlying biology of each patient’s disease.”**

MICHAEL L. GATZA, PH.D.  
ALUMNUS  
ASSISTANT PROFESSOR OF RADIATION  
ONCOLOGY, RUTGERS CANCER  
INSTITUTE OF NEW JERSEY

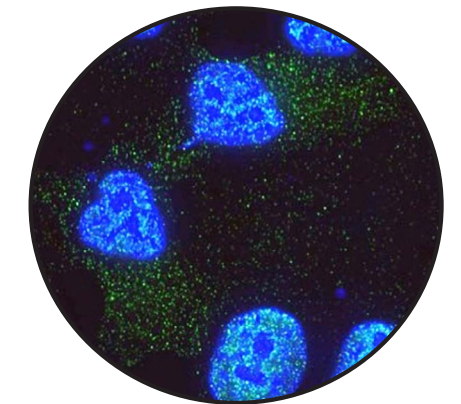
**“I decided to pursue graduate work in cancer and cell biology because I wanted to explore novel biochemical and cellular mechanisms that could potentially advance human health by becoming future targets for pharmacologic intervention.”**

JOSHUA GRAVES, PH.D.  
ALUMNUS  
POSTDOCTORAL ASSOCIATE AT BCM

## RESEARCH INTERESTS

- Aging
- Cancer Genetics and Genomics
- Cell Signaling
- Endocrine Regulation
- Gene Regulation
- Metabolism and Mitochondrial Function
- Microbiome and Viral Oncogenesis
- Protein Structure and Function
- Reproductive Biology
- Stem Cell Biology and Therapeutics
- Tissue Origins of Cancer - Breast, Lymphoma/Leukemia, Ovary, Prostate
- Tumor Immunology and Immunotherapy

This image is from studies exploring new ways to fight ovarian cancer. It shows cytoplasmic distribution of p53-R175H mutant protein (green) in TYK-Nu ovarian cancer cells that have been treated with drug MCB-613. Nucleus of cells is shown in blue.



Learn about research advances made by our faculty and students, find details about our curriculum, discover faculty whose research interests match your own, and more on our website

[bcm.edu/cancer-cell](http://bcm.edu/cancer-cell)

Positions currently held by BCM alumni whose research focused on cancer and cell biology include:

**Associate Professor**, Albert Einstein College of Medicine  
**Assistant Professor**, Vanderbilt University  
**Chemist**, United States Army Corps of Engineers  
**Commercial Manager**, Shell Oil  
**Principal Investigator**, Neural Stem Cell Institute  
**Postdoctoral Associate**, BCM  
**Professor**, BCM and Pathologist-in-Chief, Texas Children's Hospital  
**Professor**, Texas A&M University

**Professor**, University of California, San Francisco  
**Research Scientist**, National Center for Advancing Translational Sciences in the National Institutes of Health  
**Senior Regulatory Specialist**, AcKnowledge Regulatory Strategies  
**Scientist**, Thermo Fisher Scientific

**Scientist**, National Institute of Environmental Health Sciences  
**Senior Scientist**, Shattuck Labs

# CHEMICAL, PHYSICAL & STRUCTURAL BIOLOGY GRADUATE PROGRAM

## CONTACT US

713.798.5686 ask-cpsb@bcm.edu

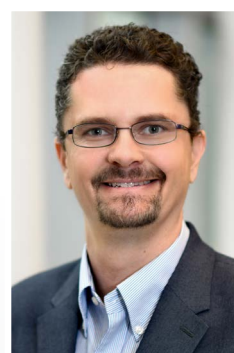
## GENERAL ADMISSIONS QUESTIONS

713.798.4029 gradappboss@bcm.edu

Join us in developing and applying new technologies and innovative methods to deepen understanding of the chemical, physical, and structural basis of fundamental biology and human disease.

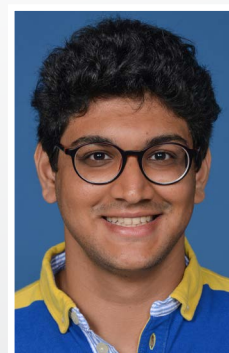
You will acquire a deep understanding of fundamental aspects of disease biology at the chemical, molecular and supramolecular level. You will have access to multidisciplinary training opportunities including biophysical and biochemical analysis of proteins, biochemistry, structural biology, pharmacology, chemical synthesis, combinatorial chemistry, synthetic biology, and design and engineering of small molecule drugs.

Our courses focus on problem-solving and the development of skills for a career of innovation in biomedical research. Core classes that survey biology are complemented by workshops that focus on specific skills. You have the option to pursue one of several curricular tracks tailored to meet your own educational interests and needs. These include a Biophysics & Biochemistry Track and a Pharmacology & Drug Discovery Track. There is also a Flexible Track through which you may work with your advisor to tailor your coursework to match your goals.



**“I decided on my career path when I realized as an undergraduate that the foundational mechanisms of life and the root causes of disease can be revealed in rich detail at the molecular—or even chemical—level.”**

NICK YOUNG, PH.D.  
CPSB FACULTY

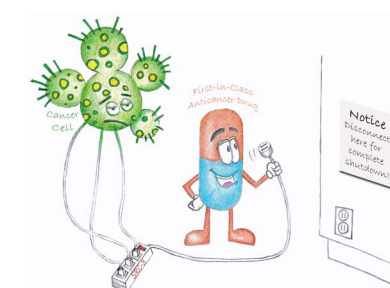


**“I chose CPSB because of its leadership in cutting-edge, molecular-level mechanistic science and its location in the world’s largest biomedical research complex.”**

