COLLEGE OF HEALTH SCIENCES
POSTDOCTORAL RESEARCH FELLOW
HIV PATHOGENESIS PROGRAMME (HPP)
SCHOOL OF LABORATORY MEDICINE AND MEDICAL SCIENCES
NELSON R MANDELA SCHOOL OF MEDICINE
Ref: HPP/POSTDOC KWON/OCT2024
Closing date: 31 January 2025

Direct Supervisor: Doug S. Kwon, MD PhD
Email: dkwon@mgh.harvard.edu
Website: www.kwonlab.org

Research area: Mucosal Immunology and the Microbiome/single cell RNA sequencing/bioinformatics

Minimum degree and field of knowledge: PhD and/or MD with experience in immunology, microbiology and/or computational approaches

Years experience required: At least 3 years of doctoral research experience

Summary:
The HIV Pathogenesis Programme (HPP) at the University of KwaZulu Natal (UKZN) in Durban, South Africa and the Kwon Laboratory (www.kwonlab.org) at the Ragon Institute of MGH, MIT and Harvard at Harvard Medical School have an opening for a highly motivated postdoctoral fellow to study mechanistic links between the vaginal microbiome and adverse reproductive outcomes, following up on recent studies published by our group in *Cell*, *Immunity*, *The Lancet Infectious Diseases*, *Nature Microbiology,* and *Cell Host and Microbe* (see further details here). This includes examination of the role of the vaginal microbiome that impact host mucosal immunity and HIV acquisition risk using novel model systems of the genital epithelium, resident immune cells, and microbes. The person hired will work under the co-supervision of Drs. Thumbi Ndung'u and Kwon conducting patient-oriented translational research using samples from well characterized cohorts in in sub-Saharan Africa involving transcriptional and immunologic profiling of mucosal immune populations and the microbiome, with the aim of generating new approaches to treat and prevent adverse outcomes associated with specific vaginal microbial communities. The project will specifically involve the use of cutting-edge technologies such as single cell RNA sequencing and bioinformatics. The fellow will be based at UKZN in Durban, South Africa *but will also undergo training at the Ragon Institute in Cambridge, MA USA.*

Candidates will have ample opportunities to acquire and develop new skills, work closely with the PI and collaborators, and communicate results to the scientific community through conference presentations and peer-reviewed publications while working in a **supportive, highly collaborative, and energetic environment**. State-of-the-art facilities are available within an exceptional research setting.

Job Duties:
Under the direction of the principal investigator, the applicant will independently carry out activities performing laboratory research. Duties include:

- Guide research projects through experimental design, conduct of experiments, and analysis of data
- Maintain detailed documentation of the experimental work
- Present data within and outside of the laboratory group at meetings and symposia
- Work closely within the group and with outside collaborators
- Mentor students and technicians
- Maintain close communications with the PI regarding progress
- Write, edit, and submit manuscripts/abstracts detailing the results of the project
- Demonstrate integrity, excellence, accountability and teamwork in all interactions

Ideal Qualifications:

- A Ph.D. and/or M.D. with relevant experience in cellular immunology, **single cell sequencing, and/or bioinformatics/computational biology preferred**
- Experience with cell culture, flow cytometry, and/or HIV research
- Prior work with mucosal tissue samples
- Highly motivated and independent, with the ability to work in a dynamic team environment
- Exceptional organizational skills and excellent attention to detail
- Strong oral and written communications skills
- Must have good interpersonal skills

Application information: The position is open immediately although the start date is flexible. Please submit a cover letter, CV, and references to Dr. Doug Kwon at dkwon@mgh.harvard.edu. Unfortunately, due to the number of applications we receive, we may not be able to reply individually to all inquiries.