POSITION DESCRIPTION

Research Associate

Position Level | A
Faculty/Division | Engineering
Position Number | ADMIN ONLY
Original document creation | November 2023

Position Summary

A Research Associate (Level A) is expected to contribute to the research effort of UNSW and to develop their research expertise through the pursuit of defined projects relevant to their particular field of research (Experimental Quantum Communications).

The Research Associate will undertake research specific to the development of Low Density Parity Check (LDPC) error correction codes for quantum key distribution (QKD), development of new reconciliation protocols for QKD, and their full integration into the experimental optical platform.

The role of Research Associate reports to the Professor (Electrical Engineering & Telecommunications) and has no direct reports.

Accountabilities

Specific accountabilities for this role include:

- Contribute independently or as a team member in collaborative research (including industry partners) with a focus on enhancing the quality of research outcomes.
- Conduct research relating to the ongoing development of optical systems that encode entangled photon pairs.
- Undertake specific research under the guidance of a research leader and contribute to the development of research activities including developing transmitters for quantum signalling through free space and quantum-decoding receivers.
• 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.
• Align with and actively demonstrate the UNSW Values in Action: Our Behaviours and the UNSW Code of Conduct.
• 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 a related discipline, and/or relevant work experience.
• 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, including in experimental deployment of quantum information protocols.
• 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.