KARL PONCHA  
STUDENT

## RESEARCH AREAS

- Cancer Biology
- Chemical Biology
- Computational Biophysics and Bioinformatics
- Cryo-EM and Cryo-Electron Tomography
- Developmental Biology
- Drug Discovery
- Drug Resistance Mechanisms
- Electrophysiology
- Enzymology
- Gene Regulation, Chromatin and Epigenetics
- Gene Therapy
- Genetic Engineering
- High Throughput Screening
- Membrane Proteins
- Metabolism and Metabolomics
- Neuroscience
- NMR
- Organic Synthesis and Medicinal Chemistry
- Proteomics
- Signal Transduction
- Single-Molecule and Super-Resolution Fluorescence
- Spectroscopy and Biophysical Methods
- Structural Biology
- Synthetic Biology
- Virology
- X-Ray Crystallography



BCM researchers accelerated the destruction of SRC-3 molecules as part of a new approach to fighting cancer. This cartoon-like rendition shows the proposed effect SI-2, a first-in-class anticancer drug, has on cancer cells. SRC-3 regulates many intracellular signalling pathways. By interfering with SRC-3’s function, SI-2 disrupts cancer growth.

Learn about research advances made by our faculty and students, find details about our curriculum, discover faculty whose research interests match your own, and more on our website [bcm.edu/cpsb](http://bcm.edu/cpsb)

Positions currently held by BCM alumni whose research focused on chemical, physical, and structural biology include:

**Assistant Director**, Icahn School of Medicine at Mount Sinai  
**Associate Director**, HD Biosciences  
**Consultant**, Lawrence Berkeley National Laboratory  
**Director**, Molecular Genetics Laboratory, Stanford Health  
**Faculty**, King Abdullah University of Science and Technology  
**Instructor**, UT Southwestern Medical Center  
**Intellectual Property Lawyer**, Fandga Partners  
**Professor and Division Head**, UT Austin

**Associate Professor**, Yale University  
**Principle Investigator**, Institute Pasteur of Shanghai  
**Postdoctoral Associate**, Massachusetts Institute of Technology  
**Regulatory Scientist-Chemist**, U.S. Food and Drug Administration  
**Senior Bioinformatics Director**, BCM  
**Senior Scientist**, LakePharma, Inc.  
**Assistant Professor**, University of North Carolina Medical School  
**Associate Director**, Qiagen

# DEVELOPMENT, DISEASE MODELS & THERAPEUTICS GRADUATE PROGRAM

## CONTACT US

713.798.4029 [ddmtgradprogram@bcm.edu](mailto:ddmtgradprogram@bcm.edu)

## GENERAL ADMISSIONS QUESTIONS

713.798.4029 [gradappboss@bcm.edu](mailto:gradappboss@bcm.edu)

Work at the interface of developmental biology, physiology, health, and disease using diverse disease models to understand the biology of human diseases that can impact all stages of life and develop diagnostic and therapies to treat them. Join us in developing and applying new technologies and innovative methods to deepen understanding of the chemical, physical, and structural basis of fundamental biology and human disease.

Human disease can impact all stages of life—from hereditary and congenital birth defects to the degenerative diseases of old age—as well as any of the organs or systems in the human body. Our approach crosses traditional barriers between disciplines to understand the basic biology underlying health and disease and developing therapeutics.

With more than 150 faculty members, representing most of the departments and centers at BCM and many at our partner institutions, you will not only find mentors who share your interests, but also colleagues who will expose you to new ideas and perspectives. In addition to your research mentor, you may elect to have a clinical mentor to aid you in selecting courses and shaping your research project in ways that facilitate the translation of your discoveries into new approaches to enhance patient care.



**“The DDMT program offers a flexible, individually tailored curriculum, a wide array of faculty working in many disciplines, and a supportive cohort of students. I was able to rotate through labs focusing on a diverse range of topics from the genetic basis of neurodevelopmental disorders to disruptions in cell signaling induced by viral infections. The research topics of my peers are equally diverse, which has greatly enriched my graduate school experience and continues to help me develop the skills to perform impactful, interdisciplinary science.”**

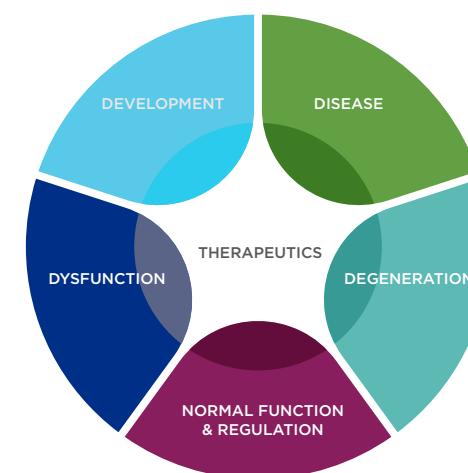
JOHN GEBERT  
STUDENT



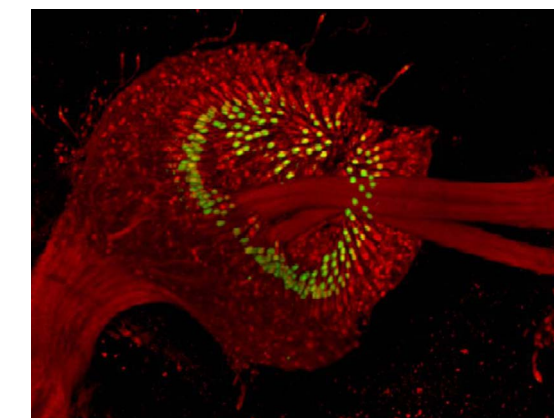
**“I received my bachelor’s degree in physics, but I wanted a more hands-on approach that would have more immediate impact on patient care. Thus, I chose to pursue graduate research in translational biology.”**

ALEXANDRIA DOERFLER  
STUDENT

## RESEARCH MODEL



Using diverse techniques our faculty and students investigate questions that touch on each of these domains and use models that may include any organ, tissue, physiological system, or organism in order to understand their fundamental biological processes and to identify and develop new therapeutics.



