

Baylor
College of
Medicine

GRADUATE
SCHOOL
OF BIOMEDICAL SCIENCES



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DEAR PROSPECTIVE STUDENTS,

Thank you for your interest in the Graduate School of Biomedical Sciences at Baylor College of Medicine. Baylor 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 U.S., 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 and training needs to be individualized for each Ph.D. student. You will see throughout this viewbook 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, biotech and more.

This viewbook will introduce you to our interdisciplinary graduate programs, collaborative and unparalleled research resources and of course, our wonderful faculty and students. We are passionate about our research and PhD training programs, and continue to be amazed by the exciting discoveries of our students. 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.

A handwritten signature in black ink that reads "Carolyn L. Smith".

Dr. Carolyn L. Smith

Dean

Graduate School of Biomedical Sciences

Baylor College of Medicine

“My thesis adviser 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, 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

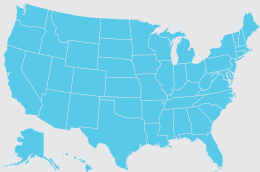
BAYLOR COLLEGE OF MEDICINE
GRADUATE SCHOOL OF BIOMEDICAL SCIENCES
BY THE NUMBERS

STUDENTS



696

NUMBER OF STUDENTS



453

DOMESTIC

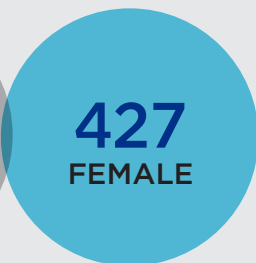
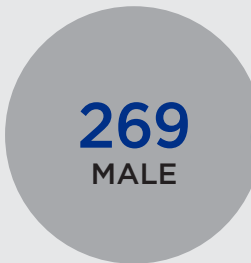
(After the state of Texas, the largest groups are from California and Maryland)



243

INTERNATIONAL

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



— 140 —
UNDERSERVED
IN SCIENCES



5.91
YEARS

AVERAGE TIME
TO PH.D. DEGREE

FACTS

\$687M

TOTAL RESEARCH FUNDING

20th

RANK IN NIH FUNDING TO
MEDICAL SCHOOLS

5

TOP 10 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

5

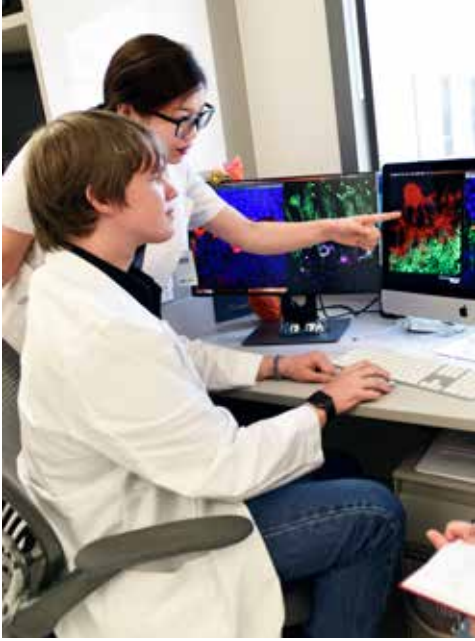
MEMBERS OF THE NATIONAL
ACADEMY OF SCIENCES

