



Harris Orthopaedics Laboratory
Massachusetts General Hospital
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www.harrisortholab.org

Biomaterials Engineering Position in Translational Research (Entry Level)

Harris Orthopaedics Laboratory

General Overview

The pioneering efforts of the Harris Orthopaedics Laboratory (HOL) have positively impacted the quality of life of millions of patients through innovation and evidence-based medicine since its inception in 1969. The mission of the laboratory is to improve patient outcomes through materials science and clinical research with an emphasis on orthopaedic applications.

HOL is focused on the development of polymeric and hybrid materials for applications in orthopaedics. We are seeking a highly motivated individual for an entry-level research position to support our translational research program in implantable biomaterial development, starting in June 2021 or earlier. The projects this position focuses on are in the later stages of development, so this position is ideal for new engineering graduates interested in the kind of research required to bring a medical device to market. It is a great opportunity for those who want to gain some experience before moving into industry or continuing their education in graduate studies.

Responsibilities include, but are not limited to, the following activities:

Specific technical functions:

- Laboratory formulation including preparation of polymer blends, polymeric consolidation
- Modification of polymers including outside services such as radiation processing
- Characterization of polymers on-site and off-site at available facilities in Boston including mechanical and fatigue testing, wear testing, thermal and structural characterization
- May include bacterial culture studies on processed UHMWPE materials using various assays
- May include support for pre-clinical testing including preparing tissue specimens for post-surgical analysis and characterization of retrieved implants

General laboratory functions:

- Assembly, operation, maintaining operation protocols, scheduling management and some maintenance of assigned equipment
- Ordering supplies and keeping track of related inventory
- Maintaining clean equipment, glassware and laboratory space
- Working alongside other research technologists, MD students, PhD students and post-doctoral fellows

Administrative/reporting functions:

- Organizing and accurately maintaining written records of procedures and data
- Generating and compiling experimental information/results in graphs, charts, and reports.
- Preparing written and/or verbal reports for supervisor and/or senior research personnel.
- Collaborating with supervisor(s) in developing research methodologies and research objectives
- Collaborating with supervisor(s) in writing and editing material for publication; opportunity for authorship in publications

Skills/Abilities/Qualifications

- Must have BS in engineering or chemistry. Non-engineering/chemistry degrees will ONLY be considered with relevant experience.
- Must have at least one non-course-based laboratory research experience, such as a summer internship or research assistantship.
- Coursework and/or internship experience in polymeric materials is a plus.
- Coursework and/or laboratory experience with materials characterization is a plus.
- Robust written and oral communication skills, attention to detail, and strong organizational skills are all expected. Independence, self-motivation, and a willingness to learn new skills are also vital for succeeding in this position.
- Must have solid, practical skills in Microsoft Office applications. Demonstrated proficiency in Matlab is a plus.

This position requires a Bachelor's degree with strong academic performance (minimum 3.2 GPA is preferred). The ideal candidate will also have had prior research experience.

How to Apply

Please submit your resume, cover letter, and your unofficial transcript to Rachel Connolly at rconnolly3@mg.harvard.edu by November 30, 2020.