



Harvard-MIT  
Health Sciences & Technology



## Postdoctoral Position: Harvard Medical School and the Wyss Institute for Biologically Inspired Engineering

**Postdoctoral research fellowship in multiplex genome editing and stem cell engineering with a focus on cell-based therapies and tissue engineering.** The candidate will join the Chaikof lab at Harvard Medical School and Beth Israel Deaconess Medical Center and is expected to closely interact with an interdisciplinary team of immunologists, biomedical engineers, developmental biologists, and clinician-investigators. The project will focus on the evaluation of strategies to engineer human induced pluripotent stem cells (hiPSCs) that evade both the adaptive and innate immune mechanisms of immune rejection. In the process, continuous and scalable bioprinting processes will be utilized to generate engineered extracellular matrices for blood vessel fabrication. The biomechanical and biological responses of engineered blood vessel equivalents will be investigated in vitro and in vivo. PhD in molecular or cell biology, immunology, systems biology, biomedical engineering or related discipline required. **Submit CV and the names of three references to [echaikof@bidmc.harvard.edu](mailto:echaikof@bidmc.harvard.edu).**

### Responsibilities

- Integrate knowledge from developmental biology, genome editing, systems biology, molecular genetics, and immunology to determine the molecular mechanisms that evade alloimmunity and promote desirable cell phenotypes.
- Facilitates the design and characterization of genome edited pluripotent stem cells by multiplex genome editing.
- Initiates and directs the differentiation of pluripotent stem cells to endothelial and smooth muscle cells, as well as other cells of interest.
- Apply a variety of in vitro tools and data analysis, including genetic, molecular and cellular bioassays, flow cytometry, as well as immunohistochemical studies to characterize the relationship between phenotype, gene expression signature, and host immune response.
- Utilize humanized mice in which parts of the human immune system has been recreated.
- Monitors and evaluates completion of tasks and projects.

### Requirements

- Requires a PhD in molecular or cell biology, immunology, systems biology, bioengineering or related discipline.
- The candidate is expected to closely interact with members of a multidisciplinary team to efficiently pursue novel strategies that support the design of genetically engineered cells and tissues.
- Experience in genome editing, cell and molecular biology, flow cytometry, other complex bioassays, as well as in vivo studies using mouse models.
- Must be an energetic, out-of-box thinker with positive attitude. Excellent written and oral communication skills are required, as is the desire and ability to work in a multidisciplinary environment.
- Exhibits outstanding collaborative skills and the ability to train and mentor others.
- Expert knowledge of scientific principles and concepts. Demonstrated success as exemplified by peer-reviewed publications, scientific creativity, and independent thought.

**Interested candidates should contact:** Elliot L. Chaikof, MD, PhD, Johnson and Johnson Professor of Surgery, Harvard Medical School, Beth Israel Deaconess Medical Center, [echaikof@bidmc.harvard.edu](mailto:echaikof@bidmc.harvard.edu)

Chaikof Lab ([chaikoflab.org](http://chaikoflab.org))

Harvard-MIT Division of Health Sciences and Technology ([hst.mit.edu/faculty-research/faculty/chaikof-elliott](http://hst.mit.edu/faculty-research/faculty/chaikof-elliott))

Wyss Institute for Biologically Inspired Engineering ([wyss.harvard.edu/team/associate-faculty/elliott-chaikof](http://wyss.harvard.edu/team/associate-faculty/elliott-chaikof))

Harvard Stem Cell Institute ([hsci.harvard.edu/people/elliott-chaikof-md-phd](http://hsci.harvard.edu/people/elliott-chaikof-md-phd))

Harvard Medical School (<https://connects.catalyst.harvard.edu/Profiles/display/Person/92440>)

The **Chaikof lab** is in the **Center for Life Sciences (CLS) Building** in the Longwood medical area, directly adjacent to Harvard Medical School. CLS 11090, 3 Blackfan Circle, Boston, MA 02115