

## Summer Internships in Biotechnology through the Technion - Israel Institute of Technology

Program leader name	Lori Herz
Country	Israel
Dates	May 31, 2018 - August 9, 2018
Duration	10 weeks
Total budget request	\$53,939 (6 students for 10 weeks; 1 faculty member for 10 days)
Number of students who will participate as Iacocca Interns	4-6
Additional students. Will additional students beyond IIIP Program be considered?	Yes, additional students will be considered if fewer than 5-6 IIIP students participate. However, these students would need to find another funding source or self-pay.
Host organization name	Technion - Israel Institute of Technology
Host organization website	<a href="http://int.technion.ac.il/">http://int.technion.ac.il/</a> <a href="http://int.technion.ac.il/academic-programs/summer-programs/introduction/">http://int.technion.ac.il/academic-programs/summer-programs/introduction/</a>
Host organization contact information	

## Executive Summary

A group of four to six Lehigh students will have a ten-week summer internship in a biotechnology focused setting in Haifa, Israel. The internship will be at a company or in an academic laboratory, as arranged by Technion - Israel Institute of Technology, our partner institution. Students participating in the program will gain international industry and/or research experience while living at a world-renowned university in a city that prides itself in tolerance and is home to people of many religions and cultures. Students will live in Technion dormitories, participate in academic and social activities in the Haifa vicinity, and travel to several locations throughout Israel, all with Israeli and international students studying at the Technion. The total budget request for six students and one faculty leader is \$53,939.

## Goals and Objectives

1. **Goal:** Provide students interested in biotechnology with an internship experience in a modern industry or academic environment. **Outcomes:** Students will apply their technical knowledge, learn new hands-on skills, obtain practical experience, and increase their communication skills.
2. **Goal:** Enable students to travel and gain real-world experience in a Middle East locale that is a hub of biotechnology, innovation, and entrepreneurship, and has a reputation for diversity and tolerance. **Outcomes:** Students are comfortable living, working, and traveling independently. Students build professional and personal connections with people from a broad range of backgrounds. Students learn the culture and history of the region.

## Internship Description and Schedule

### Summary of internship experience

For this internship, Lehigh students will gain hands-on biotechnology experience in a real-world setting in a region known for innovation and entrepreneurship, and for its multicultural environment. Our partner institution for this program is the Technion - Israel Institute of Technology in Haifa, Israel. The program for our students will be run similarly to the Technion's Neubauer Internship Program (<http://int.technion.ac.il/semester-programs/neubauer-professional-internship-for-credit/>). Students will be matched by Technion personnel to appropriate healthcare-related or biotechnology-focused companies based upon their background, skills, and interests, as well as the needs of the company. Specific industry partners have not yet been determined for Summer 2018, but examples of past Neubauer Internship companies include: (1) **Innovation Hub BHA-MMC**, the research arm of the medical school, and (2) **MindUp**, a dedicated digital health incubator, a joint venture of Medtronic, IBM, and Rambam Medical Center (<http://www.mindup.co.il/>). Students who are not suitable matches for the participating companies can be assigned to an appropriate research laboratory at the Technion. All the students will have an "academic manager" at the Technion to monitor the progress on their projects and their on-the-job performance. Additionally, companies are required by the Technion to carry \$1,000,000 in liability insurance, and will provide appropriate safety training for their work environment.

### Partnering organization

The partnering organization is Technion - Israel Institute of Technology, which is consistently ranked in the top 100 universities worldwide for engineering and technology. The Technion and the city of

Haifa are centers of biotechnology, innovation, and entrepreneurship in Israel, and the institute's faculty and alumni are recognized throughout the world for their excellence and leadership in these areas. The Technion is also a member of the Global Engineering Education Exchange and has well-established programs for international students (<https://int.technion.ac.il/>), including: Semester Study Abroad programs, the Neubauer Internship Program, and B.S. engineering programs that are taught entirely in English. This is Dr. Herz's first collaboration with the Technion, and she worked with them this summer to establish this partnership. During her trip to Israel in August 2017, she visited the campus and met with personnel from Technion International to develop a plan for the IIIP. It was evident during these meetings that the Technion is quite interested in working with Lehigh.

#### Faculty role

The faculty leader will be Lori Herz, who plans to travel to Israel with the students and stay in Israel with the students for ten days. She will ensure that the students are settled into their dormitories, internships, and commutes to work. Additionally, she plans lead several student activities, including visits to technology incubators (HiCenter, Matam Advanced Technology) and a cultural center (Beit Hagefen Arab Jewish Center). Additionally, she plans to meet several Technion faculty to discuss potential collaborations with Lehigh faculty.

#### Advancement of IIIP goals

Since there have not been recent Iacocca Internships in Israel, or in the Middle East region, this program will enable a broader geographic reach. Our students will travel to Israel together, live at the Technion among Israeli and international college students, and work with Israelis in an industrial and/or academic setting. This experience is unique in that it provides an immersive and professional experience in a region in which visitors are more apt to travel in organized groups as tourists. Additionally, while several Lehigh faculty have collaborated with Technion faculty, this program can potentially help increase the connections for faculty *and* students between the two institutions.

#### Tentative schedule

This will be a ten-week internship that runs from May 31, 2018 to August 9, 2018. Students will generally work a standard 5-day, 40-hour week (Sunday to Thursday). Lehigh students will live in Technion dormitories among other international students, and will be able to participate in the social, cultural, and educational activities that are organized by the Technion. The 2018 schedule is not yet available, but is likely to be similar to the Spring 2017 program, which included (1) experiences in and around Haifa (Baha'i Gardens, food or street art tours, and day trip to archeological ruins in Caesarea), (2) academic events (lectures on-campus, company visits), and (3) several overnight trips to tourist sites (Mitzpe Ramon, Jerusalem/Dead Sea, the Galilee).

#### Student qualifications

This program is targeting students majoring in Bioengineering, Biology, and Biochemistry, as well as students in science and engineering fields with an interest in biotechnology or healthcare. Rising juniors and seniors are preferred, but rising sophomores will also be considered. Students should have completed introductory laboratory courses in chemistry and/or biology. Ideal candidates will have strong quantitative and computational skills.