## Position Summary

The role of the Research Associate (Level A) is to carry out research into radiation tolerant silicon solar cells for space applications. The position will work on an ARC Linkage project, in close collaboration with the company Extraterrestrial Power (ETP). The role will be expected to utilise prior knowledge and experience in silicon solar cells to develop new methods and approaches that reduce the losses caused by high-energy particle radiation in the space environment. This will include working with very thin silicon cells and developing appropriate light trapping and cell thinning mechanisms. Working with ETP, the Research Associate will develop these processes to be suitable for the commercial space PV market.

The role of Research Associate reports to Professors Bram Hoex and Gavin Conibeer in the School of Photovoltaic and Renewable Energy Engineering. The position has no direct reports.

## Accountabilities

Specific accountabilities for this role include:

* Contribute independently or as a team member in collaborative research with a focus to enhance the quality of research outcomes in the discipline area.
* Conduct research (as per the norms of the discipline) and/or enable research teams to create scholarly output that is recognised by peers.
* Undertake specific research project/s under the guidance of a research leader and contribute to development of research activities.
* Support the dissemination of research outcomes through appropriate channels and outlets.
* Undertake discipline-appropriate research activities, e.g. surveys, literature reviews, data gathering and/or recording of results using appropriate research methods.
* 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.
* Carry out research into radiation tolerant silicon solar cells

* Develop and operate models of radiation damage and its mitigation in silicon solar cells
* Develop the processes and procedures needed to fabricate radiation tolerant cells
* Engage in radiation testing of test samples and devices
* Assist with the supervision of PhD students working on radiation tolerant cells
* Align with and actively demonstrate the [UNSW Values in Action: Our Behaviours](https://unsw.sharepoint.com/sites/values-in-action) and the [UNSW Code of Conduct](https://www.gs.unsw.edu.au/policy/documents/codeofconduct.pdf).
* 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 in photovoltaic engineering or a related discipline, and/or relevant work experience.
* Knowledge and experience of photovoltaic research, preferably related to silicon cell manufacturing.
* Thorough theoretical background in semiconductor device physics, preferably in defect engineering.
* Proven commitment to proactively keeping up to date with discipline knowledge and developments.
* Demonstrated ability to undertake high quality academic research and 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.
* Evidence of highly developed interpersonal skills.
* Demonstrated ability to communicate and interact with a diverse range of stakeholders and students.
* 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.

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.