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What BTP can do for you?

- **Build your professional network**
 - Close interaction with faculty and industry professionals & peers across departments and programs
- **Develop your skills as a research professional**
 - Unique annual and monthly activities
 - Coursework (and earn a Certificate in Biotechnology)
 - Industrial internship
- **[Potentially] gain freedom in the design of your PhD research**
 - Independent source of funding for your time & training

Valuing Community and Belonging

- The Biotechnology Training Program is committed to promoting excellence in graduate education and research.
- We believe that having different voices at the table means hearing different points of view, which makes our program stronger.
- We believe in providing access and opportunities to all members of the community and valuing all voices.
- BTP leadership, faculty, and trainees take actions that promote recruitment and retention.
- We commit to continual self-evaluation, striving for improvement, and collaborating with our affiliated graduate programs, labs, and departments and Northwestern to pursue these goals.

Two modes of participation and support

- **NIH Trainees (10 slots total)**
 - Rising second-year PhD students in BME, ChBE, Chemistry, DGP, 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 total + 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

Applications due July 1st each year

BTP Monthly Activities

- **Biotechnology Seminars:** Wednesdays at noon
 - **Weekly in spring**; ad hoc 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
 - Refreshments to enhance the discussion



BTP Annual Activities

- **BTP Retreat** in August/September
- **Biotechnology Practicum** in August (**2019: Data Visualization and Communication; 2020: Statistics in Science and Engineering; 2021: Entrepreneurship; 2022: Consumer Goods; 2023: Data-driven Precision Medicine); 2024: AI in Biotech; 2025: Sustainability & Environment; 2026: New Research Models**
- **Biotech Nexus** in winter (with MBP)
- **Biotechnology company site visit** – Recent *AbbVie, LanzaTech, Argonne National Labs, J&J, Valent*
- **BTP-focused IDP** discuss with research preceptor first, discuss with BTP Program Directors (spring)
- **Program evaluation survey and focus group** with Searle Center - spring
- **Steering Committee meeting** with *one elected trainee member*

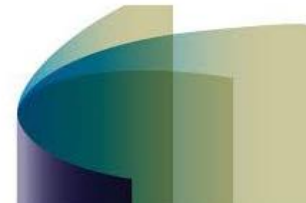


Industrial Internships

- Internships provide trainees the opportunity to obtain first-hand experience in industrial research or development
 - NIH Trainees are required to pursue an industrial internship before degree completion; during appointment preferred
 - Cluster Trainees are encouraged to pursue an industrial internship
- Work with your mentor on internship timing; they may also have industry contacts related to your research
- BTP Directors and alumni can help you find an internship
- Can maintain student status and health insurance during internship



Industrial Internships



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 to biotechnology research and/or practice
- Current Committees
 - Social & Retreat Committee
 - Alumni, Site Visit & Networking Committee
 - Practicum Committee
 - Seminar Speaker Committee

Course Requirements

- **Advances in Biotechnology** (ChBE 478)
- **Biology Fundamentals Courses:** Two (2) courses:
 - provide broad coverage of fundamental biological principles, such as cell biology, biochemistry, molecular biology, systems biology, synthetic biology, quantitative biology and chemical biology.
- **Biotech Electives:** Three (3) biotechnology-related classes (many options)
- **Responsible Conduct of Research:** One (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)
 - DGP 494 (Colloquium on Integrity in Biomedical Research)
 - **Responsible Conduct in Research refresher course (after 4 years)**
 - IBiS 519 (Ethics in Biological Research – Refresher Course)
- **Rigor & Reproducibility in Research** (IBiS 421 or DGP core R&R training)

Total: 8 core courses

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

Application to BTP

- **Deadline: July 1st**
- **Applying to all potential programs of interest is strongly encouraged**
- Can apply to be considered for traineeship, cluster, or both
- Can also apply if you are self-funded (e.g., have a fellowship)
- All trainees must be advised by a BTP Preceptor (typically as the primary research). If your adviser is not currently a BTP Preceptor, they may petition to become one after you are given an offer of appointment to the program.
- All BTP Preceptors are required to complete formal mentor training, such as the NU Faculty Mentor Training two-day series organized by the Graduate School. For more information please see the [Northwestern mentor training resources and mentor training requirements for preceptors on training grants.](#)



Application to BTP

- 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)**
 - **Even if your thesis research is not biotechnology-focused, please explain the relevance of BTP training to building on your thesis research training to prepare you for a career in biotechnology**
 - Copy of research rotation report (not required for IBiS/DGP students or 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.
- Applications are reviewed using a rubric by the BTP Steering Committee, which includes representatives of all participating graduate programs.



Key Next Steps

- **Research Rotations (starting now)**
 - Required for NIH Trainees (not required for Cluster)
 - **Two rotations (at least 4 weeks) prior to preceptor selection**
 - Rotation forms: [single form used by CLP & BTP](#)
- **Peruse BTP website for activities, details, and course requirements/guidance**
- **Attend BTP events throughout the year**