This is a picture of the hearing organ of the fruit fly. The green spots mark a novel protein that has homology to proteins involved in hearing and deafness in humans. BCM researchers use the fruit fly to model many human diseases and have developed and made available a large, versatile library of fruit flies that can be used to perform efficient and elegant in vivo gene-specific manipulations.

**Learn about research advances made by our faculty and students, find details about our curriculum, discover faculty whose research interests match your own, and more on our website [bcm.edu/ddmt](http://bcm.edu/ddmt)**

## CAREER PATHS

BCM alumni whose research focus has included development, disease models and therapeutics include:

**Faculty Members and Postdoctoral Fellows at:** BCM, Harvard Medical School, University of California - San Francisco, University of Science and Technology in China, University of Lausanne in Switzerland, University of Pennsylvania, Rockefeller University, Washington University School of Medicine, and Yale University

**Clinicians at:** Brigham and Women’s Hospital, Stanford University School of Medicine, Texas Spine & Neurosurgery Center, University of Arkansas Medical Sciences, and UCSF

**Scientists and managers at:** American Institutes for Research, AstraZeneca/Medimmune, Food and Drug Administration, Fu Wai Hospital in China, Genialis, IBM, Naval Medical Research Unit, National Institutes of Health, Novartis, Roche Diagnostics, Sanofi Genzyme and Thermo Fisher Scientific

**As well as science writers, consultants, and advisors.**

# GENETICS & GENOMICS GRADUATE PROGRAM

## CONTACT US

713.798.5056 (Judi Coleman) genetics-gradprgm@bcm.edu

## GENERAL ADMISSIONS QUESTIONS

713.798.4029 gradappboss@bcm.edu

Contribute to our understanding of fundamental genetic and genomic principles. Use the insights you gain to explore the genetic basis of human disease, elucidate new biology, both basic and applied, and develop new treatment options to improve human health.

As the home of the number one NIH funded genetics department, the largest clinical genetics program in the nation, and the BCM Human Genome Sequencing Center—one of only four such centers in the nation—Baylor College of Medicine is an international leader in genetics and genomics. Our faculty members and students publish studies from fundamental to translational research in top-tier journals in the biomedical field.

Our core curriculum will provide you with a broad background in basic aspects of genetics, molecular biology, bioinformatics, biochemistry, and cell biology. Partnering with program leadership and your mentor, you will have the flexibility to select courses that match your interests and prepare you for the career you want. These may include any course offered at BCM as well as offerings from Rice University, the UT Health Science Center - Houston, the University of Texas MD Anderson Cancer Center, and the University of Houston. If you are interested in focusing your graduate training on bioinformatics, genomics, and/or systems biology, read about our BiGSB track as you explore our website.



**“I decided to pursue genetics and genomics because practically everything in biology, ranging from how single cells divide to how organs like the brain develop and function, results from an organism’s DNA and how it responds to phenomena such as mutations and environmental stimuli.”**

SEAN DOOLING  
STUDENT



**“Even as a trainee, it was clear to me that the integrated genetics department at Baylor was unique in the world and that the environment would never limit what I could achieve in science.”**

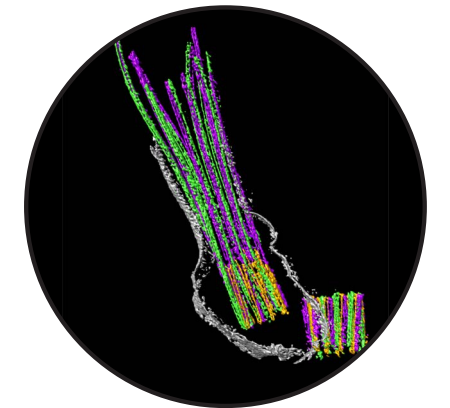
BRENDAN LEE, M.D., PH.D.  
ROBERT AND JANICE MCNAIR ENDOWED CHAIR AND  
PROFESSOR OF MOLECULAR AND HUMAN GENETICS, BCM

## RESEARCH AREAS

- Aging
- Cancer
- Cell and Gene Therapy and Stem Cell Biology
- Chromosomes, Chromatin, and DNA Biology
- Computational Biology, Population and Statistical Genetics
- Development
- Evolution
- Gene Expression and Regulation
- Genome Biology, Genomics, and Systems Biology
- Imprinting and Epigenetics
- Molecular Basis of Human Disease and Behavior
- Neuroscience
- Nutrition and Metabolism

## RESEARCH ORGANISMS

- Bacteria, Yeast, and Amoebae
- Fly and Worm
- Human
- Human and Mammalian Cell Culture
- Mouse and Other Vertebrates
- Plants



Graduated student, Rachayata Dharmat, her mentor, Dr. Rui Chen, and colleagues discovered that the antennae-like structures on light-sensing neurons, called photoreceptors, have a unique feature not observed in the ‘antennae’ or cilia of other types of cells. This image is from the report on their work that was published in the *Journal of Cell Biology*.

