



August 11, 2023

Open Postdoctoral Fellow Position

B-lab, Division of Physics, Department of Radiation Oncology, Mass General Hospital and Harvard Medical School

We are excited to announce an open position for a postdoctoral fellow with a keen interest in the intricate world of alpha-particle radiopharmaceutical therapy. Our Department, situated within the vibrant ecosystem of the Mass General Hospital and Harvard Medical School in Boston, MA, is at the forefront of radiation therapy and biology modeling.

Application Process:

Submit your CV and **two** letters of reference (submitted directly by your references) to Dr. Alejandro Bertolet, Ph.D., at abertoletreina@mgh.harvard.edu, and optionally to our Director of Physics Research, Prof. Harald Paganetti, Ph.D., at hpaganetti@mgh.harvard.edu

Desired Expertise:

Ideally, the candidate should have knowledge or experience in **at least one** (or more) of the following areas:

- Methods for multiscale radiation dosimetry, particularly at the micro-scale (microdosimetry)
- Monte Carlo simulations of radiation transport
- Basic knowledge of radiation biology
- Mechanistic modeling, especially with agent-based models
- Pharmacokinetic/pharmacodynamic modeling

Candidates with similar but not explicit expertise in these areas are also encouraged to apply.

Project Overview:

The selected candidate will work in the realm of alpha-particle radiopharmaceutical therapy, exploring and modeling its distribution at the cellular and tumoral levels. This project will leverage Monte Carlo techniques to determine dosimetry and microdosimetry in tumoral cells to understand potential effects produced at the biological level. This includes modeling Relative Biological Effectiveness (RBE) for tumor control through an agent-based tumor model. Please check our website at <https://bertoletlab.mgh.harvard.edu> for more details on our lab and ongoing projects.

Importantly, our lab thrives on collaboration. We work closely within a larger research structure, partnering with other labs within our Division, such as those led by Drs. Harald Paganetti, Jan Schuemann, Aimee McNamara, and Ibrahim Chamseddine. Our present and future projects include a variety of exciting topics in radiation therapy and radiation biology, such as experimental and computational dosimetry for proton FLASH radiotherapy, artificial intelligence applied to radiotherapy, and computational modeling of multiple aspects involved in cancer care. A special collaborative spirit and involvement in these areas is expected from the selected candidate.

What we value:

- **Collaboration.** Applicants should enjoy and promote collaboration with the rest of our team.
- **Diversity.** We highly value diversity and inclusivity as a means to ensure novel and multifaceted ideas. International and minority candidates are encouraged to apply.
- **Innovation.** Our lab offers a stimulating environment with multiple projects. We encourage innovative thinking and the exploration of new methodologies.
- **Forward-Thinking.** Proactive, visionary candidates seeking to develop modular and flexible tools that can serve as a foundation for future research are highly valued.

Dates:

The selected candidate is expected to start this position around October 2023.

Join us in our mission to push the boundaries of radiation therapy and cancer care modeling. We look forward to welcoming a new member to our dynamic team!