

Shaun McAnally

Curriculum Vitae

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Educational Qualifications

Bachelor of Advanced Science (Physics)

February 2018 – February 2022

UQ Excellence Scholar

School of Mathematics and Physics

The University of Queensland (Brisbane, Queensland)

Professional Affiliations

Board of Studies Committee

February 2020 – Current

Full Member - Undergraduate Student Representative

Faculty of Science, The University of Queensland

Teaching and Learning Committee

February 2018 – December 2018

Full Member - Undergraduate Student Representative

Faculty of Science, The University of Queensland

Employment

February 2019 – Current

Program Leader

Student Led Observations for Course Improvement (SLOCI)

Faculty of Science

The University of Queensland (Brisbane, Queensland)

SLOCI is a student-run research unit in the Faculty of Science that partners with course coordinators to provide them with insights on the experience of students in their course throughout the semester. Appointed as Team Leader, I coordinate the course partnerships (approximately 12 per semester) and our team (15 undergraduate students) to produce research reports based on the class observations, surveys and focus groups we perform during the semester. In my role I am responsible for selecting team members, making initial contact with course coordinators, providing training and ongoing support to our team members, managing our project leaders and reviewing all reporting work before it is shared with course coordinators. My primary contributions beyond everyday duties have been the design and implementation of a complete suite of resources to standardise and streamline our course partnership methodology along with the introduction of a consistent leadership structure that encourages collaboration and the development of critical thinking skills. In early 2021, I was a finalist for the Faculty of Science *Future Superstars – Undergraduate* award for my work with SLOCI.

Research Experience

UQ Summer Research Program (with Scholarship)

November 2018 – February 2019

Supervisor: Dr Mark Baker

School of Mathematics and Physics, The University of Queensland

Topic: Magic wavelength Faraday imaging

In this research project, I collaborated with a fellow undergraduate student to create an optics system that was tuned to interact with an ultra-cold rubidium sample. I was responsible for selecting appropriate components, tuning the optics setup to achieve complete alignment and testing the complete system to ensure proper operation. By the conclusion of this project, we had successfully produced a tuneable laser optics system that was capable of operating in the desired wavelength range that would provide the required energy for excited-state transitions in the target sample.

Perspectives in Science Research (SCIE3011)

Semesters 1 and 2, 2019

Supervisor: Dr Magdalena Zych

School of Mathematics and Physics, The University of Queensland

Topic: Redshift effects in entangled quantum particles

In this research project, I was tasked with developing a model for the expected time evolution of an entangled quantum system under the influence of a spatially-variant gravitational field. This project required the application of the formalism of both quantum mechanics and general relativity to the challenge of understanding time evolution for entangled state systems. At the conclusion of this project, I was able to model the expected time evolution of the system using Mathematica with a selection of spatially-variant gravitational field intensities. As part of this project, I submitted a

research poster to the Faculty of Science Undergraduate Research Conference and subsequently received the runner-up prize for best poster.

Advanced Physics Research (PHYS3901)

Semester 2, 2020

Supervisors: Professor Paul Burn and Dr Paul Shaw

Centre for Organic Photonics & Electronics

School of Chemistry and Molecular Biosciences, The University of Queensland

Topic: Extending the light harvesting of organic solar cells towards the infrared with a non-fullerene acceptor

In this research project, I used novel materials synthesised at the Centre for Organic Photonics & Electronics to fabricate and test organic solar cells. Once I had received the requisite introduction to the fabrication and testing of organic optoelectronic devices using the facilities available at COPE, I was able to plan and conduct my own device fabrication work and analyse the subsequent solar cell device performance to characterise these novel organic semiconducting materials. During this project, I also learned how to conduct a selection of material and device characterisation methods including charge transport analysis, ellipsometry and atomic force microscopy.

Research Grant

ANFF-Q Student Award

Awarded by the Queensland branch of the Australian National Fabrication Facility

August 2020 - August 2021

The award included 20 hours of ANFF-Q instrument access, training and support along with \$500 worth of consumables and the opportunity to present my research as an academic poster at the conclusion of the grant period.