7

MEMBERS OF THE NATIONAL ACADEMY
OF INVENTORS

2

HOWARD HUGHES MEDICAL INSTITUTE
INVESTIGATORS



CHOOSE YOUR PATH

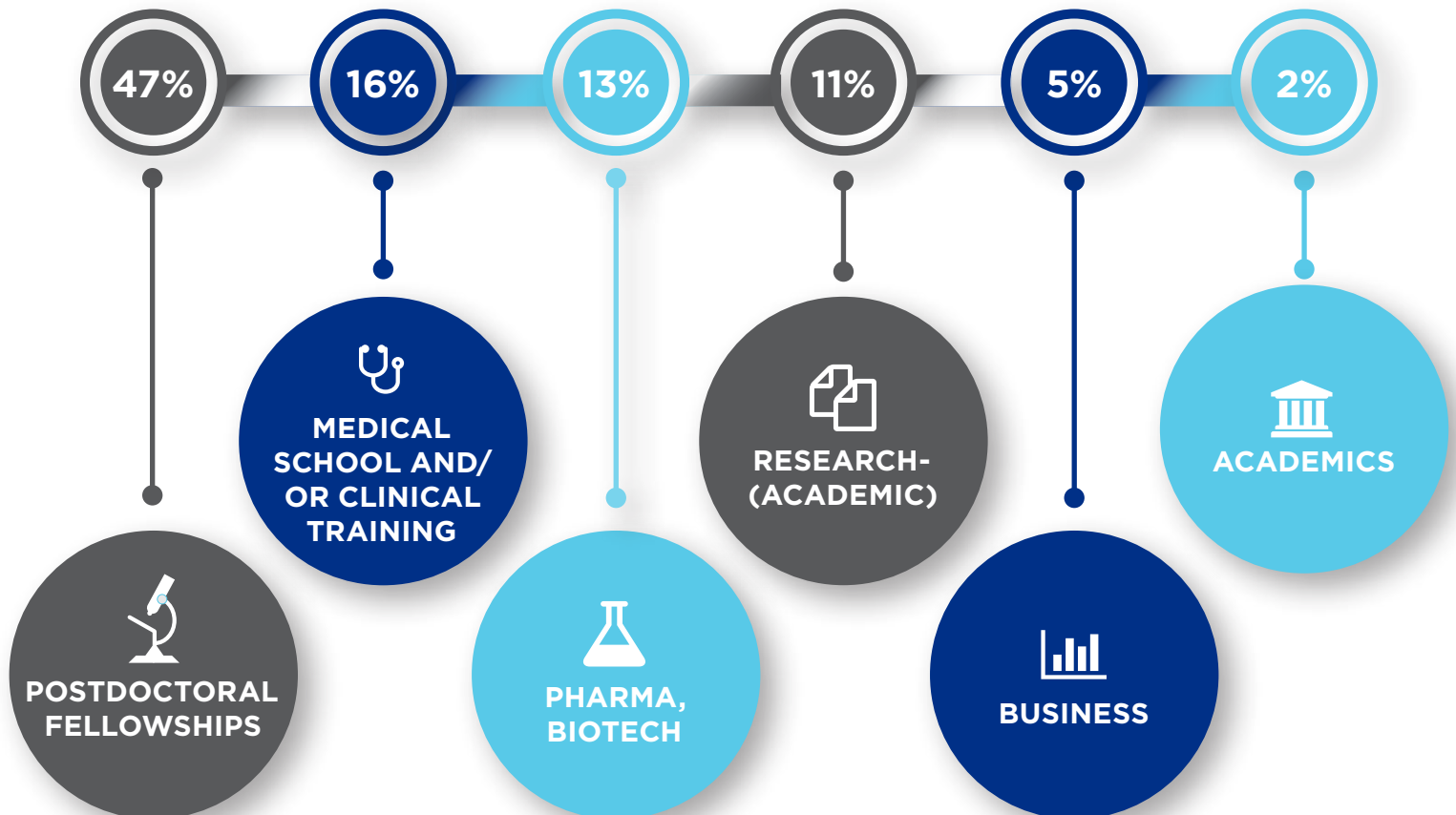
Many students begin a Ph.D. program envisioning a lifetime spent in an academic lab. For a growing number of Ph.D. graduates, career ambitions lie along alternate pathways in biotech, business, pharmaceutical industry, consulting and law.

Wherever your ambition leads, we will help you reach your goal. You will follow 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 2023/2024 GRADUATES*



*These data are for graduates from July 1, 2023, to June 30, 2024

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 **2022 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 higher than national benchmarks on faculty engagement surveys.

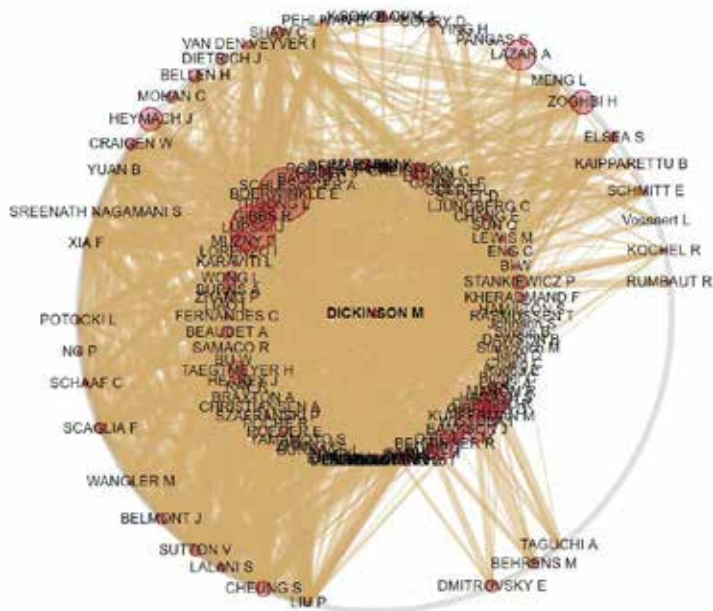
The College's membership in the Texas Medical Center expands the culture of collaboration and innovation beyond BCM.

