ORGANISATIONAL ENVIRONMENT

UNSW is currently implementing a ten year strategy to 2025 and our ambition for the next decade is nothing less than to establish UNSW as Australia’s global university. We aspire to this in the belief that a great university, which is a global leader in discovery, innovation, impact, education and thought leadership, can make an enormous difference to the lives of people in Australia and around the world.

Following extensive consultation in 2015, we identified three strategic priority areas. Firstly, a drive for academic excellence in research and education. Universities are often classified as ‘research intensive’ or ‘teaching intensive’. UNSW is proud to be an exemplar of both. We are amongst a limited group of universities worldwide capable of delivering research excellence alongside the highest quality education on a large scale. Secondly, a passion for social engagement, which improves lives through advancing equality, diversity, open debate and economic progress. Thirdly, a commitment to achieving global impact through sharing our capability in research and education in the highest quality partnerships with institutions in both developed and emerging societies. We regard the interplay of academic excellence, social engagement and global impact as the hallmarks of a great forward-looking 21st century university.

To achieve this ambition we are attracting the very best academic and professional staff to play leadership roles in our organisation.

UNSW BEHAVIOURS

UNSW recognises the role of employees in driving a high performance culture. The behavioural expectations for UNSW are below.

Please refer to the UNSW Behavioural Indicators for the expectations of your career level (level B).

- Delivers high performance and demonstrates service excellence.
- Thinks creatively and develops new ways of working. Initiates and embraces change.
- Works effectively within and across teams. Builds relationships with internal and external stakeholders to deliver on outcomes.
Values individual differences and contributions of all people and promotes inclusion.

Treats others with dignity and empathy. Communicates with integrity and openness.

OVERVIEW OF RELEVANT AREA AND POSITION SUMMARY

The School of Civil and Environmental Engineering is at the forefront of innovative, original and applied research across the breadth of civil, environmental and geospatial engineering. It comprises 50 academic staff, 75 research centre staff, and 30 professional and technical staff. Its recurrent income is about $20M per annum, with a further $14M in research income. The School has about 2,200 undergraduate students, 1,400 postgraduate coursework students and about 170 postgraduate research students. The School is internationally ranked as number one in Australia and is consistently ranked in the world’s top twenty (QS World University Rankings 2012-20; AWRU 2016-2020). For further information about the School, please visit https://www.engineering.unsw.edu.au/civil-engineering/

This research fellow will work in multi-disciplinary areas crossing computational mechanics, structural engineering and information technology. A novel and powerful safety assessment and robust optimal design tool will be created for developing green, environmental-friendly and sustainable engineering materials and structures. The developed software platform will provide engineering practitioners with an advanced tool for performing response analysis, stability, durability and safety assessment as well as reliability based optimal design of structures made of advanced materials.

The Research Fellow reports to Professor Wei Gao and has no direct reports.

RESPONSIBILITIES

Specific responsibilities for this role include:

Level A

- Conduct research in the areas of computational mechanics, structural engineering and information technology independently and as part of a team, including leading some areas of the project where the opportunity arises and where appropriate.
- Contribute to the writing of scientific papers and reports for international journals and progress reporting to other researchers and industry partners.
- Assist with the coordination of research activities and actively contribute to research outputs to meet project milestones.
- Contribute to the preparation of research proposal submissions to funding bodies and actively seek collaboration with industry partners as appropriate.
- Participate in and/or present at conferences and/or workshops relevant to the project as required.
- Assist with the supervision of research students in the research area where required.
- 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.
Level B (in addition to the above)

- More significantly contributes to the project and lead areas of the project where the opportunity arises.
- Supervision of PhD and research students.
- Participates in the definition of research directions and actively contributes to the coordination of research activities and research outputs to meet project milestones.
- Independently seek and apply for external funding opportunities to grow and enhance the research project.
- Create a scholarly impact in the discipline which is recognised by peers in advancement of disciplinary knowledge.
- Achieve a citation rate or proportion of research outputs in most prestigious outlets (e.g. A/A* or equivalent) in line with discipline and leading universities.
- Contribute to the design, development and production of technology based teaching and eLearning resources, including the development of online educational resources in blended learning format.

SELECTION CRITERIA

Level A:

- PhD (or soon to be awarded) in Civil/Structural Engineering or other related discipline.
- Demonstrated ability to conduct independent research with limited supervision.
- Demonstrated track record of publications and conference presentations relative to opportunity.
- Demonstrated ability to work in a team, collaborate across disciplines and build effective relationships.
- Strong interpersonal skills with demonstrated ability to communicate and interact with a diverse range of stakeholders and students.
- Strong knowledge of computational mechanics, structural engineering and information technology
- Knowledge of health and safety responsibilities and commitment to attending relevant health and safety training

Level B:

In addition to the above, essential criteria for level B include:

- PhD in Civil/Structural Engineering or other related discipline.
- At least two years of experience in a postdoctoral position conducting research in the fields of computational mechanics and structural engineering.
- Proven research and publication track record, particularly in high quality peer-reviewed journals.
- Demonstrated ability to supervisor honours and postgraduate research students.
- Experience with eLearning technologies and applications as well as development of teaching materials in blended learning format.

It is not the intention of the position description to limit the scope or accountabilities of the position but to highlight the most important aspects of the position. The aspects mentioned above may be altered in accordance with the changing requirements of the role.