Learn about research advances made by our faculty and students, find details about our curriculum, discover faculty whose research interests match your own, and more on our website [bcm.edu/genetics-genomics](http://bcm.edu/genetics-genomics)

## CAREER PATHS

Positions currently held by BCM alumni whose research focused on genetics and genomics include:

Howard Hughes Medical Institute investigator & Professor, University of Washington School of Medicine

Head of Pediatric Hematology/Oncology Clinic, Antwerp University

Senior Global Project Manager, the Boston Consulting Group

Stadtman Tenure Track Investigator, National Cancer Institute Center for Cancer Research

Associate Professor, Baylor College of Medicine

Associate Professor and Director of Microscopy Imaging, University of California, San Diego

# IMMUNOLOGY & MICROBIOLOGY GRADUATE PROGRAM

## CONTACT US

713.798.4029 IYprogram@bcm.edu

## GENERAL ADMISSIONS QUESTIONS

713.798.4029 gradappboss@bcm.edu

Join us in investigating the importance of interactions between microbes, their hosts, and the immune system in human health and disease.

Our innovative program builds on active self-directed learning and peer-to-peer teaching to deliver a personalized, inquiry-based education. We integrate fundamental and cutting-edge elements of immunology and microbiology. You will acquire a sophisticated understanding of basic, translational, and clinical immunology and microbiology problems and the skills required to use state-of-the-art techniques. Electives allow you the flexibility to pursue and develop areas of individual, scientific, and professional interest. Core and elective offerings also immerse students in the activities of grant writing and scientific presentations. You will actively participate in seminars, journal clubs, annual retreats, and other activities in which you will present your work.



**“I am fascinated with learning how viral and bacterial pathogens can facilitate infection and how the human body has adapted to overcome these stresses. By understanding these mechanisms, we can gain a stronger insight into developing strategies to help protect people.”**

WILHELM SALMEN  
STUDENT

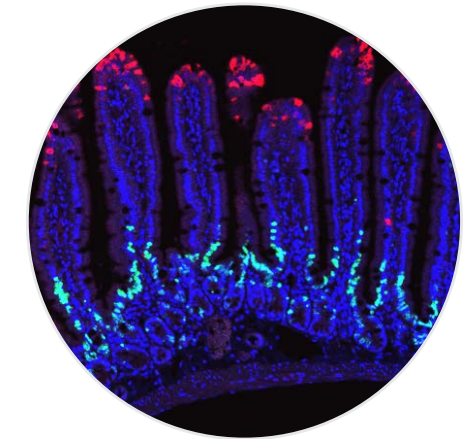


**“I chose to pursue graduate work in immunology and microbiology because I am very interested in host/pathogen interactions and using this knowledge to develop vaccines. The IM program allows me to explore all of my research interests, with a translational focus that could one day improve the health and lives of people.”**

BRITTANI BLUNCK  
STUDENT

## RESEARCH AREAS

- Antibiotics, Antivirals, and Drug Resistance
- Autoimmune and Inflammatory Diseases
- Host-Microbe Interactions and Pathogenesis
- Immune System Development, Metabolism, and Function
- Immunotherapy, Gene Therapy, and Vaccine Development
- Mechanisms of Viral Replication
- Microbial Macromolecular Structure and Function
- Microbiome in Health and Disease
- Molecular and Viral Carcinogenesis and Cancer Immunology



This image is from investigations of the structure and molecular biology of gastrointestinal viruses to understand the basic mechanisms that control virus replication, morphogenesis, virus-host interactions, and pathogenesis. It is an immunofluorescent image of mouse small intestinal track showing proliferating cells (light green) climbing up from the intestinal stem cell compartment to replace rotavirus-infected, damaged cells (red). Blue color marks cell nuclei.

Learn about research advances made by our faculty and students, find details about our curriculum, discover faculty whose research interests match your own, and more on our website

[bcm.edu/immunology-microbiology](http://bcm.edu/immunology-microbiology)

## CAREER PATHS

Positions currently held by BCM alumni whose research focused on immunology and microbiology include:

Assistant Professor, BCM

Assistant Professor, MD Anderson Cancer Center

Associate Professor, UC Berkeley and Howard Hughes Medical Institute

Attorney, Vinson & Elkins

Bioinformatician, University of Pennsylvania School of Medicine

Director of Production Maximization & Microbiology, Nalco Champion

Director, App Biopharmaceutical

Epidemiologist, Centers for Disease Control and Prevention

Lead Data Scientist, Nielsen

Postdoctoral Scientist, Harvard University

Professor, BCM

Senior Director, Emergent Biosolutions

# NEUROSCIENCE GRADUATE PROGRAM

## CONTACT US

713.798.7270 Neuro-program@bcm.edu

## GENERAL ADMISSIONS QUESTIONS

713.798.4029 gradappboss@bcm.edu

## The Next Frontier in Biomedical Science: Understanding the Human Brain

Our program focuses on the nervous system from its most basic ion channels to its most advanced computations. The core curriculum is designed to provide you with a broad foundation in modern neuroscience, including current laboratory techniques, genetics, cell biology, developmental neuroscience, neurophysiology, neuroanatomy, systems and computational neuroscience, and neurological disease.

Faculty research interests span a wide range of neuroscience fields from molecular and cellular neurobiology to circuits, systems, and theoretical modeling. Student research interests are equally broad yet a sense of community characterizes interactions across the program. Students participate in cutting-edge research starting in their first year rotations and go on to successful careers in academia, industry, teaching, and law where their strong graduate training plays a key role.

Baylor College of Medicine is regularly ranked as one of the top institutions receiving neuroscience funding from the National Institutes of Health. Our work is supported by state-of-the-art research facilities for molecular neurobiology, neurophysiology, microscopy, and functional human brain imaging, in addition to college-wide core laboratories offering the latest instrumentation for experimental work.