TOGETHER, THE INSTITUTIONS OF THE TEXAS MEDICAL CENTER ARE SECOND IN THE NATION IN FUNDING FROM THE NATIONAL INSTITUTES OF HEALTH.

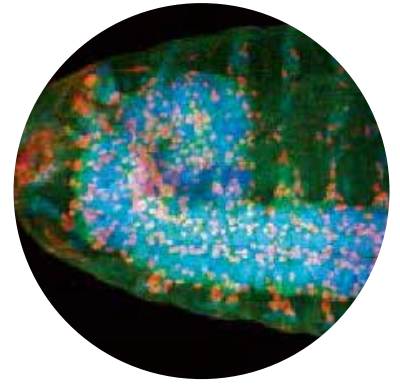
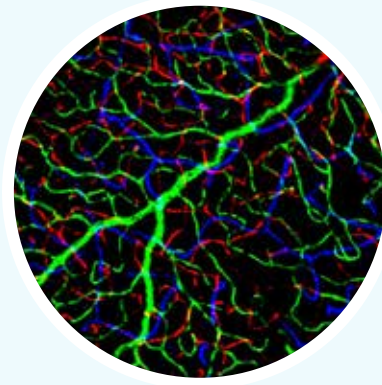
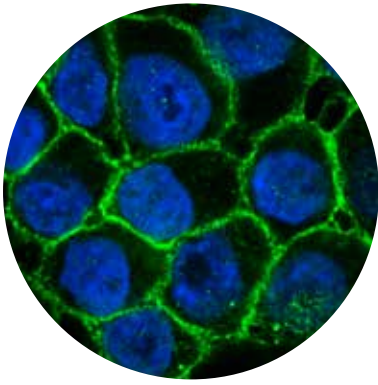


“If there is something you are interested in that has anything to do with biomedical sciences, there is someone here who does it or knows somebody who does. There is an astounding number of labs here, which offer a lot of opportunity for collaboration.”

RACHEL CURRY
STUDENT



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



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

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 featured 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 a 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 investigated 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 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



“The most appealing aspect 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

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:

- Advanced Cell Engineering and 3D Models
- Antibody-Based Proteomics
- Bioengineering
- Biostatics & Informatics
- 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 Metabolism and Phenotyping
- MS Proteomics
- Multi-Omics Data Analysis
- NMR and Drug Metabolism
- Optical Imaging & Vital Microscopy
- Patient Derived Xenograft
- Population Biosciences Biorepository
- Recombinant Protein Production and Characterization
- RNA In Situ Hybridization
- Single Cell Genomics
- Zebrafish Core





“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, FEMTECH 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

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, our researchers have access to extensive data repositories.

The College’s partnership with CommonSpirit Health, which has more than 1,000 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, provides our researchers with 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

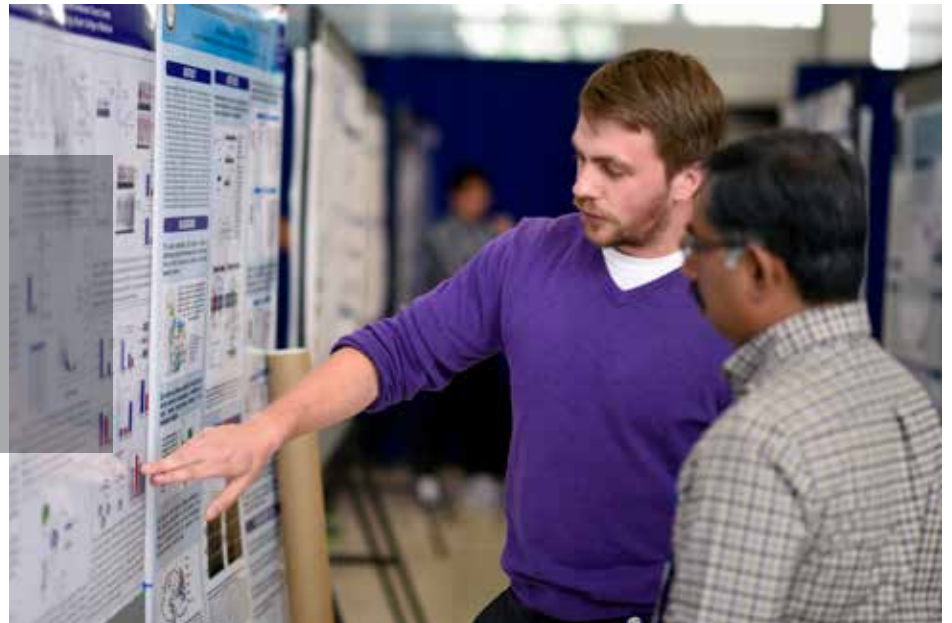
FLEXIBILITY TO MEET YOUR GOALS

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 its 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, PH.D.
ALUMNUS, EXPERT II DATA SCIENCE, NOVARTIS

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 discussion between students and mentors about career goals early in the training process and implements a course of action to achieve them.

