

UWS POSITION STATEMENT

POSITION DETAILS:

Position Title: Postdoctoral Research Fellow/Research Fellow
Establishment No:
Academic Level: A
School/Office: Civionics Research Centre/School of Engineering
College/Division: College of Health and Science

CONTEXT:

The academic structure of UWS comprises three Colleges, within which are numerous schools, being organisational groupings of staff and students which may be located over several campuses. The Executive Dean of each College is responsible for College management and development and reports directly to the Vice-Chancellor. Each school within a College has a Head of School who is responsible for the management of teaching and research within the school. College administrative staffs are allocated by the Executive Dean on advice from the College Manager and in consultation with the relevant Head of School.

The School of Engineering resides within the College of Health and Science and delivers a wide range of engineering, industrial design and construction management courses to students using various educational approaches and has strong industry and community links.

The Civionics Research Centre is the first of its kind in Australia and enables the School of Engineering to conduct unique cross-disciplinary research.

PURPOSE/MAJOR RESPONSIBILITIES:

The successful applicant will be expected to undertake research in wave propagation through layered media.

This position will play an integral role in an ARC funded linkage project aimed at characterization of compacted ground. The compaction of deep fills is a challenging geotechnical problem which can have a significant impact on the viability of a civil engineering project and on the types of infrastructure supportable by the fills. This project aims to develop an innovative, low cost non-classical method for assessing the quality of compacted fills based on passive ambient noise techniques and by calibration of the soil properties to beneficial effect of compaction that are currently not available. It will provide engineers with a means to control the quality of the compaction works as well as make available the data for subsequent foundation design. The method is particularly aimed at characterizing large extensive sites.

A Research Fellow is expected to undertake an active publication program as well as contribute to the intellectual life of the university.

The successful applicant will be expected to work on the Penrith (Kingswood) Campus of the University of Western Sydney.

REPORTING RELATIONSHIPS:

The Postdoctoral Research Fellow will work independently and in close collaboration with members of the team working on an ARC Linkage Project “Geotechnical characterisation of compacted ground based on passive ambient noise techniques” in collaboration with the University of Wollongong, Penrith Lakes Development Corporation and Coffey Geotechnics. The position reports directly to A/Prof Chin Leo at the University of Western Sydney.

SCOPE:

The successful applicant will be appointed at Postdoctoral Research Fellow (Academic Level A). The position is funded for a period of two years under the ARC Linkage Project Grant as a Fixed Term Contract.

An academic level A is expected to make contributions to the teaching effort of the institution if required, particularly at undergraduate and postgraduate level, and to carry out activities to develop their scholarly, research and/or professional expertise relevant to the profession or discipline.

KEY FUNCTIONS/RESPONSIBILITIES/DUTIES:

- Undertake independent and supervised research in theoretical and numerical models in relation to the propagation of waves through layered media
- Contribute to the day-to-day development of research including coordinating the preparation of reports and manuscripts for publication in refereed journals or submission to industry partners.
- Prepare and present conference papers at national and international conferences and workshops.
- Assist in carrying out field measurements of ambient noise in compacted ground where required.
- Prepare applications for research funding for external research grants such as competitive grants, as well as industry and other public sector funding.
- Participate in postgraduate research supervision and provide advice to students where appropriate.
- Provide occasional contributions to teaching in relation to the research project, as required.
- In consultation with the Research Program Coordinator, monitor relevant budgets and provide regular progress reports, and provide occasional administrative support relevant to the project.
- Prepare purchases, requisitions and payment requests, and other finance transactions in accordance with University policy and ensure that all expenditure is documented as required.
- Participate in Civionics Research Centre meetings and those associated with the research project, as required.

- Apply Equal Opportunity and Staff Equity and Affirmative Action programs and the Occupational Health and Safety Plan, principles and legislation in all aspects of work.
- Participate in the cyclical performance management planning and review process and meet agreed operational objectives set for the performance period.

SELECTION CRITERIA:

1. PhD in Civil Engineering or relevant discipline
2. A strong background in continuum mechanics
3. Demonstrated research experience in wave propagation through layered media and/or soil dynamics.
4. Skilled in programming (Fortran, c , c++ or Matlab) for numerical analysis of wave propagation in layered media and/or in soil dynamics
5. Skilled in the use of standard computer software and programs (e.g. Maple, Mathematica, Comsol, Abaqus or equivalent finite element software packages)
6. Strong record of high quality international journal publications.
7. Demonstrated ability to plan, analyse results, and to write reports, refereed publications and research proposals.
8. Demonstrated experience working within a funded research project and willingness and ability to initiate new funded projects.
9. Ability to prepare applications for research funding for external research grants such as competitive grants, as well as industry and other public sector funding.
10. Demonstrated organizational skills and the ability to be self-directed, but also to work as part of a research team.
11. Demonstrated understanding of the principles of anti-discrimination, staff and student equity, occupational health and safety and other relevant legislation, and the willingness and capacity to implement equal opportunity and occupational health and safety plans, policies and programs.

Date Position Statement Last Reviewed:

Date Position Statement Last Classified: