

Position Description

Postdoctoral Fellow

*Position Number: 62654
Position Title: Postdoctoral Fellow
Date Written: May 2018*

*Faculty / Division: Faculty of Engineering
School / Unit: School of Photovoltaic and Renewable Energy Engineering
Position Level: Level B*

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.

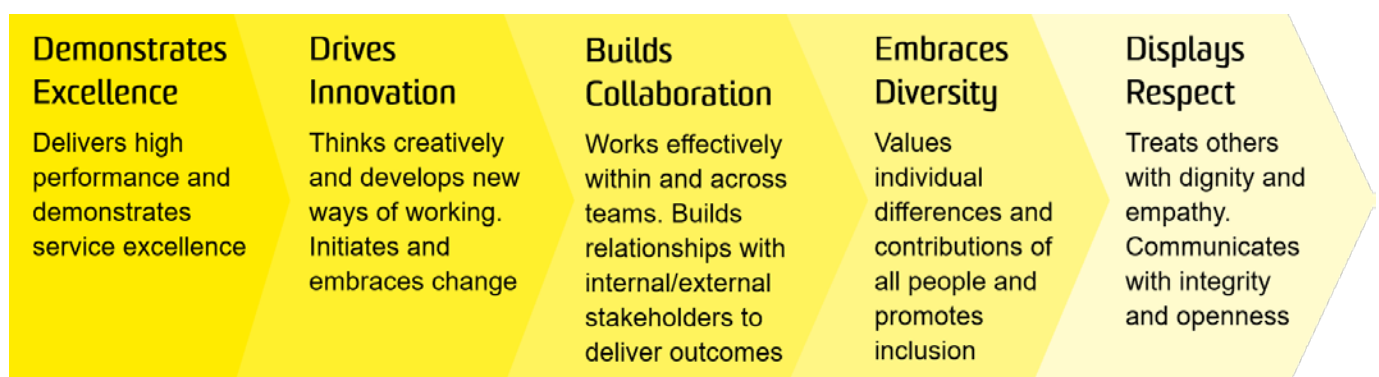
Following extensive consultation in 2015, we identified three strategic priority areas. Firstly, a drive for academic excellence in research and education. Universities are often classified as 'research intensive' or 'teaching intensive'. UNSW is proud to be an exemplar of both. We are amongst a limited 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).



OVERVIEW OF RELEVANT AREA AND POSITION SUMMARY

The UNSW School of Photovoltaic and Renewable Energy Engineering is one of the nine schools within the Faculty of Engineering at UNSW. The School grew out of the Australian Research Council Photovoltaics Centre of Excellence in response to the growing industry of renewable energy. Building on world-leading research, including holding the record for the most efficient silicon solar cell for over two decades, the school attracts leading international researchers in the area of photovoltaics. Although originally focussed on silicon photovoltaics, the School now hosts research into a range of photovoltaic materials and associated technologies related to the design and implementation of photovoltaic systems.

The Postdoctoral Fellow will develop solar cells made from abundant and environmentally-friendly materials for single junction thin film solar cells and Si-based tandem solar cells.

The Postdoctoral fellow will report to Dr Xiaojing Hao and Scientia Professor Martin Green.

RESPONSIBILITIES

Specific responsibilities for this role include:

- Conduct experimental processes to fabricate adamantine materials for single junction thin film solar cells and Si-based tandem solar cells.
- Deposition techniques and materials treatments include but not limited to solution processing and magnetron sputtering processing.
- Conduct characterisation on fabricated absorber as well as completed devices.
- Analyse characterisation data and design further optimisation strategies;
- Disseminates research results through writing of scientific papers and reports for international journals and progress reporting to other researchers and industry partners.
- Participates in the definition of research directions and actively contributes to the coordination of research activities and research outputs to meet project milestones.
- High quality co-supervision of major honours and postgraduate research students.
- Specification, and maintenance of manufacturing equipment required for this research.
- Ensure hazards and risks are identified and controlled for tasks, projects and activities that pose a health and safety risk within your area of responsibility.

SELECTION CRITERIA

- A PhD in material, physics, or chemistry, with research experience in chalcogenide (such as CIGS, CZTS, CdTe) solar cells
- Demonstrated ability to conduct independent research with limited supervision.
- Strong track record of publications and conference presentations relative to opportunity.
- Proven 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.
- Demonstrated ability to supervisor honours and postgraduate research students.
- Ability and capacity to implement required UNSW health and safety and knowledge of equal opportunity principles

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.