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 foundational courses that provide all students, regardless of specialty, a breadth of knowledge across the biological sciences. 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 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 American Association of Medical Colleges' 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 Texas Medical Center 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** IN TOTAL PARK ACREAGE AMONG U.S. CITIES WITH MORE THAN ONE MILLION RESIDENTS
- 2nd** LARGEST CONCENTRATION OF FORTUNE 1000 COMPANIES IN THE U.S.
- 4th** LARGEST CITY IN U.S.: 2.3 MILLION RESIDENTS
- 4.4%** 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, PH.D.
ALUMNUS

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



ACTIVITIES AND ATTRACTIONS

- Professional, collegiate, and recreational sports league
- Theatre, 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)

TEXAS MEDICAL CENTER FACTS

- 50M** DEVELOPED SQUARE FEET
- 8th** LARGEST BUSINESS DISTRICT IN THE U.S.
- 10M** PATIENT VISITS PER YEAR
- 180K+** SURGERIES ANNUALLY
- \$3B** IN CONSTRUCTION PROJECTS IN PROGRESS
- 106K+** 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 throughout Houston 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

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



ACADEMIC EXCELLENCE

If you need help with a specific course, accommodations for a disability, veterans affairs services, counseling or assistance finding resources in the Texas Medical Center Library, services are available to you at BCM.

For a full listing of Student Success Resources

visit bcm.edu/student-services



“My lab mates were 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, PH.D.
ALUMNUS



“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, PH.D.
ALUMNUS



NETWORKING & STUDENT ENGAGEMENT

Your opportunities to build supportive 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



STIPENDS AND BENEFITS

At BCM, we are focused on you and your training. If you envision a future as a teacher, 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 to receive a stipend and other benefits. You have the freedom to focus exclusively on your education and research while you work with mentors to take advantage of other BCM resources that match your career interests.

Students receive:

- **\$38,625 stipend in 2024/25**
- **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.

“I chose Baylor College of Medicine for my Ph.D. program because of its long research history with nuclear receptors and its innovation around diversity. Baylor College of Medicine taught me to take research risks and ask the unusual questions nobody was asking. Baylor College of Medicine also taught me to cultivate my enthusiasm for science, leadership, mentorship, diversity, equity and inclusion. Most importantly, since I have completed my Ph.D., I recognize myself more as a person that’s evolving and learning how to be more productive, thoughtful and culturally aware of other people’s cultures and values, and without my training at Baylor, I would not have been able to lead my laboratory in this way.”



ANTENTOR HINTON, PH.D.
ALUMNUS
ASSISTANT PROFESSOR, VANDERBILT UNIVERSITY



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
- Strong Letters of Recommendation

Applicants are encouraged to select both a first- and second-choice program. If the first program you list does not accept your application, it will automatically be sent to the second for consideration.

2,083
APPLICANTS

210
OFFERS

99
ENTERING
CLASS IN 2024



“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 person underserved in medicine.”

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.**

AUG. 4 **CLASSES FOR 2025 ACADEMIC YEAR BEGIN**

TO BEGIN YOUR APPLICATION, VISIT 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 advisers at the 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 and 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 more than 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 ways to network and take your mind off school.

FOR MORE INFORMATION bcm.edu/gsbsstudentorgs



CANCER & CELL BIOLOGY GRADUATE PROGRAM

CONTACT US

☎ 713.798.6557 ✉ cancer-cell@bcm.edu

GENERAL ADMISSIONS QUESTIONS

☎ 713.798.3859 ✉ 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/National Cancer Institute-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 sizes facilitate 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
DIRECTOR, ACADEMIC RESEARCH
COLLABORATIONS AT BRISTOL MYERS SQUIBB,
NEW JERSEY

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

“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.”

