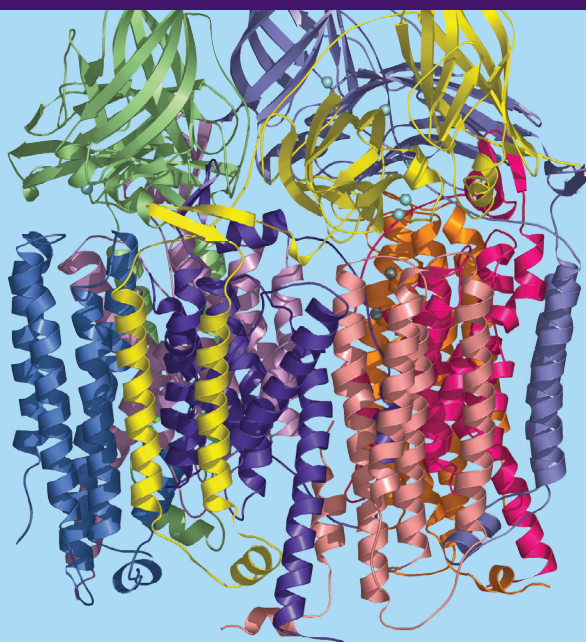




# Molecular Biophysics

AT NORTHWESTERN UNIVERSITY



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With graduate programs on the Evanston and Chicago campuses and more than two dozen labs in seven departments, the Molecular Biophysics Training Program brings together a collegial biophysics community. The NIH-supported program has prepared predoctoral students for productive scientific careers in academia for more than 20 years. Its strengths include accomplished faculty preceptors with diverse research interests, state-of-the-art facilities and instrumentation, a contemporary and rigorous curriculum, and many training and career development activities. Situated along the shores of Lake Michigan, both campuses have ready access to cultural and recreational opportunities, restaurants, and shops.



## GRADUATE PROGRAMS

- **Chemical and Biological Engineering**  
[mccormick.northwestern.edu/chemical-biological](http://mccormick.northwestern.edu/chemical-biological)
- **Chemistry**  
[chemistry.northwestern.edu](http://chemistry.northwestern.edu)
- **Walter S. and Lucienne Driskill Graduate Training Program in Life Sciences**  
[feinberg.northwestern.edu/sites/dgp](http://feinberg.northwestern.edu/sites/dgp)
- **Interdepartmental Biological Sciences Program**  
[ibis.northwestern.edu](http://ibis.northwestern.edu)
- **Interdepartmental Neuroscience Program**  
[nuin.northwestern.edu](http://nuin.northwestern.edu)
- **Medical Scientist Training Program**  
[feinberg.northwestern.edu/sites/mstp](http://feinberg.northwestern.edu/sites/mstp)
- **Physics**  
[physics.northwestern.edu](http://physics.northwestern.edu)

[biophysics.northwestern.edu](http://biophysics.northwestern.edu)







## RESEARCH TOPICS

Northwestern's research programs in biophysics explore diverse topics in structural biology, drug design, mechanistic biology, computational biology and informatics, and chemical biology. A variety of fundamental biological questions are being studied in the following areas:

- gene regulation
- macromolecular machines/motors
- metal trafficking and homeostasis
- protein-protein/DNA interactions
- protein structure and function
- protein folding and design
- RNA structure and function
- cellular signaling

## CURRICULUM

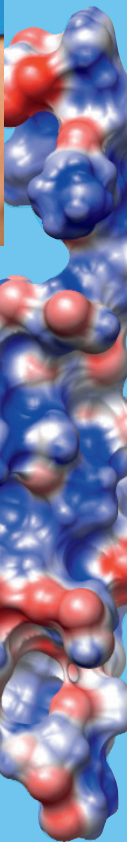
The didactic component of the Molecular Biophysics Training Program includes courses on these topics:

- molecular biophysics, macromolecular structure, macromolecular function
- contemporary biophysical methods
- quantitative biology

The training program sponsors the following activities and workshops:

- Biophysics Club
- Biophysics Seminar Series
- Biophysics and Structure-Function Journal Clubs
- Annual Biophysics Symposium
- Structural Biology Workshop





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## FACULTY PRECEPTORS

Jason Brickner  
Douglas Freymann  
Elad Harel  
Xiaolin He  
Yuan He  
Brian Hoffman  
Michael Jewett  
Neil Kelleher  
Laura Lackner  
Robert Lamb  
Joshua Leonard  
John Marko  
Alfonso Mondragón

Richard Morimoto  
Adilson Motter  
Thomas O'Halloran  
Heather Pinkett  
Murali Prakriya  
Ishwar Radhakrishnan  
Sarah Rice  
Amy Rosenzweig  
Richard Silverman  
Alexander Statsyuk  
Keith Tyo  
Vinzenc Unger  
Sadie Wignall

*Northwestern predoctoral students in their second or third year are eligible for traineeship support from the Molecular Biophysics Training Program. More information on how to apply can be found at **[biophysics.northwestern.edu](http://biophysics.northwestern.edu)**.*



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## FACILITIES

Facilities featuring cutting-edge technologies and instrumentation for contemporary biophysics research include

- **Center for Structural Biology at the University of Illinois at Chicago:**  
800 and 900MHz super high-field NMR spectrometers
- **Electron Cryomicroscopy Facility (cryoEM):** state-of-the-art imaging capabilities for biological macromolecular complexes
- **Integrated Molecular Structure Education and Research Center:**  
analytical instrumentation, including premier resources for biomolecular NMR and an array of high-resolution spectrometers and chromatographs
- **Keck Biophysics Facility:** more than 20 instruments for macromolecular structure-function analysis
- **LS-CAT at the Advanced Photon Source at Argonne National Laboratory:**  
macromolecular crystallography resource at the APS, the premier synchrotron in the United States
- **Proteomics Center of Excellence:** custom instruments for Fourier transform mass spectrometry (FTMS)
- **Structural Biology Facility:** instrumentation and support for determination of the atomic structures of biological macromolecules, from crystallization through refinement; software for computational structural biology, including X-ray crystallography, NMR, electron microscopy, model building, drug discovery, and molecular simulations

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## CONTACT US

### General Inquiries

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[biophysics.northwestern.edu](http://biophysics.northwestern.edu)

### Training Program Inquiries

Ishwar Radhakrishnan, Director

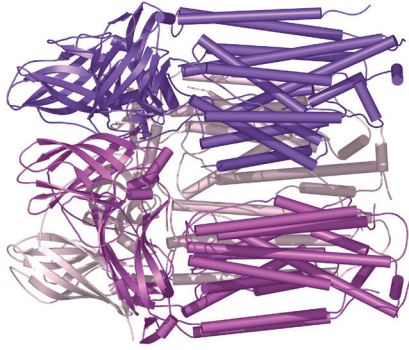
[i-radhakrishnan@northwestern.edu](mailto:i-radhakrishnan@northwestern.edu)

## Molecular Biophysics Training Program

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Hogan Biological Sciences Building  
2205 Tech Drive  
Evanston, Illinois 60208-3500



NORTHWESTERN  
UNIVERSITY



ALL THINGS IN NATURE HAVE A SHAPE,  
THAT IS TO SAY, A FORM, AN OUTWARD  
SEMBLANCE, THAT TELLS US WHAT THEY  
ARE, THAT DISTINGUISHES THEM FROM  
OURSELVES AND FROM EACH OTHER.  
IT IS THE PERVADING LAW OF ALL THINGS  
ORGANIC AND INORGANIC . . . THAT

**FORM FOLLOWS FUNCTION.**

— *Louis Sullivan*  
*Architect and Leader of the Chicago School*