

Program in Biomedical Science and Engineering

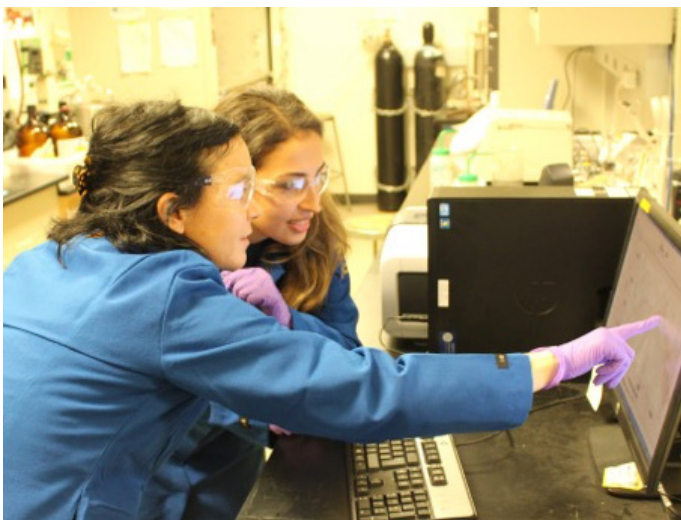
What is the Program in Biomedical Sciences & Engineering?

The graduate Program in Biomedical Sciences & Engineering (PBSE) reflects the interdisciplinary and collaborative nature of biomedical research at UCSC. PBSE predoctoral fellows have the opportunity to study biology at the molecular, cellular, and systems levels, and can take advantage of advanced laboratory facilities, computational tools, and a highly collaborative research environment.

What can first-year students expect in PBSE?

Students in the Program in Biomedical Sciences & Engineering engage in research rotations their first year and complete the core courses associated with one of the following four interdisciplinary training tracks:

Biomolecular Engineering & Bioinformatics (BMEB);
Chemical Biology, Biochemistry & Biophysics (CB3);
Molecular, Cell & Developmental Biology (MCD); and
Microbial Biology & Pathogenesis (MICRO).



Are there diversity fellowships or other opportunities specific to this program?

Our program can nominate students for the Cota Robles Fellowship. Additional funding may be available through the Initiative for Maximizing Student Diversity (stemdiv.ucsc.edu/imsd), Research Mentoring Institute (cbse.soe.ucsc.edu/diversity/rmi), and NIH Training Grants.

When are graduate applications due for this program?

December 1st

Who can I contact for more information?

Grace Kistler-Fair, Graduate Program Coordinator
(831) 459-2632
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Program in Biomedical Science & Engineering Faculty

James Ackman - Mapping brain circuit structure and function
Mark Akeson - Computational tools to control & analyze DNA & RNA using nanopores
Manny Ares - Mechanisms of splicing regulation
Joshua Arribere - Cellular quality control of gene expression
Vicki Auerbuch-Stone - Innate immune responses to the human pathogen *Yersinia*
Phil Berman - Biotechnology & infectious diseases
Needhi Bhalla - Meiotic chromosome dynamics
Hinrich Boeger - Chromatin structure & gene regulation
Angela Brooks - Transcriptome analysis of RNA splicing & cancer
Manel Camps - Drug resistance evolution, genetic adaptation, plasmid homeostasis
Susan Carpenter - Long noncoding RNA & innate immunity
Bin Chen - Mammalian brain development
Russell Corbett-Detig - Population & evolutionary genomics
Rebecca Dubois - Structure, function & engineering of virus proteins
Ölöf Einarsdóttir - Mechanisms & dynamics of respiratory heme-copper oxidases
David Feldheim - The generation of neural connections
Lars Fehren-Schmitz - Human palaeogenomics & molecular anthropology
Camilla Forsberg - Mechanisms of stem cell fate decisions
Ed Green - Genome sequence assembly & comparative genome analysis
Grant Hartzog - How chromatin influences transcription
David Haussler - Bioinformatics, genome analysis & molecular evolution
Lindsay Hinck - Cellular interactions during organogenesis & tumorigenesis
Ted Holman - Lipoxigenase as a therapy target for stroke, diabetes & heart disease
Melissa Jurica - Structure & functional analysis of spliceosomes
Rohinton Kamakaka - Chromosome structure & gene regulation
Kevin Karplus - Long-read DNA sequencing
Doug Kellogg - Control of cell growth & size
Daniel Kim - Epigenomic reprogramming by long noncoding RNA
Dave Kliger - Dynamics of biomedical molecules in vision, allostery, & folding
Scott Lokey - Chemical biology, cyclic peptides, & small molecule screening
Todd Lowe - Non-coding RNAs, microbial genomics & extremophile biology
John MacMillan - Natural products chemistry, chemical biology, structural elucidation, cancer biology, microbial natural products
Pradip Mascharak - Protein active site modeling, biomaterials & metallodrug design
Glenn Millhauser - Prions, metallobiochemistry, agouti & melanocortin signaling
Harry Noller - Structure & function of the ribosome
Karen Ottemann - The molecular virulence factors of *Helicobacter pylori*
Carrie Partch - Molecular mechanisms of circadian rhythmicity
Benedict Paten - Genome analysis and precision medicine
Nader Pourmand - Single-cell analysis & manipulation, biosensors & nanotechnology
Jevgenij Raskatov - Disease-oriented chemical biology & novel molecular therapies
Michael Rexach - Structure and function of the nuclear pore complex
Seth Rubin - Biochemical mechanisms in cell growth & division
Chad Saltikov - Molecular biology & ecology of bacteria that metabolize toxic metals
Jeremy Sanford - Posttranscriptional control of gene expression
Bill Saxton - Cytoskeletal motors & active transport processes
Bill Scott - Structure & mechanisms of RNA enzymes
Nik Sgourakis - Modeling protein complex structures from sparse experimental data
Beth Shapiro - Inferring evolutionary dynamics using genomic data sampled over time
Alexander Sher - Function, development & treatment of neural circuits
Marilou Sisson-Magnus - Microbial ecology & evolutionary biology
Donald Smith - Molecular & functional impacts of neurotoxic agents
Michael Stone - Structure & dynamics of telomeres
Susan Strome - Chromatin & RNA regulation in germ cell development
Josh Stuart - Computational functional genomics & integrative analysis of cancer
Bill Sullivan - Cell cycle, cytoskeleton & host-pathogen interactions
John Tamkun - Chromatin remodeling in *Drosophila* development
Christopher Vollmers - DNA sequencing tools for the analysis of B cells
Zhu Wang - Prostate development & cancer stem cells
Jordan Ward - *C. elegans* development, cellular differentiation, and parasitic disease
Fitnat Yildiz - Molecular mechanisms of biofilm formation in *Vibrio cholerae*
Al Zahler - Alternative pre-mRNA splicing regulation & biological roles of small RNAs