**“I entered neuroscience because I was fascinated by our ability to learn and recall someone’s name based on a single encounter. I soon became more intrigued by how memory declines in Alzheimer’s disease and have studied this disorder ever since.”**

JOANNA JANKOWSKY, PH.D.  
PROFESSOR OF NEUROSCIENCE



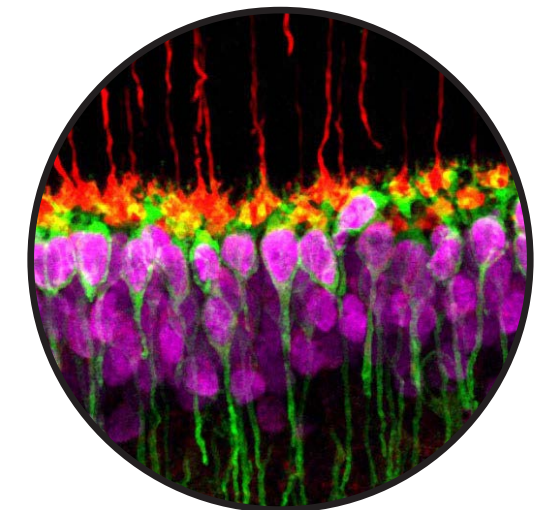
**“The brain is the most complex organ and can only be truly understood if scientists from all sorts of disciplines come together. Thereby, neuroscience research mimics the complexity and diversity of the brain—it is built on collaboration and communication.”**

MEIKE VAN DER HEIJDEN, PH.D.  
ALUMNA  
POSTDOCTORAL FELLOW AT BCM

## RESEARCH INTERESTS

- Information Processing in Visual, Auditory, and Vestibular Systems
- Neural Mechanisms Mediating Higher Nervous System Functions, including Perception, Learning, Memory, Attention, and Decision Making
- Neurodevelopment and Neuroregeneration
- Glial Formation and Function in the Nervous System
- New Technologies to Record and Stimulate Neural Activity
- Diseases of the Nervous System, including Multiple Sclerosis, Epilepsy, Alzheimer’s disease, and Autism Spectrum Disorders

This image shows distinct neural populations in the retina which comprise the first synapses in the visual system. BCM investigators are studying the signaling pathways which help neurons connect properly during development to support vision throughout life.



## CAREER PATHS

Positions currently held by BCM alumni whose research focused on immunology and microbiology include:

**Assistant Professor**, Institute of Molecular Biology and Biotechnology at Foundation of Research and Technology-Hellas, Greece

**Assistant Professor**, University of Texas Health Science Center at Houston

**Clinical Fellow in Neuropathology**, University of California San Francisco

**Damon Runyon Postdoctoral Fellow**, Harvard Medical School

**Data Analyst Manager**, Centers for Disease Control and Prevention Foundation

**Investigator**, Novartis Institutes for BioMedical Research

**Postdoctoral Fellow**, Erasmus University Medical Center, Netherlands

**Postdoctoral Fellow**, Yale University

**Postdoctoral Researcher**, University of Tubingen

**Postdoctoral Scholar**, Stanford University

**Principal Investigator and Project Assistant Professor**, International Research Center for Neurointelligence, University of Tokyo

**Resident in Ophthalmology**, Johns Hopkins Medicine

**Resident in Psychiatry**, Columbia University New York Presbyterian

**Software Engineer**, Amazon.com, Inc.

**Teacher**, Neuroscience and Biology, Proof School San Francisco Bay Area

**User Experience Specialist**, MathWorks



# QUANTITATIVE & COMPUTATIONAL BIOSCIENCES GRADUATE PROGRAM

## CONTACT US

713.798.5197 qcb-grad@bcm.edu

## GENERAL ADMISSIONS QUESTIONS

713.798.4029 gradappboss@bcm.edu

Develop new quantitative modeling methods and advanced computational approaches to further understanding of biological systems.

The Quantitative and Computational Biosciences program will bring you to the new frontiers of biomedical research where you will make discoveries and improve human health through quantitative modeling, advanced computing, and data science.

With leading researchers from seven institutions, we bring together the resources of the Texas Medical Center—the world’s largest complex of biomedical research institutions and hospitals, Rice University, and neighboring institutions—to discover new biomedical knowledge and improve human health.

The overall philosophy of the course requirements is to prepare you in both the specialized area of research in which you choose to focus and in cell and molecular biology. Because our students come from a variety of academic backgrounds we will design your curriculum based on your individual needs.



**“The intersection of computer science and biology is where data gets translated into insight. I wanted to work at that nexus and doing so has allowed my research to have a real impact on human disease.”**

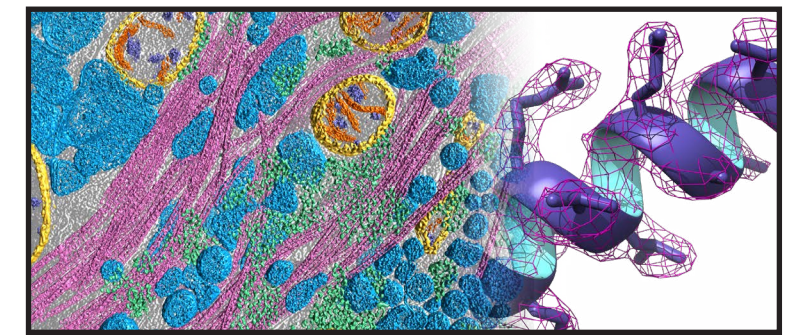
CHRISTOPHER MILLER, PH.D.  
ALUMNUS  
ASSISTANT PROFESSOR OF MEDICINE  
WASHINGTON UNIVERSITY  
SCHOOL OF MEDICINE

**“Quantitative and computational biology tackles a complex problem from a global view, and as a result provides freedom to go deeper into a specific branch of your choice, the combination of which furthers the understanding of the complex problem.”**

