



**Students on the Forefront: Science** is an initiative developed by the Science Department at Brooks School. The goal of the program is to provide rising sixth-formers (between junior and senior year) with innovative experiences that will expose them to research, technology, and advanced studies in the sciences. It is our strong belief that a hands-on research opportunity in a lab or field setting will best encourage students to continue in the field of science. Recipients, selected through a competitive application process, will participate in this summer undertaking provided by the Students on the Forefront program. Students must be willing to commit to the programs for their entire length and recognize the serious obligations involved in such an undertaking. The opportunities for 2024 are impressive and there is little doubt that they will meet the same high expectation that have been set in the past. A total of approximately ten internships are currently being offered for next summer in the areas described below.

**For the summer of 2024, internships will be made available in the following areas:**

- 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 (QLF)
- Psychiatric Neuroimaging Laboratory of Brigham and Women's Hospital (BW)
- Coastal Restoration and Climate Resilience Lab
- Medical Device Development and Testing, Globus Medical

Research descriptions for the internships is found below and more information can be found on the linked websites. If you have more specific questions, contact Laura Hajdukiewicz at [lhajdukiewicz@brooksschool.org](mailto:lhajdukiewicz@brooksschool.org).

**Cardiovascular Medicine & General Surgery Rotations, Lawrence General Hospital (LGH)**

This internship will introduce Brooks students to the specialties of Cardiology and General Surgery in a busy community hospital setting (Lawrence General Hospital). Students will be immersed in a four week rotation on both the cardiology (2 weeks) and general surgery (2 weeks) services, during which time they will observe patient care, as well as a wide array of cardiology and general surgery procedures. Upon completion of the program, students will have gained an understanding of the different types of cardiology and surgery care provided to a culturally diverse group of patients from the Merrimack Valley.

### **Surgical Medical Rotation, [Massachusetts General Hospital](#) (MGH)**

*Dr. Peter Dunn:* Dr. Dunn, a Brooks alumnus and parent, is the Executive Medical Director in the Perioperative Administration department at Massachusetts General Hospital. The clinical surgical rotation program will allow a student to observe orthopedic, cardiovascular, trauma, obstetric, and gastroenterological surgeries at MGH. The student will have a chance to spend time in different areas of the hospital to learn more about the many opportunities available in the field of surgical medicine.

### **[Lab/Clinical Rotation](#) at the Amyloidosis Center, Boston Medical Center (BMC)**

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. Unique in its approach, the Amyloidosis Center provides exceptional care for patients with all forms of systemic and localized amyloidosis through the support of laboratory and clinical research. Our mission at the Amyloidosis Center ignites a journey of discovery and innovation. We value excellence at the heart of our work, and focus on initiatives for clinical and translational research. Our vision is to be a leader in transformational treatments and a center with purposeful impact.

Vaishali Sancherawala, MD is the Director of the Amyloidosis Center, Skinner Professor of Amyloidosis Research at Boston University and an attending hematologist at Boston Medical Center. She is a globally recognized expert in AL amyloidosis who has pioneered the use of autologous stem cell transplantation in amyloidosis and directed multiple clinical trials in this area. Gareth Morgan, PhD is a Research Assistant Professor at Boston University. His research focuses on identifying molecular mechanisms of disease and developing new therapies. The student will have the opportunity to accompany Dr. Sancherawala and other clinicians in the clinic, work with Dr. Morgan in the laboratory and with research assistants and data managers to maintain a clinical database.

### **Orthopedic Medicine Rotation, [Tufts Medical Center](#) (TMC)**

*Dr. Charles Cassidy:* Dr. Charles Cassidy, a Brooks alumnus, graduated from Northwestern University Medical School in Chicago, Illinois, and then completed his Orthopaedic Surgery Residency training at Tufts Medical Center. He graduated from the Tufts Hand Fellowship program and was a visiting clinician at the Mayo Clinic in Rochester, Minnesota. Dr. Cassidy is Orthopaedist in Chief at Tufts Medical Center and specializes in hand, elbow and upper extremity surgery, upper and lower extremity trauma reconstruction, and management of acute skeletal trauma. The internship will consist of shadowing Dr. Cassidy as he meets with patients; there may be a research component as well.