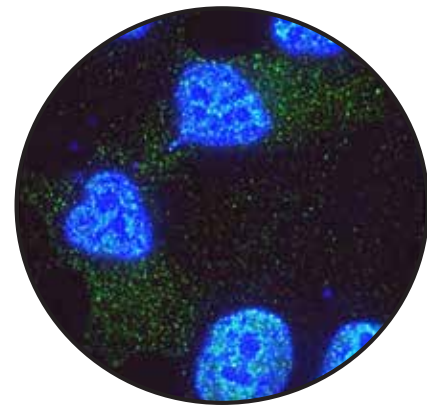
JOSHUA GRAVES, PH.D.
ALUMNUS

MICROBIOLOGIST, CENTERS FOR DISEASE CONTROL AND PREVENTION
DIVISION OF SELECT AGENTS AND TOXINS

RESEARCH AREAS

- 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

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

☎ 713.798.2949 ✉ ask-cpsb@bcm.edu

GENERAL ADMISSIONS QUESTIONS

☎ 713.798.3859 ✉ 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 adviser 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

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

Assistant Professor, University of North Carolina Medical School

Associate Director, HD Biosciences

Associate Director, Qiagen

Associate Professor, Yale University

Consultant, Lawrence Berkeley National Laboratory

Director, Molecular Genetics Laboratory, Stanford Health

Faculty, King Abdullah University of Science and Technology



“I chose the Chemical, Physical, & Structural Biology Program at Baylor College of Medicine for the opportunity to do cutting edge interdisciplinary research in a highly collaborative environment that is dedicated to ensuring my success as a scientist.”

ELIZABETH “LIZZIE” BARROIS, 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 signaling 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

Instructor, UT Southwestern Medical Center
Intellectual Property Lawyer, Fangda Partners
Postdoctoral Associate, Massachusetts Institute of Technology
Principal Investigator, Institut Pasteur of Shanghai
Professor and Division Head, UT Austin
Regulatory Scientist-Chemist, U.S. Food and Drug Administration
Senior Bioinformatics Director, BCM
Senior Scientist, LakePharma, Inc.

DEVELOPMENT, DISEASE MODELS & THERAPEUTICS GRADUATE PROGRAM

CONTACT US

☎ 713.798.2886 ✉ ddmtgradprogram@bcm.edu

GENERAL ADMISSIONS QUESTIONS

☎ 713.798.3859 ✉ gradappboss@bcm.edu

Work at the interface of developmental biology, physiology, health and disease using diverse models to understand the biology of human diseases that impact all stages of life while developing 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 while developing therapeutics.

With more than 150 faculty members, representing most of the departments and centers at BCM and many at our affiliate 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 a research project to facilitate the translation of your discoveries into new approaches that 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

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

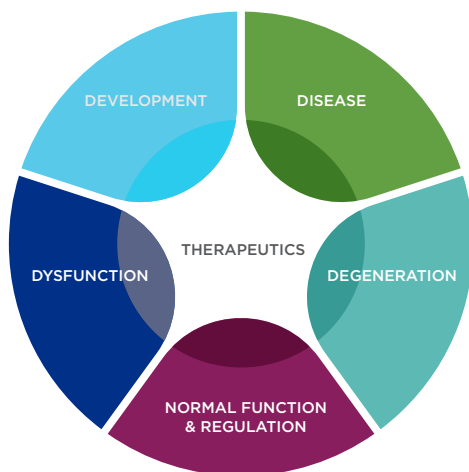
Clinicians at: Brigham and Women’s Hospital, Stanford University School of Medicine, Texas Spine & Neurosurgery Center, University of Arkansas Medical Sciences and UCSF



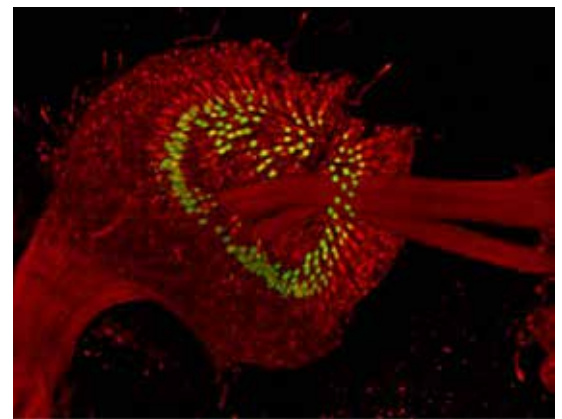
“Completing my PhD at BCM has launched my career in research and I now have a huge network of friends, colleagues, and mentors for life. The DDMT program has provided me with a strong foundation to continue to explore the unknown and solve the important outstanding biomedical questions of our time.”

RACHEL KEULS
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 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

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

GENETICS & GENOMICS GRADUATE PROGRAM

CONTACT US

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

GENERAL ADMISSIONS QUESTIONS

☎ 713.798.3859 ✉ 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 — Baylor 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. By 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, PH.D.
ALUMNUS
SCIENTIST I, ALTOS LABS, INC.

CAREER PATHS

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

Academic Director, Laboratory of Molecular and Human Genetics, at the Institut Pasteur de Montevideo

Associate Director, Molecular Diagnosis, New York Genome Center

Associate Professor, Washington University SOM in St. Louis

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



“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.”