BINGSHAN LI, PH.D.  
ALUMNUS  
ASSOCIATE PROFESSOR OF MOLECULAR  
PHYSIOLOGY AND BIOPHYSICS  
VANDERBILT GENETICS INSTITUTE

## RESEARCH AREAS

- Bioinformatics and Cancer Informatics
- Computational Biology
- Computational Biophysics
- Computational Neuroscience
- Computational Structural Biology
- Data Science
- Deep Learning
- Genome and Epigenome Informatics
- Imaging and Image Analysis
- Metabolomics and Proteomics
- Systems Biology and Precision Medicine
- Text Mining and Medical Informatics



This is an annotated 3-D electron tomogram of a neuron-like culture cell determined by cryo-electron tomography. Researchers use cryo-electron tomography to visualize macromolecules frozen in action and details of structures inside of cells. Looking to increase the efficiency of the time-consuming process of annotation, Baylor researchers developed an automated method that requires less human participation.

Learn about research advances made by our faculty and students, find details about our curriculum, discover faculty whose research interests match your own, and more on our website [bcm.edu/qcb](http://bcm.edu/qcb)

## CAREER PATHS

Positions currently held by BCM alumni whose research focused on immunology and microbiology include:

Assistant Professor, BCM  
Assistant Professor, Cornell University  
Assistant Professor, Yale University  
Associate Professor, Purdue University  
Bioinformatics Scientist, Gene By Gene, LTD  
Chief Technology Officer, Normal Modes  
Country Head of Indonesia, Novartis Diagnostics  
Founder and Director, Alzheimer’s Care Companies

Imaging Expert, Visualization Sciences Group, Inc.  
Patent Clerk, Hunton & Williams, LLP.  
Portfolio Manager, Millenium Partners  
Principal Statistic Analyst, MD Anderson Cancer Center  
Publications Planning Manager, Affymax, Inc.  
Senior Scientist, Warp Drive Biosynthetics  
Software Engineer, Google  
Vice President/Global Business Leader, Translational Genomics

# CLINICAL TRANSLATIONAL RESEARCH CERTIFICATE OF ADDED QUALIFICATION

## FOR MORE INFORMATION, CONTACT

Kelly Levitt  
Program Administrator  
✉ [CTR-CAQ@bcm.edu](mailto:CTR-CAQ@bcm.edu)

## ADMISSIONS

Admission to the CTR-CAQ is open to BCM Ph.D. candidates in their first or second year.

Each year, 30 students will be selected to participate.

The two-year program is run in coordination with our seven interdisciplinary Ph.D. programs so that it will not slow down your progress with your thesis research. You and your mentor will design your CTR-CAQ work so that it integrates with or complements your thesis research.

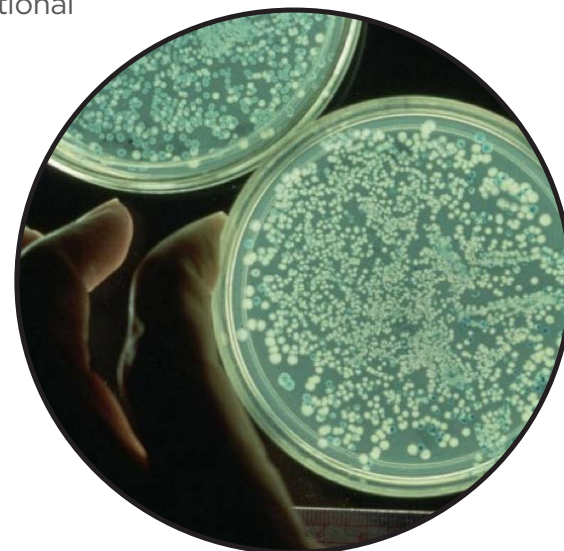
The vision of Baylor College of Medicine is to improve health through science, scholarship, and innovation.

Realizing this vision requires providing the next generation of translational research leaders with the knowledge, skills, and experience necessary to apply the knowledge gained from the basic sciences to address clinical and community healthcare needs.

Baylor graduate students in their first or second year who are interested in a career focused on translating biomedical discoveries into molecular medicine advances to benefit human health are invited to apply for the Clinical Translational Research Certificate of Added Qualification (CTR-CAQ) program. Participants will acquire the foundational knowledge and professional skills required of effective leaders of translational research teams.

## YOU WILL:

- Gain knowledge of the ethics, regulatory aspects, and practical conduct of clinical research
- Conduct hands-on work with peers in small groups to use this knowledge in simulated scenarios
- Master the skills necessary to work in and lead teams of researchers
- Participate in clinical/translational conferences and meetings where you will learn from and interact with experts in translational research
- Complete a capstone project with mentorship from your chosen clinical translational research mentor who will introduce you to clinical research



## YOUR MENTORS

The Graduate School of Biomedical Sciences at Baylor College of Medicine is embedded within a leading health sciences university with a top-ranked medical school and located in the heart of the world's largest medical complex. For all GSBS students, this facilitates establishing collaborations with clinicians, and for students in the CTR-CAQ program this provides access to many exceptional clinical-translational research mentors. In the CTR-CAQ program you will have the opportunity to select mentors from the:

• **Asthma Clinical Research Center**

**BCM adult outpatient clinics**

**Center for Cell and Gene Therapy**

**Dan L Duncan Comprehensive Cancer Center**

**Institute for Clinical and Translational Research**

**Lester and Sue Smith Breast Center**

**Texas Children's Hospital Fetal Center**

**Texas Children's Hospital pediatric clinics**

**USDA/ARS Children's Nutrition Research Center**

**Vaccine Research Institute**

And many more clinical research centers and clinics.

