

**RESEARCH INTENSIVE INTERDISCIPLINARY PH.D. PROGRAM
WITH OPPORTUNITIES FOR SPECIALIZATION IN STRUCTURAL,
COMPUTATIONAL, CHEMICAL BIOLOGY, BIOCHEMISTRY,
BIOPHYSICS AND BIOINFORMATICS**

Molecular Biophysics lies at the intersection of molecular biology, chemistry and physics, and is an interdisciplinary vantage point from which important advances are being made in life science research. Molecular biophysics is distinguished by quantitative approaches of inquiry based on molecular structure and spectroscopy, biophysical chemistry, functional bioenergetics, statistical thermodynamics, and molecular dynamics. Exciting research opportunities are open to students with strong interests and backgrounds in chemistry, physics and mathematics.

RESEARCH AREAS

- Macromolecular Structure Analysis by X-ray Crystallography, NMR, Optical Spectroscopy
- Molecular Dynamics and Bioinformatics
- Transient Enzyme Kinetics
- Chemical Biology and Biochemistry

BENEFITS

- Low Student/Faculty ratio = personalized training, career development
- Research programs funded by NIH, NSF, and an NIH Training grant
- Tuition waiver and stipend provided
- Low cost of living; proximity to major cities (Boston, New York)
- Free online application

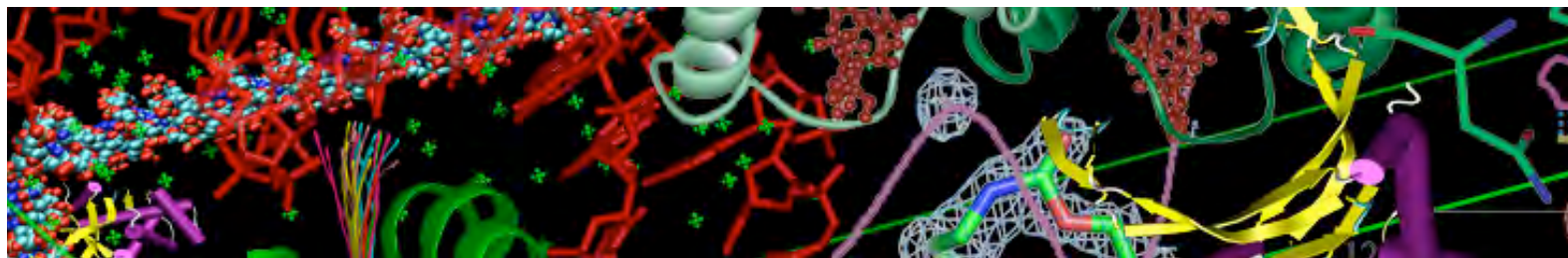
ENTRANCE REQUIREMENTS

- As per Chemistry, Mol Bio & Biochemistry or Physics graduate programs

FOR MORE INFORMATION, CONTACT

David Beveridge, Ph.D., Department of Chemistry
dbeveridge@wesleyan.edu

Ishita Mukerji, Ph.D., Molecular Biology and Biochemistry Department
imukerji@wesleyan.edu



CHEMISTRY DEPARTMENT

- David L. Beveridge** Theoretical and computational biophysics and structural bioinformatics
- Philip H. Bolton** NMR and fluorescence spectroscopy of proteins and nucleic acids
- Joseph Knee** Time resolved fluorescence spectroscopy
- Rex Pratt** Enzymology of lactamases and lactam antibiotics
- Irina M. Russu** NMR spectroscopy of proteins and nucleic Acids
- Erika A. Taylor** Biological Chemistry: Investigating the contribution to virulence of the lipopolysaccharide (LPS) in *Vibrio cholerae*
- Brian Northrop** Materials chemistry, nanochemistry and biology

MOLECULAR BIOLOGY & BIOCHEMISTRY DEPARTMENT

- Manju Hingorani** Transient kinetic analysis of DNA replication and repair proteins.
- Ishita Mukerji** Fluorescence and UV resonance Raman spectroscopic analysis of protein and nucleic acid structures and interactions.
- Rich Olson** X-ray crystallography and biophysical characterization of soluble/membrane proteins.

BIOLOGY DEPARTMENT

- Michael Weir** Gene regulation through protein degradation

PHYSICS DEPARTMENT

- Christina Othon** Experimental biophysics, phase transitions, and hydration dynamics
- Francis Starr** Computational biophysics, soft matter, and self-assembly