



# **JUNIOR RESEARCH FELLOW**

(3-year contract)

## **Plant Conservation Unit**

## **Department of Biological Sciences**

## **Faculty of Science**

We are seeking a modeler with an interest in long-term vegetation dynamics for a University Research Committee (URC)-funded junior research fellow (JRF) at the Plant Conservation Unit to conduct research at the interface between paleoecology and the modelling of vegetation change over time.

### **Requirements for the position:**

- A PhD in a relevant field e.g., vegetation or land cover change.
- At least 2 years' experience as a postdoctoral research fellow in a relevant field. If the postdoctoral experience is less than two years, but the other requirements are met, a motivation must be submitted.
- Experience of at least one modelling approach that could be used in achieving the objectives above, and a willingness to learn new modelling approaches during their tenure.
- Excellent research track record including a demonstrated ability for independent research and publications in high impact journals.
- Willingness to spend extended periods abroad (approximately 3 months per year) in order to develop modelling skills with international collaborators.

### **Advantageous:**

- An interest in long-term vegetation change and paleoecology
- Experience in supervising postgraduate students.
- Experience in running participatory workshops or other stakeholder engagements.

### **Responsibilities include:**

- Model data fusion (MDF). Model past vegetation response to a range of interacting drivers, by simulating changes observed in palaeoecological and repeat photographic records. A range of modelling approaches are possible, including equilibrium (e.g. BIOME), dynamic (e.g. LPJGuess, LANDCLIM), system dynamics modelling, agent-based modelling or any other modelling method that is suited to the task. The candidate should specify their proposed approach in the cover letter and demonstrate experience of their chosen method (see below). The work should focus on African ecosystems, including but not limited to Cape Floristic Regions, southern Africa Savannas, and Madagascar.
- Use the model to explore possible future trajectories of vegetation and ecosystem service change based on scenarios of climate and land-use change.
- Conduct participatory scenario planning with stakeholders, using the model to explore possible trajectories and drivers of change and identify leverage points that can guide ecosystems towards desirable future conditions.
- Submit an annual report.
- Prepare peer-reviewed publications, reports, presentations and popular articles.

The Junior Research Fellow may also develop ecosystem service indicators based on the palaeoecological proxies and develop a model-based management tool that allows ecosystem managers to explore the possible effects of different combinations of climate, fire, CO<sub>2</sub> and herbivory on biodiversity and other ecosystem services.

The position builds on extensive palaeoecological and historical ecological work that has taken place at the Plant Conservation Unit. The research to be conducted will be based at the Plant Conservation Unit, Department of Biological Sciences, University of Cape Town under the primary supervision of Professor Lindsey Gillson and a co-supervisor who will be appointed in accordance with the skills of the appointed candidate. As part of the successful candidate's professional development, the opportunity to participate in limited teaching and supervision of senior students in the Department will be offered.

**The fellowship is open to Black South African candidates only, in accordance with the terms of the URC funding.**

The tenure of the position is 3 years, renewal each year being dependent on the delivery of a satisfactory progress report to the Research Office at the end of month 11 of every 12-month cycle. The commencement date should be early in 2023, with the latest starting date March 2023.

The annual cost of employment, including benefits, is between R513,266 and R711,230 for 3 years.

**To apply**, please e-mail the documents below in a **single pdf file** to Ms Natasha Khan at [recruitment06@uct.ac.za](mailto:recruitment06@uct.ac.za)

- UCT Application Form (download at <http://forms.uct.ac.za/hr201.doc>)
- A 1-page proposal including a motivation and a description of how you will approach the objectives above
- Your full curriculum vitae, including a description of modelling experience, list of publications, other evidence of research, and supervision experience.
- Certified copies of all academic transcripts and degree certificates

An application which does not comply with the above requirements will be regarded as incomplete. Only shortlisted candidates will be contacted.

Information on faculty structure and academic departments can be found on the UCT website at <http://www.uct.ac.za>

Further information on the research elements of the post is available from [Lindsey.Gillson@uct.ac.za](mailto:Lindsey.Gillson@uct.ac.za)

**Reference:** E230113

**Closing date:** 16 February 2023

*"UCT is a designated employer and is committed to the pursuit of excellence, diversity, and redress in achieving its equity targets in accordance with the Employment Equity Plan of the University and its Employment Equity goals and targets. Preference will be given to candidates from the under-represented designated groups. Our Employment Equity Policy is available at [www.uct.ac.za/downloads/uct.ac.za/about/policies/eepolicy.pdf](http://www.uct.ac.za/downloads/uct.ac.za/about/policies/eepolicy.pdf) . "*

UCT reserves the right not to appoint.