Programs - Summer 2024

➔ Coastal Restoration and Climate Resilience Lab, through the University of New Hampshire, Northern Seacoast

➔ Clinical Rotations in Cardiology and General Surgery, Lawrence General Hospital (LGH)

➔ Surgical Clinical Rotation, Massachusetts General Hospital (MGH)*

➔ Amyloidosis Laboratory Research, Boston Medical Center (BMC)*

➔ Orthopedic Medicine Rotation, Tufts Medical Center (TMC)*

➔ Internship in Communications and Science Writing, Quebec Labrador Foundation, Ipswich, MA / remote hybrid

➔ Psychiatric Neuroimaging Laboratory, Brigham and Women’s Hospital (BWH)*

➔ Medical Device Development and Testing, Globus Medical

➔ Engineering Technology Camp, Cupertino CA - unsure if offered this summer

All programs are subject to change and we are waiting for final details

* Can be combined with coursework and housing at Harvard for local and non-local students
Coastal Restoration and Climate Resilience Lab

- The lab focuses on anthropogenic impacts to wetlands and the management of invasive species within these habitats
- The student will act as a professor assistant and help with any ongoing projects for the lab in general or members of the lab (generally graduate students)
- Work and learning are both very hands on
- Good opportunity if you are looking for experience in the field performing research
- Works best with a more flexible summer schedule
Students on the Forefront: Science

MGH Clinical Surgery Rotation
Students on the Forefront: Science

Schedule at MGH
From Christina Liu (2023 Intern)

- Arrived via Train from Harvard to MGH at 7:00am
- Assigned to a different unit every day by Dr. Peter Dunn, Brooks School alumni and parent, who is the Executive Medical Director of Perioperative Administration at MGH.
- Viewed many different types of surgeries - heart, brain, spinal, C-sections, transplants, orthopedic
- Spent time in the ICU, Emergency Department, and Biomedical Engineering Department
- Discussed research papers with Dr. Dunn
- 5 days a week
Students on the Forefront: Science

Tufts Medical Center: Dr. Charles Cassidy

- Brooks Graduate
- Chief-of-Orthopaedic Surgery at Tufts
- Specializes in hands and upper extremities
  - Elbow
  - Shoulder
  - Wrist
  - Plastic surgery
Tufts Typical Day:

Fridays
- Clinic
- 8am-12PM
- See 20+ patients for consultations, X-ray analysis, post-op check ups

Tuesdays/Thursdays
- Operating Room (Tuesdays → bigger surgeries. Thursdays = 2 ORs)
- 7:00AM-2:30PM
- Observed up to 12 surgeries a day

Mondays/Wednesdays
- Commuter student at Harvard
- Evolutionary Biology
- Lecture: 8:30am-11:30 am
- Lab: 1:00pm to 4:00pm
Everyone who works in the lab uses state-of-the-art neuroimaging techniques to understand brain abnormalities and their roles in neurologic disorders.

Working at the lab, we had flexible hours. As long as we were successfully doing our work, we could come or go whenever we pleased!

There’s a cohort of other interns but everyone works on their own projects.

Breakdown of activities:

1. Individual projects with mentors that are senior Investigators + RA
2. Journal club
3. Lectures with staff (AI, 3D slicer, programming, and more)

And everyone sits together for lunch - you really get to converse with the coworkers! (There’s quite a bit of socializing needed)

Location: Assembly Row and brand new office. Orange line right nextdoor.
Students on the Forefront: Science

- Focus on MRI scans and manual segmentation using 3D slicer
  - Focused on the Fifth Ventricle and improving manual segmentation protocol
  - Created and presented a final presentation of all of my work:

THE EFFECTS OF RACE AND SEX ON FIFTH VENTRICLE VOLUME

Zhaohan (Jasmine) Shi Final Presentation
PI: Jarrett Rushmore
RA: Alana Wickham

The fifth ventricle connects with the cavum vergae.
Students on the Forefront: Science

Weekly Schedule at BWH Neuropsych Lab

3 days a week:
- Take the T from Harvard (where I lived) to the lab (arriving anywhere between 8 and 10 was fine)
  - (50-minute train ride and a 5-minute walk)
- Worked on individual project (9am-4/5pm)
  - Some days we had lectures on various topics (1h)
  - Some days we had journal clubs (everyone had one, introduces an article) (30m)
- Workshop on R

2 days a week:
- Worked remote and did tons of reading (social sciences have a lot of reading) and wrote papers.
- Attend Human Ethics: Moral Philosophy at Harvard from 6:30-9:30pm

the 3-hour lectures were brutal but still really interesting!
Lawrence General Hospital

Clinical Rotation Opportunity

- 1 student will be participating in a 4 week clinical rotation
- Meet with Dr. Mukherjee in the mornings to learn more about his speciality (Cardiology)
- Going on rounds in the morning
- Shadowed Doctors, Nurse Practitioners, Physicians Assistants, and Cath Lab Staff
- Rotations in Cardiology, Cath Lab, General Surgery, Intensive Care Unit (ICU), and Emergency Department (ED)
- Viewed general surgeries and catheterizations
Students on the Forefront: Science

Globus Medical

Medical Device Development and Testing

- This internship will partner two Brooks students with design and test engineers who design, develop, and test medical robotics.
- This internship will be hands-on
- Interns will be work with a team to build a device or project.
- Final Device
Quebec-Labrador Foundation

Internship in Communications and Science Writing

- Environmental Conservation non-profit group based out of Ipswich
- The Internship is designed to provide experience in research, writing, and editing one or more articles on current QLF programs
- Articles (two pages with photographs) will be included in Compass, the QLF online newsletter, and will be posted on the QLF website as well.
- Intern can work remotely or at Ipswich office
Boston Medical Center

Amyloidosis Center Research Intern

- The Amyloidosis Center at Boston University Chobanian and Avedisian School of Medicine and Boston Medical Center is recognized internationally as a leader in basic and clinical research on amyloidosis and related diseases.
- The student will have the opportunity to accompany Dr. Sanchorawala and other clinicians in the clinic, work in the laboratory and with research assistants and data managers to maintain a clinical database.
IGLV 31 HisTrap Chromatogram

IGLV 31 HisTrap Gel

Protein Ladder
Control
A6
A8
B13
B12
B11
B10
B9
B8
B7
B6
B5
B4
Students on the Forefront: Science

Apple Engineering Technology Camp (ETC)
Students on the Forefront: Science

- Mechanical Engineering
- Systems Engineering
- Software Engineering
- CAD Systems Engineering
- Computer Engineering
- Electrical Engineering
Harvard Summer School

- 7 week program
- Courses range from Neuroscience to Creating the Next Uber
- Take 1 course - 2x per week
- Explore Boston
- Live on campus - number of different housing options
- For anyone participating in Boston programs who does not live locally
Students on the Forefront: Science

Program Dates

December 7, 2023  Junior information Night & Application Period opens
January 2, 2024   Application period closes
January 8–12, 2024 Interview Period
Jan 29- Feb 2, 2024 Second Round of Interviews if necessary
February 9, 2023  Decisions made
June 22, 2024    Classes begin at Harvard Summer School
June 24, 2024    Internships start (tentative)*
August 10, 2024  Harvard Summer School ends

*ETC historically begins during the first week of July and runs into the first week of August.