### Project title:
Imaging and Manipulating Molecular Nanostructures via Scanning Probe Microscopy

### Hours of engagement & delivery mode
4 weeks; 20-36 hrs per week. Applicant will be required on-site for the project.

### Description:
Scanning tunnelling microscopy and atomic force microscopy can be used to manipulate and build nanoscale structures atom by atom. In this project, students will use a new low-temperature STM/AFM installed in Jacobson's laboratory to image and manipulate single atoms and molecules. Potential targets include light-emitting molecules as single-photon emitters for quantum computation or improved OLEDs and magnetic materials for data storage.

### Expected learning outcomes and deliverables:
The student will gain experience with ultrahigh vacuum equipment, scanning probe microscopy, material characterisation techniques, and data analysis.

### Suitable for:
This project is open to students with a background in physics, chemistry, or engineering. Familiarity with condensed matter physics is a plus. Enthusiasm for experimental work is a must.

### Primary Supervisor:
Dr. Peter Jacobson

### Further info:
Discussions with applicants are encouraged, please reach me at: p.jacobson@uq.edu.au

Interested students must contact the supervisor/s, prior to submitting an application. Evidence of supervisor support is required to be uploaded as part of the application process.