### **Internship in Communications and Science Writing, Quebec Labrador Foundation (QLF)**

The Quebec-Labrador Foundation is offering an Internship in Communications and Science Writing. The Internship is designed to provide experience in research, writing, and editing one or more articles on current QLF programs: Marine Bird Conservation (Quebec North Shore and Southern Labrador); Recovery of Marine Species Threatened and Endangered (South Coast of Newfoundland and Labrador Straits); Conservation and Stewardship of Protected Areas, the Maritimes (New Brunswick, Nova Scotia, Prince Edward Island); and the Staying Connected Initiative, a bioregional conservation and stewardship initiative across the Northern Appalachian- Acadian/Wabanaki region of Northern New England and Eastern Canada. Articles (two pages with photographs) will be included in Compass, the QLF online newsletter, and will be posted on the [QLF website](#) as well. The Intern will report to Bill Steelman, QLF Senior Communications Consultant, based in Massachusetts, and Cassia Foley, QLF Coordinator, Biodiversity Conservation Programs, based in Montreal, Quebec. This Internship can be either remote or in person (in the Ispwich main office) according to student needs.

### **Psychiatric Neuroimaging Laboratory of Brigham and Women's Hospital (BWH)**

*Dr. Martha Shenton:* Dr. Martha Shenton is the director of the Psychiatric Neuroimaging laboratory. The mission of this laboratory is to investigate brain abnormalities in neuropsychiatric disorders using more precise and accurate techniques. This is important when brain abnormalities are subtle and hard to detect, such as in schizophrenia and mild traumatic brain injury. This new technology will lead to new discoveries and to improved treatments. Students will be assigned to a researcher and participate in research to understand brain abnormalities and their role in psychiatric disorders using state-of-the-art neuroimaging techniques.

### **Coastal Restoration and Climate Resilience Lab, University of New Hampshire**

Students can expect to participate in field-based research and community engagement opportunities associated with our initiatives in Great Marsh, focused within Newbury, Newburyport, and Salisbury, MA. Selected students will be working with our collective team weekly, including several graduate students, in guided field work, lab analysis, and general coastal ecological methods. Participants will be encouraged to engage in the scientific method, collect quantitative field metrics, and explore data with opportunities to co-present results in a variety of forums. Field activities may include coastal habitat restoration, plant community monitoring, water quality assessment, nekton surveys, avian point counts, and bioacoustics monitoring accessing sites by foot, small boat, and kayak (boats and required safety gear provided). Willingness to get wet and muddy a plus.

### **Medical Device Development and Testing, [Globus Medical](#) (GM)**

This internship will partner one or two Brooks student with design and test engineers from Globus Medical who design, develop, and test medical robotics, imaging systems, and augmented reality system for surgery. This internship will be hands-on helping the team to test this equipment before a product launch. This is a new experience.

### **Engineering Technology Camp, Cupertino California (ETC) - not offered Summer 2023**

Students spend four weeks exploring different aspects of hardware design and engineering. The projects culminated in a final presentation to their mentor engineers. For the past two years, the program has been remote but we are hopeful that the program will resume in-person this summer but that has not yet been determined.

### **[Harvard Summer School](#) (HSS)**

For students who do not live in the Boston or North Shore (MA) area, Brooks School has arranged for housing through Harvard Summer School. Students will take one class in addition to completing their internship; they will receive college credit for that class. Students must apply to the HSS program as soon as they receive their SFS placement, and will then register for classes in the Spring. Brooks School is financially responsible for the payment of tuition and board to Harvard Summer School, so the student will not incur additional costs.

### **Important Dates for Summer 2024:**

December 7, 2023	<a href="#">Junior information</a> Night & <a href="#">Application</a> Period opens
January 2, 2024	Application period closes at noon
January 8-12, 2024	Interview Period
Jan 29- Feb 2, 2024	Second Round of Interviews if necessary
February 9, 2024	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 begins during the first week of July and may run into the first week of August.