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## POSITION DESCRIPTION

# Research Associate

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Position Level	A
Faculty/Division	Science
Position Number	00204319
Original document creation	23/10/ 2024

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### Position Summary

A Research Associate (Level A) is expected to contribute towards the Australian Research Council Laureate Fellowship project 'Caves and their stalagmites: linking climate to groundwater recharge' led by Professor Andy Baker (FL240100057). They will develop their research expertise through their contribution to a work package in collaboration with Adjunct Dr. Pauline Treble (ANSTO) that will 'create high resolution stalagmite records of when recharge occurred over at least the past 500 years'.

The Research Associate will assist the project investigators in carrying out the research project and be responsible for coordinating and undertaking field and laboratory work and associated data collection, analysis and drafting of papers for publication. The work involves laboratory geochemical analyses to generate records of past groundwater recharge from stalagmite oxygen isotopes. The Research Associate will also be responsible for collaborating with work package collaborator Treble at ANSTO and other Laureate Fellowship project collaborators.

The role of Research Associate reports to Prof. Andy Baker and has no direct reports.

### Accountabilities

Specific accountabilities for this role include:

- Contribute both independently and as a team member in collaborative research with a focus to enhance the quality of research outcomes of the Laureate Fellowship project aims to create high resolution stalagmite records of when recharge occurred over at least the past 500 years.
- Undertake laboratory work and data analysis and interpretation associated with the geochemical analysis of stalagmites, with a focus on stable oxygen isotopes analysed by isotope ratio mass spectrometry.
- Maintain a strong focus on communicating research findings by publishing in highly ranked journals and presenting to peers at local, national and global conferences.
- Work collaboratively with other researchers among the Laureate fellowship team and ANSTO collaborators.
- Contribute independently or as a team member to the collegiate life of the Laureate Fellowship team such as assisting with the supervision of PhD and Honours students, committee memberships, participating in workshops, etc.
- Align with and actively demonstrate the [Code of Conduct and Values](#)
- Cooperate with all health and safety policies and procedures of the university and take all reasonable care to ensure that your actions or omissions do not impact on the health and safety of yourself or others.

### **Skills and Experience**

- A PhD (or soon to be awarded) in Earth Science or a related discipline.
- Demonstrated experience in the geochemical analysis of stalagmites using isotope ratio mass spectrometry.
- Demonstrated programming skills (e.g. R, Python) or expertise in the use of data analysis packages (e.g. Origin, Igor Pro) to post-process and analyse stalagmite geochemical datasets.
- Demonstrated ability to carry out scientific research independently and as part of a collaborative team.
- Strong research and publication track record (relative to opportunity) in an area listed in the position summary.
- Evidence of high level analytical and problem-solving skills
- Excellent verbal and written communication skills
- An understanding of and commitment to UNSW's aims, objectives and values in action, together with relevant policies and guidelines.
- Knowledge of health and safety responsibilities and commitment to attending relevant health and safety training.

Desirable:

- Demonstrated experience in conducting fieldwork in caves.
- Demonstrated experience with interpreting cave monitoring data.
- Demonstrated experience in the following laboratory techniques for the geochemical analysis of stalagmites: LA-ICPMS and/or synchrotron XRF and/or SIMS.

- Demonstrated experience in the post-processing and analysis of large geochemical datasets such as: elemental time series; synchrotron elemental maps, annual lamina chronology, or other.
- Demonstrated experience in the construction and/or interpretation of stalagmite chronologies using U/Th and/or  $^{14}\text{C}$  and/or annual laminae.

### **Pre-employment checks required for this position**

- Verification of qualifications

#### **About this document**

This Position Description outlines the objectives, desired outcomes, key responsibilities, accountabilities, required skills, experience and desired behaviours required to successfully perform the role.

This template is not intended to limit the scope or accountabilities of the position. Characteristics of the position may be altered in accordance with the changing requirements of the role.