BioMaPS Graduate Program:
Computational Biology & Molecular Biophysics

The Program

The graduate program in Computational Biology and Molecular Biophysics is an interdisciplinary program designed for graduate students who wish to embrace the knowledge and quantitative tools of chemistry, physics, mathematics, computational sciences, engineering, and/or statistics to tackle complex, unsolved biological problems.

Students may work either toward a Ph.D. within this program (with a Master’s degree as a possibility along the way) or a joint Ph.D. in combination with one of many partnering graduate programs [e.g., Chemistry and Chemical Biology; Math; Physics; Molecular Biosciences (Microbiology & Molecular Genetics; Biochemistry; Cell & Developmental Biology; Cellular & Molecular Pharmacology; Physiology & Integrative Biology; and Neuroscience); Biomedical Engineering; Electrical and Computer Engineering; and Computer Science]. A bachelor’s degree or equivalent is required. Students with M.S., M.D., D.D.S., D.M.D., and D.V.M. degrees are also encouraged to apply. Students making good progress toward the degree can anticipate full funding until the Ph.D. is awarded.

The Curriculum

The curriculum builds on the world-class strengths in quantitative biology of the faculty at Rutgers and the neighboring UMDNJ Robert Wood Johnson Medical School. Nearly 60 faculty members in 14 departments provide training opportunities in three general areas: (i) Structural Biology (computational and experimental studies of the structures and interactions of biomolecules and pharmaceutical agents); (ii) Genomics/Systems Biology (analysis of genetic sequences and modeling of biomolecular networks); and (iii) Bioinformatics/Translational Medicine (development and application of tools for translational research in biomedicine).

The Facilities

The graduate program is housed in the Center for Integrative Proteomics Research, a new 75,000 square foot facility dedicated to fostering interdisciplinary studies of complex biological phenomena. Center members include internationally recognized Rutgers faculty, leading research groups focused on computational chemistry, structural biology, mechanistic enzymology, and bioinformatics, as well as the RCSB Protein Data Bank ([www.rcsb.org](http://www.rcsb.org)). Core facilities include state-of-the art instrumentation for NMR spectroscopy and mass spectrometry, and high performance computing hardware. A purpose-built cryo-electron microscopy suite will be equipped in the near future.

Rutgers, The State University of New Jersey, is a leading national public research university and the state’s preeminent, comprehensive public institution of higher education.

For more information

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