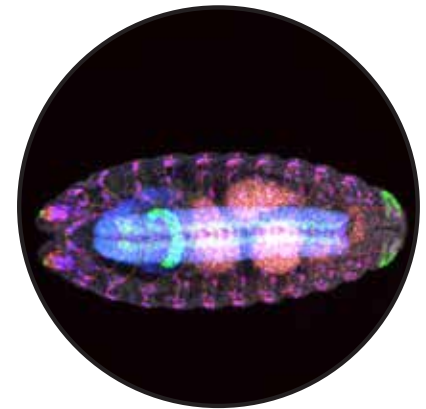
BRENDAN LEE, M.D., PH.D.
ROBERT AND JANICE MCNAIR ENDOWED CHAIR AND
PROFESSOR OF MOLECULAR AND HUMAN GENETICS, BCM

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



Alumnus, Field Application Scientist at Oxford Nanopore Technologies Dr. Jose Luis Salazar, his mentor Dr. Shinya Yamamoto and colleagues discovered novel genes that regulate neurogenesis and neuronal maintenance using *Drosophila* embryos. This image is from their study that was published in PLoS Genetics

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

Chair, Department of oncologic pathology, Johns Hopkins

Founder and CEO, Lazarus 3D

Head of Pediatric Hematology/Oncology Clinic, Antwerp University

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

Senior Director, Research and Innovation, Epilepsy Foundation

Senior Global Project Manager, Boston Consulting Group

Stadtman Tenure- Track Investigator and and Head of Systems Biology, National Cancer Institute's Center for Cancer Research

Vice President, Translational Sciences, Leal Therapeutics

IMMUNOLOGY & MICROBIOLOGY GRADUATE PROGRAM

CONTACT US

☎ 713.798.2384 ✉ IYprogram@bcm.edu

GENERAL ADMISSIONS QUESTIONS

☎ 713.798.3859 ✉ gradappboss@bcm.edu

Join us in investigating microbes, host-microbe interactions, and the immune system in human health and disease, and developing cure strategies for infections, cancer, and immune dysfunction.

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. During your dissertation research, 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 to solve them. Electives and cross-cutting programs 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, PH.D.
ALUMNUS, POSTDOCTORAL FELLOW,
BAYLOR COLLEGE OF MEDICINE

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

Attorney, Vinson & Elkins

Bioinformatician, University of Pennsylvania School of Medicine

Director of Production Maximization & Microbiology, Nalco Champion

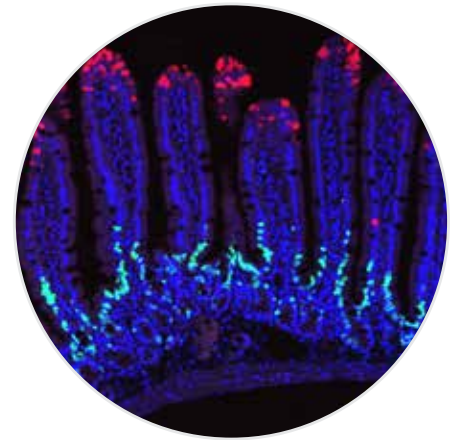


“I chose to pursue graduate work in immunology and microbiology because I am very interested in host/pathogen interactions and using this knowledge to develop vaccines. The IM program allows me to explore all of my research interests, with a translational focus that could one day improve the health and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

BRITTANI BLUNCK, PH.D.
ALUMNA, SENIOR SCIENTIST, SONATA THERAPEUTICS

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 is an image is from investigations of the structure and molecular biology of gastrointestinal viruses used to understand the basic mechanisms that control virus replication, morphogenesis, virus-host interactions and pathogenesis. It is an immunofluorescent image of a mouse's 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

Epidemiologist, Centers for Disease Control and Prevention

Lead Data Scientist, Nielsen

Postdoctoral Scientist, Harvard University

Professor, BCM

Professor, UC Berkeley and Howard Hughes Medical Institute

Senior Director, Emergent Biosolutions

NEUROSCIENCE GRADUATE PROGRAM

CONTACT US

☎ 713.798.7270 ✉ Neuro-program@bcm.edu

GENERAL ADMISSIONS QUESTIONS

☎ 713.798.3859 ✉ 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 have successful careers in academia, industry, teaching and law where their strong graduate training plays a key role.

Baylor 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.



“The nervous system is amazing because it controls every other system in the body. Much is understood about how we sense the outside world, but surprisingly little is understood about how we sense our own bodies to control physiology, so I am fascinated by this brain-body connection.”

