Biological and Medical Informatics

The Biological and Medical Informatics program equips PhD students with the skills and knowledge in applied mathematics, informatics, statistics, computer science, physics, chemistry, and biology needed to study biological composition, structure, function, and evolution at the molecular, cellular, and systems levels. Students are involved with gathering, storing, analyzing, predicting, and disseminating complex information. The field is essential, for without quantitative analysis of the massive and growing amounts of biological data generated by various systems, biology and -omics data cannot be interpreted or exploited.

UCSF researchers pioneered many bioinformatics areas including data visualization, systems biology, protein structure prediction, and drug design. With faculty interests that include genetics, genomics, evolution, protein structure, systems biology, host-pathogen interactions, drug design, and cellular biology, students have a wide range of areas to explore and integrate. Members of the Bioinformatics faculty include members of the National Academy of Sciences, Howard Hughes Investigators, Searle Scholars, and National Institutes of Health (NIH) New Innovator Awardees.

faculty
Over 35 faculty members teach and mentor students in the BMI program. Faculty members are affiliated with the departments of Pharmaceutical Chemistry, Bioengineering and Therapeutic Sciences, Cellular and Molecular Pharmacology, Biochemistry and Biophysics, Epidemiology and Biostatistics, Microbiology and Immunology, Medicine, Neurology, and Surgery; as well as the Gladstone Institute and Institute for Human Genetics.

The BMI program is a member of the Quantitative Biosciences Consortium [1] (QBC), and a founding member of the Integrative Program in Quantitative Biology [2] (iPQB) at UCSF.

sub-disciplines
bioinformatics and computational biology
genetics and genomics
complex biological systems

The BMI program office is located at the Mission Bay campus. Visit the program website [3] for more information.