Center for Biotechnology and Interdisciplinary Studies
NIH Training Program in Biomolecular Science and Engineering
Application for NIH/Rensselaer Fellowship

The heart of biotechnology is at the Engineering-Life Science interface, where biological problems are amenable to engineering tools, and biology is becoming more quantitative. As Engineers become more familiar with biology and start applying analytical solutions to biological problems, students need to be trained in interdisciplinary research so they can gain from direct interactions at the engineering-life science interface. Nowhere is this more evident than at the biomolecular level.

Rensselaer Polytechnic Institute continues its National Institutes of Health Training Program for doctoral students in Biomolecular Science and Engineering. The grant, along with matching funds from Rensselaer, provides funding for nine (6 NIH-supported, 3 Rensselaer-supported) Ph.D. candidates annually. Both the NIH and Rensselaer fellowships cover full tuition and provide a stipend of up to $28,667 annually for two years. Women and minority students as well as students with disabilities are especially encouraged to apply. Twenty-two faculty across four departments participate in the program.

The NIH Training Program in Biomolecular Science and Engineering at Rensselaer focuses on three research thrusts in biotechnology, namely Synthetic Biology & Biomanufacturing, Regenerative Engineering & Biotherapeutics, and Computational Biology & Bioinformatics.

These research thrusts lead to various combinations of the five training areas (Biocatalysis, Bioseparations, Biomaterials, Biomolecular-Structure-Function-&-Analysis, Molecular Biology & Bioinformatics) and provide core competence to our predoctoral trainees in Biotechnology, Life Science, Data Science and Entrepreneurship.

Twenty-two faculty trainers are available to mentor/co-mentor each predoctoral trainee. These twenty-two faculty trainers provide courses/training in four core areas and five training areas with an overall goal of producing outstanding Ph.Ds. with expertise in one or more of the three focal areas. Each of the three focal areas lie at the interface of the life sciences with key interactions in applied mathematics and information, engineering, the physical and mathematical sciences, and the enabling role of technologies in bioinstrumentation, bioimaging biosensors, biochips, and genomics/proteomics. The focal areas are built on the foundations of biomolecular science and engineering. Four departmental programs (Biological Sciences, Biomedical Engineering, Chemical and Biological Engineering, and Chemistry and Chemical Biology) that comprise the Training Program are engaged in one or more of these focal areas.

What Is NIGMS?

The National Institute of General Medical Sciences (NIGMS) is one of the National Institutes of Health in the U.S. Department of Health and Human Services. By supporting basic biomedical research and training nationwide, NIGMS lays the foundation for advances in disease diagnosis, treatment, and prevention.

Who Can Apply?
- U.S. citizens, noncitizen national or permanent resident of the U.S.
- Incoming Ph.D. students or a Ph.D. student with less than one year in the Ph.D. program in one of the participating departments at Rensselaer: Biological Sciences, Biomedical Engineering, Chemical and Biological Engineering, Chemistry and Chemical Biology
- Students that have selected an advisor that is a member of the Training Program faculty
- Students that have selected a co-advisor from outside their major
- Students that demonstrate a strong interest and research potential in biomolecular science and/or engineering
- Students able to provide two letters of recommendation in support of the fellowship application

Application Requirements
1. **Statement of Research Goals**

    This should summarize research already accomplished and plans for future research. Expand upon publications, abstracts, etc. The Statement of Research goals should include the title of your research project (if applicable), be no longer than one page and should be attached separately to this application.
2. **Documents, Letters and Transcripts**
    i. Attach the Training Program Requirements document with both yours and your advisor's initials to indicate that you and your advisor have reviewed and understand the requirements of the Training Program
    ii. Have two letters of recommendation sent directly to Ryan Weaver at: weaver@rpi.edu.
    iii. Attach a current copy of your RPI transcript
    iv. *Attach copies of your transcripts from previous academic institutions if you are an incoming student or a first semester student at RPI*

Center for Biotechnology and Interdisciplinary Studies
NIH Training Program in Biomolecular Science and Engineering
Application for NIH/Rensselaer Fellowship

Information

Name: _____

Personal Email (non-school affiliated): _____

Visa status: _____

Optional Information
Ethnic category: _____

Racial category: _____

Sex/gender: _____

Disabilities: _____

Disadvantaged background: _____

RPI
Graduate school enrollment date (term and year): _____

Department: _____

RIN (if applicable): _____

1st semester support source: _____

1st semester support type: _____

2nd semester support source: _____

2nd semester support type: _____

Current GPA (if applicable): _____

Prior Academic Institutions
Institute: _____

Area of study: _____

GPA: _____

Degree: _____

Year awarded: _____

Institute: _____

Area of study: _____

GPA: _____

Degree: _____

Year awarded: _____

GRE
Verbal reasoning: _____

Quantitative reasoning: _____

Analytical writing: _____

Center for Biotechnology and Interdisciplinary Studies
NIH Training Program in Biomolecular Science and Engineering
Application for NIH/Rensselaer Fellowship

Research Experience

Full time research experience may reflect months of summer research experience or full-time research experience following college. Part-time research experience may reflect academic-year research experience. Do not include labs associated with a course.

Full-time (number of months): _____

Part-time (number of months): _____

Both current and incoming RPI students must identify a potential advisor and co-advisor (not in the same department as your advisor) from RPI or The University at Albany faculty participants. See the Faculty Distribution in Training Areas document.

Advisor: _____

Co-advisor: _____

Industrial Training: NIH requires completion of industrial training (1-3 months) during the two year period of Training Program support. Please indicate three companies that you are considering for your industrial internship.

Company 1: _____

Company 2: _____

Company 3: _____

Honors/Awards:

Publications or Presentations:

Career Plans:

Center for Biotechnology and Interdisciplinary Studies
NIH Training Program in Biomolecular Science and Engineering
Application for NIH/Rensselaer Fellowship

Acceptance from Advisors

I hereby confirm my participation in the Training Program as an advisor to this student and accept requirements of the Training Program as listed in the Training Program Requirements document.

Advisor*:* _____

Advisor's signature: _____

Date: _____

Co-advisor: _____

Co-advisor's signature: _____

Date: _____

I hereby give permission to the Training Program Executive Committee to review this fellowship application and examine and reproduce materials in my confidential files for the purpose of evaluating my application for either the NIH Fellowship or the Rensselaer Fellowship. I understand that acceptance into the program requires me to complete all requirements set forth in the Training Program Requirements document.

Applicant's signature: _____

Date: _____