KARA L. MARSHALL, PH.D.
ASSISTANT PROFESSOR, NEUROSCIENCE

CAREER PATHS

Positions currently held by BCM alumni whose research focused on neuroscience include:

Assistant Director for Postdoctoral Affairs, University of Virginia

Assistant Professor, University of Washington

Assistant Professor, Virginia Tech

Associate Consultant Medical Affairs, OPEN Health Scientific Communications

Consultant, SAI MedPartners, LLC

Data Scientist, Intuitive

Lead Machine Learning Engineer, Capital One



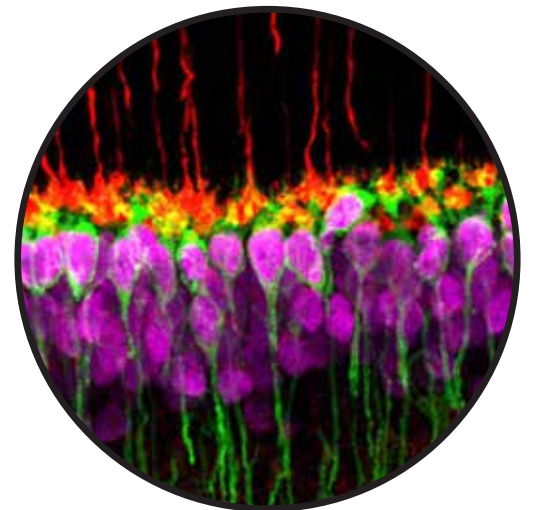
“The brain is the most complex organ and can only be truly understood if scientists from all sorts of disciplines come together. Thereby, neuroscience research mimics the complexity and diversity of the brain — it is built on collaboration and communication.”

MEIKE VAN DER HEIJDEN, PH.D.
ALUMNA
ASSISTANT PROFESSOR, VIRGINIA TECH UNIVERSITY

RESEARCH AREAS

- Information Processing in Somatosensory, 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, taken from the lab of Dr. Melanie Samuel, shows distinct 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.



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/neuro-program

Medical Science Director, Mitsubishi Tanabe
Pharma America
Medical Science Liaison, Azurity Pharmaceuticals
Postdoctoral Fellow, BioGen
Postdoctoral Fellow, Harvard University
Postdoctoral Fellow, Princeton University
Postdoctoral Fellow, Stanford University
Principal Scientist, Novartis Institutes for
BioMedical Research (NIBR)

Research Scientist, Meta
Resident in Ophthalmology, Oregon Science and
Health University
Resident in Pediatrics, University of Pittsburgh
Children’s Hospital
Scientist, Altos Labs
Sr. Data Scientist, Mercury Data Science
Sr. Life Sciences Specialist, L.E.K. Consulting

QUANTITATIVE & COMPUTATIONAL BIOSCIENCES GRADUATE PROGRAM

CONTACT US

☎ 713.798.5197 ✉ qcb-grad@bcm.edu

GENERAL ADMISSIONS QUESTIONS

☎ 713.798.3859 ✉ 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
WASHINGTON UNIVERSITY
SCHOOL OF MEDICINE

CAREER PATHS

Positions currently held by BCM alumni whose research focused on quantitative and computational biosciences 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

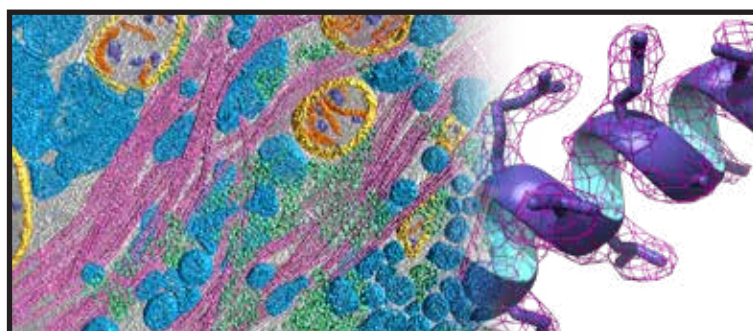
“As a computational student in the QCB program I have been thrilled with the access to abundant data across many domains that is available at BCM. The top tier faculty here are highly collaborative and collegial. I have had multiple opportunities to work between departments at Baylor and between institutions here in the TMC on exciting and innovative science.”



ROWLAND PETTIT, PH.D.
ALUMNUS
CHIEF SCIENCE OFFICER, INFORMAI

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

Imaging Expert, Visualization Sciences Group, Inc.

Patent Clerk, Hunton & Williams, LLP.

Principal Statistic Analyst, MD Anderson Cancer Center

Portfolio Manager, Millennium Partners

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

CONTACT US

Kelly Levitt
Program Administrator
✉ CTR-CAQ@bcm.edu

The CTR-CAQ program is a pillar in the education of the next generation of translational research scientists

ADMISSIONS

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.



