



**HIV Diversity and Pathogenesis Group  
Institute of Infectious Disease and Molecular Medicine (IDM)  
Faculty of Health Sciences**

**Postdoctoral fellowship (Bioinformatics)  
ELLPACA: Env Largest Longitudinal Pacbio Cohort Analysis**

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Applications from suitably qualified individuals are invited to apply for a post-doctoral research fellowship in the University of Cape Town **HIV Diversity and Pathogenesis Group, Institute of Infectious Disease Molecular Medicine, Faculty of Health Sciences**. This is an opportunity to be part of an exciting HIV research team evaluating host-virus interaction, pathogenesis, cure, and vaccine breakthrough infections to aid in the development of HIV-related biomedical interventions. The HIV Diversity IDM Research Group is part of national and international consortium including Centre for AIDS Programme of Research in South Africa (CAPRISA); HIV Vaccine Trials Network (HVTN); Collaboration for AIDS Vaccine Discovery (CAVD) and works closely with the NICD MRC Extramural Unit: Antibody Immunity.

As part of these collaborations, the research team has generated over 500,000 HIV sequences using the PacBio sequencing platform. These sequences originated from the ELLPACA cohort (Env Largest Longitudinal Pacbio Cohort Analysis), and from breakthrough infections from large phase 2b/3 HIV HVTN clinical trials. Two post-doctoral positions are available to interrogate these large datasets. The scope of research will involve analysis of HIV deep sequencing data to quantify and explore the functional implications of minority HIV populations identified in acute/early infection; to explore viral escape and vaccinal effects on virological outcomes of passive immunotherapy in an MRC-funded cure trial; and to support vaccine development through designing updated immunogens based on currently circulating viruses.

**Conditions of award:**

- Applicants must have obtained their PhD degree within 5 years and have not held any permanent academic and/or professional posts.
- No benefits or allowances are included in the fellowship.
- As part of his/her professional development, the successful candidate may be required to participate in a limited capacity in departmental activities, such as student supervision.
- The successful applicant will be required to comply with the university's approved policies, procedures, and practices for the postdoctoral sector.

**Criteria:**

- PhD degree in Virology or another life sciences discipline with relevant bioinformatics experience
- Experience in at least one programming language (Python, R, etc...)
- Experience running programs/scripts using a Linux command line interface
- Strong statistical background
- Ability to work independently as well as in a team
- Ability to meet deadlines
- Ability to critically analyze and summarize data

**Advantageous:**

- Experience with evolutionary and phylogenetic analysis tools
- Experience using version control software (Git)
- Experience using Snakemake, Nextflow or other similar workflow management systems
- Experience in analyzing next generation sequence data from infectious pathogens
- Experience with high performance computing and virtual machine architecture
- Experience running scripts in a Unix-based High Performance Computing environment

**Responsibilities include:**



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- Processing, quality assessment and analysis of next generation sequence data
- Contribute to manuscript preparation, routine report writing and grant writing
- Contribute to staff and student training and student supervision
- Actively participate in group meetings including presentation of project progress and journal clubs

**Value and tenure:**

- The value of the fellowship is R350 000 – R500 000 per annum, depending on experience. Starting date February 2024, with the option of renewal for another 2 years based on satisfactory performance and the availability of funds.

**Application requirements:**

Applicants should submit a short letter of application stating areas of expertise, research interests, and experience, a CV including a publication list, copies of their academic transcripts, and email addresses of at least two references with whom the applicant has worked alongside or by whom the applicant was supervised. Please submit all documents as a single pdf via email to Dr Bruna Galvão ([bruna.galvao@uct.ac.za](mailto:bruna.galvao@uct.ac.za)).

**Closing date:**

Applications must be submitted by no later than **Wednesday 31<sup>st</sup> January 2024**.

*The University of Cape Town reserves the right to disqualify ineligible, incomplete and/or inappropriate applications. The University of Cape Town also reserves the right to change the conditions of the award or to make no awards at all.*

**APPROVED**