

Position Description – Research Associate in Hydrogeology

Updated 14 June 2024

POSITION DETAILS	
College	College of Science and Engineering
Organisational Unit	National Centre for Groundwater Research and Training
Supervisor	Professor of Hydrogeology
Classification	Research Academic Level A
Employment Type	Fixed-term, full-time

POSITION SUMMARY
<p>This position, Research Associate in Hydrogeology, will be part of a research team working on an ARC-funded projects: ‘Sustaining intensive agriculture through droughts and floods’, and ‘Threats to the water quality and ecosystem of Coffin Bay, South Australia’. These are collaborative projects between Flinders University and several Australian University and industry partners.</p> <p>The Research Associate will investigate recharge, surface water-groundwater interactions, freshwater-saltwater dynamics and water management practices within coastal settings in Queensland and South Australia, using various hydrogeological techniques. For example, saltwater dynamics will be explored using numerical groundwater models and laboratory sand-tank experiments, supported by extensive field data from field sites, where water demand draws extensively on the coastal aquifers of the study areas. The long-term behaviour of the groundwater systems in response to natural and human-induced variations in climate, land use, river regulation and groundwater pumping will be explored.</p>

UNIVERSITY EXPECTATIONS AND VALUES
<p>All staff at Flinders are responsible for understanding their obligations and responsibilities as set out in the University’s code of conduct and are expected to:</p> <ul style="list-style-type: none"> • demonstrate commitment to the University’s values of Integrity, Courage, Innovation, Excellence and the underlying ethos of being Student Centred; • contribute to the efficient and effective functioning of the team or work unit in order to meet the University’s objectives. This includes demonstrating appropriate and professional workplace behaviours, providing assistance to team members if required and undertaking other key responsibilities or activities as directed by one’s supervisor; • promote and support an inclusive workplace culture which values diversity and embraces the principles of equal opportunity; • perform their responsibilities in a manner which reflects and responds to continuous improvement; and • familiarise themselves and comply with the University’s <i>Work Health and Safety, Injury Management and Equal Opportunity</i> policies.

KEY POSITION RESPONSIBILITIES
The Research Associate in Hydrogeology is accountable for:

- Providing support for hydrogeological research on mixed-density groundwater systems. The research will incorporate numerical modelling, field activities, report writing, data analysis, and possibly sand tank experimentation.
- Applying numerical variable-density groundwater flow and solute transport models to explore mixed-density groundwater systems related to seawater intrusion, under various conditions, including episodic flooding, and tidal boundary condition effects.
- Communicating and collaborating successfully with project staff from other disciplines and institutions;
- Contributing to physical experimentation of mixed-density groundwater processes.
- Contributing to any field work associated with the project.
- Drafting clear scientific written material and presenting results to group meeting and other scientific fora.
- Any other responsibilities in line with the level of the position as assigned by the Supervisor and/or the University.
- *There may be a need to travel to field sites and/or interstate to attend meetings with project partners.*

A National Police Certificate which is satisfactory to the University will be required by Flinders University before the successful applicant can commence in this position.

An up to date COVID-19 vaccination may be required as a condition of employment, in accordance with the Flinders University [COVID-19 Vaccination Policy \(2022\)](#). If required, any offer of employment will be subject to the successful candidate presenting their COVID-19 Digital Certificate as evidence of vaccination or showing evidence of a valid medical exemption, where relevant.

KEY POSITION CAPABILITIES

- A PhD in hydrogeology or related field (or near completion of a PhD) or equivalent experience.
- Expertise in groundwater numerical modelling and ability to develop variable-density groundwater flow and solute transport models.
- Knowledge of relationships between surface processes and groundwater systems, including surface water-groundwater interaction and soil-groundwater processes.
- Demonstrated ability to meet deadlines and to work with minimal supervision.
- Demonstrated ability to innovate and commitment to research publication.
- High-level interpersonal and written and oral communication skills in English.
- Demonstrated ability to work collaboratively.