“Clinical observation helped me to meet patients undergoing immunotherapy and instilled a sense of gravity to the work we do as bench scientists.”

JONATHAN VAZQUEZ-PEREZ
STUDENT

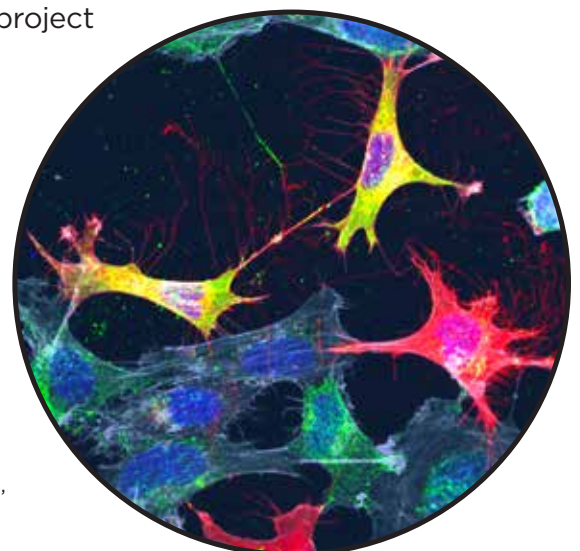
The vision of BCM is to improve health through science, scholarship and innovation.

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

Once enrolled, Baylor graduate students who are interested in a career focused on translating biomedical discoveries into molecular medicine advances may apply to the Clinical Translational Research Certificate of Added Qualification (CTR-CAQ) program to begin in their second or third year of graduate school. Participants will acquire the foundational knowledge and professional skills necessary for 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



Cells Networking: Cells Communicating and Forming Various Connections via Tunneling Nanotubes. Credit: Long Binh Tran, Mysorekar Lab, BCM

YOUR MENTORS

The Graduate School of Biomedical Sciences 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:

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

For a full listing of BCM healthcare clinics and centers, visit bcm.edu/healthcare/care-centers



BIOMEDICAL EDUCATION CERTIFICATE OF ADDED QUALIFICATION

The career outcomes for many BCM graduate students include academic appointments in higher education, which include teaching duties. The Biomedical Educator CAQ is designed to give graduate students the opportunity to receive additional classroom training in teaching skills and contemporary teaching technology. They will also participate in opportunities to practice teaching skills and be evaluated. Participating faculty include members of the Huffington Department of Education, Innovation and Technology, as well as experienced educators among the BCM graduate faculty.

LEARN MORE AT bcm.edu/biomed-educator

MS IN BIOMEDICAL SCIENCES (MSBS)

Our new MSBS is a two-year program offering advanced training for Bachelor's-level students seeking additional preparation before applying for Ph.D. programs or careers as staff researchers in biomedical or biotech labs. With access to our state-of-the-art Advanced Technology Cores, the program provides foundational knowledge and mentor-guided research training, culminating in a thesis, to prepare graduates for careers where fast-evolving technologies are the key to successful discoveries.

LEARN MORE AT bcm.edu/biomedms

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 for a dual M.D./Ph.D. degree to highly motivated students seeking careers as physician-scientists. Students may pursue the Ph.D. portion through one of the seven interdisciplinary programs offered at BCM or through the Rice University Bioengineering Graduate Program. Currently in its 48th year of funding from the National Institutes of Health, the program has trained more than 325 physician scientists.

CLINICAL SCIENTIST TRAINING PROGRAM (CSTP)

The CSTP is designed for junior faculty and senior residents or subspecialty fellows at Baylor. The program offers Ph.D. (for faculty only) and M.S. (for faculty, 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.

Completion of Post-graduate Training (n=160)

66% ACADEMIA FULL TIME	11% PHARMACEUTICAL/BIOTECH
22% NON-ACADEMIA CLINICAL PRACTICE	1% OTHER

COMMUNITY ENGAGEMENT RESOURCES

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 underserved 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 underserved scientist seminar series
- skills-building workshops to help you thrive as a scientist.

There are currently 140 underserved students in Ph.D. and M.D./Ph.D. programs at BCM, as well as more than 170 Ph.D. and M.D./Ph.D. alumni.



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

Through undergraduate programs and post-baccalaureate programs, BCM reaches out to students across the country to encourage individuals from groups underserved in science to pursue science as a career. The **Summer Undergraduate 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, promote retention and graduation of graduate students in the biomedical sciences and foster the professional and career development of our members.

LEARN MORE AT bcm.edu/gsbsprograms



“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 16th 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 includes 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 (SACSCOC) to award masters and doctorate degrees. Questions about the accreditation of Baylor College of Medicine may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097, by calling (404) 679-4500, or by using information available on SACSCOC's website (www.sacscoc.org).

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.

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.

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