For a full listing of BCM research centers, visit  
[bcm.edu/research/centers](http://bcm.edu/research/centers)

For a full listing of BCM healthcare clinics and centers, visit  
[bcm.edu/healthcare/care-centers](http://bcm.edu/healthcare/care-centers)



# PHYSICIAN-SCIENTIST TRAINING PROGRAMS

BCM offers two programs designed to prepare graduates with passions for discovery and patient care to become independent investigators in both basic research and clinical investigation.

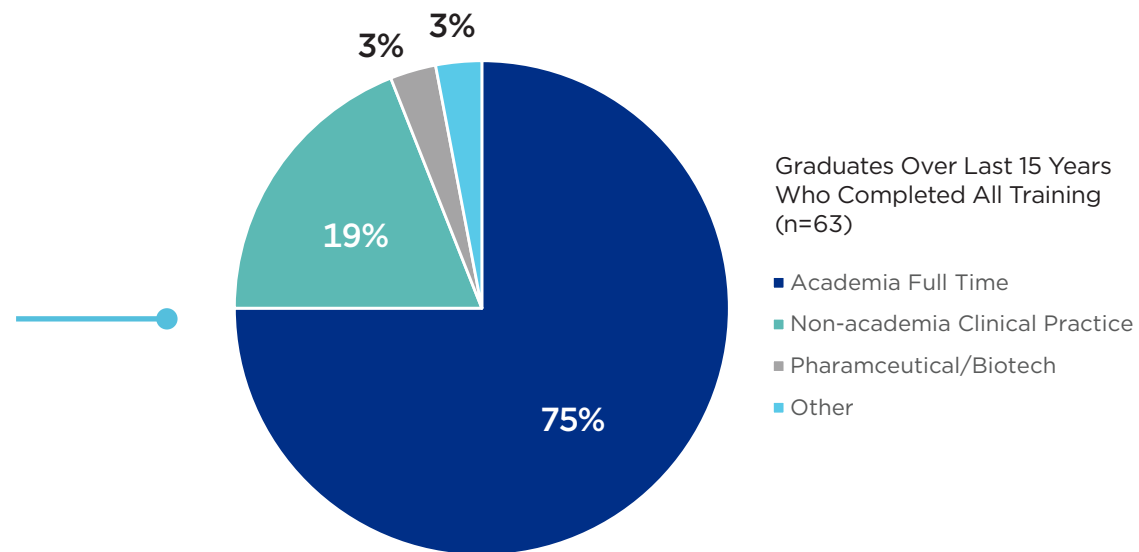
## MEDICAL SCIENTIST TRAINING PROGRAM (MSTP)

The MSTP provides integrated scientific and medical training leading to the dual M.D./Ph.D. degree to highly motivated students with outstanding research and academic potential seeking a career as a physician-scientist. Students may pursue the Ph.D. portion through one of the seven interdisciplinary programs offered at Baylor College of Medicine or through the Rice University Bioengineering Graduate Program. Currently in its 42nd year of funding from the National Institutes of Health, the program has trained more than 250 physician scientists.



### ALUMNI OUTCOMES: M.D./PH.D. PROGRAM

Current career position of BCM-MSTP graduates who responded to a recent survey.



## CLINICAL SCIENTIST TRAINING PROGRAM (CSTP)

The CSTP is designed for junior faculty and senior residents or subspecialty fellows at Baylor College of Medicine. The program offers Ph.D. (for faculty only) and M.S. (for faculty and senior residents and fellows) degrees in clinical investigation. Both the Ph.D. and M.S. programs are designed for academic clinicians with a significant commitment to clinical research. The Ph.D. degree takes four to five years to complete, and the M.S. should be completed within three years. The CSTP also offers a one-year program leading to a Certificate of Added Qualification in Clinical Investigation.

# DIVERSITY AND INCLUSION

We view fostering diversity and inclusion as a prerequisite to accomplishing our institutional mission and promoting scientific innovation. We are committed to recruiting students from diverse backgrounds and providing a welcoming, supportive learning environment for all members of our community.

Through the NIH Initiative for Maximizing Student Development (IMSD), BCM has received funding since 1998 to educate and train scientists from populations that have been traditionally underrepresented in the sciences. The IMSD at BCM offers comprehensive, individualized education, including:

- a summer bridge program that provides individualized support for success
- monthly Association of Graduate Student Diversity activities
- an underrepresented scientist seminar series
- skills-building workshops to help you thrive, not just survive, as a scientist.

There are currently 96 underrepresented students in Ph.D. and M.D./Ph.D. programs at BCM, as well as more than 120 Ph.D. and M.D./Ph.D. alumni. Our alumni have jobs in academia, industry, and other biomedical fields across the country.

Through undergraduate programs and post-baccalaureate programs, BCM reaches out to students across the country to encourage individuals from groups underrepresented in science to pursue science as a career. The **Summer Medical and Research Training (SMART)** program and **BCM PREP** program provide opportunities for research-oriented individuals to gain valuable experiences in biomedical research in a supportive environment with supplemental educational activities. The **Association for Graduate Student Diversity**, a student-run organization, strives to increase diversity, to promote retention and graduation of graduate students in the biomedical sciences, and foster professional and career development of our members.

LEARN MORE AT [bcm.edu/diversityprograms](https://bcm.edu/diversityprograms)



THE SUMMER UNDERGRADUATE RESEARCH PROGRAM AT BAYLOR COLLEGE OF MEDICINE PROVIDES VALUABLE, EDUCATIONAL SUMMER RESEARCH PROJECTS FOR UNDERGRADUATE STUDENTS.



