The Predoctoral Biotechnology Training Program and Cluster is an interdisciplinary and interdepartmental program that provides select students with greater research and training opportunities than those available through the individual departments/units.

The BTP is supported by the National Institutes of Health (NIH/NIGMS) and the Cluster is supported by the Northwestern University Graduate School.
What BTP can do for You

- **Build your professional network**
  - Close interaction with faculty and industry professionals

- **Develop your skills as a research professional**
  - Research in progress meetings
  - Practicum – hands on experience with cutting-edge technology
  - Coursework to prepare for biotechnology research and be competitive (earn a Certificate in Biotechnology)
  - Industrial internship

- **[Potentially] gain freedom in the design of your PhD research**
  - Independent source of funding for your time
BTP Annual Activities

- **BTP Retreat** in August/September
- **Biotechnology Practicum** in August (2019: Data Visualization and Communication)
- **IBiS Retreat** (optional for Cluster members) in September
- **NU Biotechnology Networking Reception (NEW)** Spring 2020
- **Biotechnology Day** in winter
- **Biotechnology company site visit** – Recent AbbVie, LanzaTech, Argonne National Labs
- **BTP-focused IDP** discuss with research preceptor first, discuss with BTP Program Directors (spring 2019)
- **Program evaluation survey and focus group** with Searle Center - spring
- **Steering Committee meeting** with one elected trainee member
BTP Monthly Activities

• **Biotechnology Seminars**: Wednesdays at noon with pizza
  - Weekly in spring; monthly the rest of the year
  - Speakers from a wide range of companies and research areas
    - *Small group meetings/meals with the speakers*
  - Trainee interests drive speaker selection
  - *Opportunities for trainees to invite and host speakers*

• **Research in Progress Meetings**
  - Practice your communication skills to a diverse audience
  - Get feedback and suggestions from different perspectives
  - Learn about many areas of biotechnology research

• **Networking and Social Events**
  - Get to know colleagues in departments across Northwestern
  - Discussions ranging from research and internships to ???
  - Refreshments to enhance the discussion
Internships provide trainees the opportunity to obtain first-hand experience in industrial research or development.
Two modes of participation and support

• NIH Trainees (10 slots)
  ▪ Rising second-year PhD students in BME, ChBE, Chemistry, IBiS, or MSE
  ▪ US citizens or permanent residents
  ▪ Two years base stipend and tuition
  ▪ $300 for conference, etc. and $1,000 for research per year

• Cluster members (5 slots + self-funded)
  ▪ Any year and any NU PhD program
  ▪ Two quarters base stipend and tuition during a 1-year period
  ▪ Same activities, but internship is encouraged (not required)
  ▪ NIH-eligible Cluster members can apply for one year of NIH Trainee support as a rising third-year PhD student
Program Requirements & Commitments

• **Research Rotations**
  - Required for NIH Trainees (not required for Cluster)
  - Two rotations prior to preceptor selection

  Rotations must be at least 4 weeks.
  - Suggested windows vary by graduate program: consult your program’s graduate program advisor if needed
  - Recommendations for 2019
    - (ChE, Chemistry are using these)
      - Rotation 1: Sep 23 - Oct 25 (5 weeks)
      - Rotation 2: Oct 28 – Nov 27 (4.5 weeks)
    - (BME)
      - Rotation 1: Sep 30 - Oct 25 (4 weeks)
      - Rotation 2: Oct 28 – Nov 22 (4 weeks)
    - OPTIONAL: you can also overlap rotations, with approval from the hosting PIs

  • Rotation forms: [single form used by CLP & BTP](#)

• **Trainee Progress Reports**
  - Twice per year
  - Publications and presentations
  - Fellowships and awards
  - Progress in coursework, IDP, and qualifying exam
  - Research progress
  - Outreach activities
  - Internship plans and experience (and jobs later)
Application to BTP

• **Application**
  - **Online portal:** [http://www.biotechtraining.northwestern.edu/application/](http://www.biotechtraining.northwestern.edu/application/)
  - **Deadline:** July 1\textsuperscript{st}, 2020
  - Single application (except for personal statements/letters) for
    - Molecular Biophysics Training Program
    - Biotechnology Training Program
    - CLP Predoctoral Training Program
  - Can apply to be considered for traineeship, cluster, or **both**
  - Can also apply if you are self-funded (e.g., have a fellowship)
  - Components (see website for more detail)
    - 3 page (max) statement discussing motivation for participation in BTP (**including participation before applying**), goals of research, and how you plan to meet program requirements (**including courses and internship**)
    - Copy of research rotation report (not required for IBiS students, Cluster-only applicants)
    - Copy of grad & undergrad transcripts
    - Letter of support from your advisor
    - **No GRE scores considered**
    - Short CV, including honors, presentations, research experience, publications, etc.
Course Requirements (website: updates)

- **Biology Courses**: 2 of the following 6 courses:
  - IBiS 402 (Molecular Biology; can sub 300 level class if needed)
  - IBiS 403 (Proteomics)
  - IBiS 404 (Systems Biology)
  - IBiS 406 (Cell Biology; can sub 300 level class if needed)
  - IBiS 410 (Quantitative Biology); required for IBiS students
  - IBiS 416 Practical Training in Chemical Biology Methods and Experimental Design

- **Responsible Conduct in Research**: 1 of the following classes:
  - IBiS 423 (Ethics in Biological Research)
  - GEN ENG 519 (Responsible Conduct of Research)
  - CHEM 519 (Responsible Conduct of Research Training)

- **Responsible Conduct in Research refresher course (after 4 years)**
  - IBiS 519 (Ethics in Biological Research – Refresher Course)

- **Rigor & Reproducibility in Research** (IBiS 421)
- **Advances in Biotechnology** (ChBE 478)
- **Electives**: 3 biotechnology-related classes (many options)

*These classes fulfill the requirements for the TGS Certificate in Biotechnology*
Questions?

www.biotechtraining.northwestern.edu

btp-info@northwestern.edu
Student Committees

• Purpose
  § Trainee committees provide opportunities for trainees to have substantial contributions to BTP activities and direction.
  § Leadership opportunity: Champion a cause, innovation, or activity related biotechnology research and/or practice

• Current Committees
  § Social & Retreat Committee
  § Alumni, Site Visit & Networking Committee
  § Practicum Committee
  § Seminar Speaker Committee