**“I had experience in research, but had no idea whether or not I was ready to commit to graduate school or continue with my original plan to earn an M.D. While exploring the BCM website, I stumbled upon the PREP program website. I rushed to apply before the deadline. The program helped me realize that I could do whatever I wanted with this degree and never be restricted to just one career path.”**

GRACE ADENIYL-IPADEOLA  
STUDENT

# ABOUT BAYLOR COLLEGE OF MEDICINE

## MISSION

Baylor College of Medicine is a health sciences university that creates knowledge and applies science and discoveries to further education, healthcare and community service locally and globally.

## VISION

Improving health through science, scholarship and innovation.

## VALUES

Respect  
Integrity  
Innovation  
Teamwork  
Excellence

## BCM SCHOOLS

In addition to the Graduate School of Biomedical Sciences, Baylor College of Medicine includes:

### SCHOOL OF MEDICINE:

Ranked 22nd for research and 4th for primary care by *U.S. News & World Report*, Baylor College of Medicine's School of Medicine is the least expensive private medical school in the U.S. Exceptionally diverse clinical affiliates set BCM apart as a leader among the world's best medical schools.

Many clinician-scientists within the School of Medicine also serve on the faculty of the graduate school, bridging the clinic and the laboratory to provide graduate students with a clear perspective of the impact of their research on health.

### SCHOOL OF HEALTH PROFESSIONS:

At BCM, health professions education include genetic counseling, nurse anesthesia, physician assistant, and orthotics and prosthetics.

The Doctor of Nursing Practice-Nurse Anesthesia program is ranked second in the nation and the Physician Assistant Program is ranked third in the nation by *U.S. News & World Report*.

### NATIONAL SCHOOL OF TROPICAL MEDICINE:

The educational, advocacy and research initiatives of this school are focused on the neglected diseases that disproportionately afflict "the bottom billion," the world's poorest people. Researchers from Tropical Medicine also serve on the faculty of the graduate school, through which students can conduct research on neglected tropical diseases.

Baylor College of Medicine is also co-owner of [Baylor St. Luke's Medical Center](#) and [Baylor Genetics](#).

## Accreditation

Baylor College of Medicine is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award masters and doctorate degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097 or call 404.679.4500 for questions about the accreditation of Baylor College of Medicine. The commission should be contacted only if there is evidence that appears to support Baylor's significant non-compliance with a requirement or standard.

## Public Safety

The Texas Medical Center Police/Security Department provides the medical center campus with security patrol. Baylor College of Medicine's Security Office is responsible for security within BCM. In accordance with the Jeanne Clery Disclosure of Campus Policy and Campus Crime Statistics Act (Clery Act), BCM issues an Annual Security Report that reflects campus crime statistics, policies, and safety information. All prospective students, faculty, or staff may view this report online at <https://www.bcm.edu/about-us/our-campus/compliance/crime-reporting> or by contacting a BCM security administrator at 713.798.3000.

## Baylor College of Medicine Diversity and Inclusion Policy

Baylor College of Medicine fosters diversity among its students, trainees, faculty, and staff as a prerequisite to accomplishing our institutional mission, and setting

standards for excellence in training healthcare providers and biomedical scientists, promoting scientific innovation, and in providing patient-centered care.

- Diversity, respect, and inclusiveness create an environment that is conducive to academic excellence, and strengthens our institution by increasing talent, encouraging creativity and ensuring a broader perspective.
- Diversity helps position Baylor to reduce disparities in health and healthcare access and to better address the needs of the community we serve.
- Baylor is committed to recruiting and retaining outstanding students, trainees, faculty, and staff from diverse backgrounds by providing a welcoming, supportive learning environment for all members of the Baylor community.

## Notice of Nondiscrimination

Baylor College of Medicine is committed to a safe and supportive learning and working environment for its learners, faculty, and staff. College policy prohibits discrimination on the basis of race, color, age, religion, gender, gender identity or expression, sexual orientation, national origin, veteran status, disability or genetic information. Harassment based on any of these classifications is a form of discrimination and also violates College policy (02.2.25, 02.2.26) and will not be tolerated. In some circumstances, such discriminatory harassment also may violate federal, state, or local law.

## BCM Response to Coronavirus

You are beginning your journey to becoming a biomedical scientist at a time when the importance of this role is clearer than it has been at any point in recent memory. Your graduate school application and interview process will be unique. We recognize the challenges you are facing and pledge to do all we can to help you gather the information you require to determine if BCM is right for you. When the pandemic started our faculty, staff, and students rapidly created and implemented new approaches so we could continue teaching and learning.

This brochure and our website contain a mix of photos. In a few you will see individuals wearing masks and observing social distancing. These are from recent events and reflect our current reality. Others are from earlier days and will give you a sense of what our campus and community were like before the pandemic. No one can predict what the situation will be when you are ready to start graduate school. However, whatever the future holds, we will continue to adapt to ensure all our students have what they need to achieve their goals.

**READ ABOUT THE COLLEGE'S RESPONSE TO THE PANDEMIC at [bcm.edu/coronavirus](https://bcm.edu/coronavirus)**





GRADUATE  
SCHOOL  
OF BIOMEDICAL SCIENCES



Baylor  
College of  
Medicine

GRADUATE  
SCHOOL  
OF BIOMEDICAL SCIENCES

LEARN  
MORE AT  
 [BCM.EDU/  
GRADSCHOOL](https://bcm.edu/gradschool)

Graduate School of Biomedical Sciences - Admissions  
Baylor College of Medicine  
One Baylor Plaza, MS Code BCM215  
Houston, Texas 77030, U.S.A.  
 [gradappboss@bcm.edu](mailto:gradappboss@bcm.edu)

PAGE 11 PHOTO CREDITS: VISIT HOUSTON