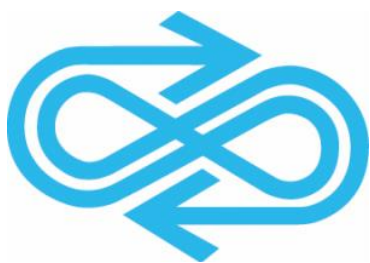


2023 AIP NSW Branch Postgraduate Awards Report

The 2023 Awards Event is sponsored by:



2023 AIP Postgraduate Awards

Dr Frederick Osman | AIP NSW Branch Secretary and Awards Organiser

The NSW Branch of the Australian Institute of Physics in conjunction with the Royal Australian Chemical Institute and the Royal Society of NSW held its annual **Postgraduate Awards Day** at the Concord Golf Club on Tuesday 14 November 2023.

Each New South Wales University was invited to nominate one student to compete for the \$500 prize and Postgraduate medal on that day. We would like to thank the generous support of The Royal Society of NSW to award the Jak Kelly prize of \$500 as a separate award category for this event.



The Jak Kelly Award was created in honour of Professor Jak Kelly (1928-2012), who was the Head of Physics at The University of New South Wales from 1985 to 1989, was made an Honorary Professor of University of Sydney in 2004, and was President of the Royal Society of NSW in 2005 and 2006.

Its purpose is to encourage excellence in postgraduate research in Physics. It is supported by the Royal Society of NSW and the Australian Institute of Physics, NSW Branch. The winner is selected from a short list of candidates who made presentations at the Australian Institute of Physics, NSW Branch Postgraduate Awards.



Previous winners of the Royal Society of NSW Jak Kelly Awards include: 2010: Julian King (UNSW); 2011: Martin Fuechsle (UNSW); 2012: Andrew Ong (UNSW); 2013: Xavier Zambrana-Puylato (MAQ), 2014: Linh Tran (UOW), 2015: James Colless (USYD), 2016: Matthew Barr (UNCL), 2017: Moritz Merklein (USYD), 2018: Anita Petzler (MAQ) 2019: Gayathri Bharathan (MAQ), 2020 Matthew Donnelly (UNSW), 2021 Zain Mehdi (ANU) and 2022 Shankar Dutt (ANU)

The presenters at the Postgraduate Awards event were asked to make a 20-minute presentation on their postgraduate research in Physics, and the presentation was judged on the criteria (1) content and scientific quality, (2) clarity and (3) presentation skills.

The nominated presenters for 2023 were:

Jamie Andres ALVARADO-MONTES, Macquarie University, School of Mathematical and Physical Sciences

Ruomin ZHU, University of Sydney, School of Physics

Andrew MANSOUR, University of New South Wales, School of Physics

Ivan TOFTUL Australian National University, Research School of Physics

Jake HORDER, University of Technology Sydney, School of Mathematical and Physical Sciences

Jacob JOHNSTONE, University of Newcastle, School of Information and Physical Sciences

Jackson ALLEN, University of Wollongong, School of Physics



Maree Stuart & Jaime Andreas Alvarado-Montes



Maree Stuart & Ruomin Zhu



Maree Stuart & Andrew Mansour



Maree Stuart & Ivan Toftul



Maree Stuart & Jake Horder



Maree Stuart & Jacob Johnstone



Maree Stuart & Jackson Allen

These awards have been created to encourage excellence in postgraduate work, and all nominees who participate in the Postgraduate Awards Day also received the **special AIPNSW plaque** recognising the nominee's high standing.



Jacob Johnstone & Prof Miroslav Filipovic



Jacob Johnstone winner of Postgrad Presentation Prize



Jaime Andreas Alvarado-Monte & Dr Erik Aslaksen.



Jaime Andreas Alvarado-Monte winner of Jak Kelly Prize

The winner of the Australian Institute of Physics Postgraduate Presentation for 2023 was awarded to **Jacob Johnstone, University of Newcastle, School of Information and Physical Sciences**. **Jacob** received the **2023 AIP Crystal Postgraduate figurine**, and a **\$500 award from the Australian Institute of Physics**. The Australian Institute of Physics congratulates **Jacob Johnstone** on this outstanding achievement.

The winner of the **Royal Society of NSW Jak Kelly Award for 2023** was awarded to **Jaime Andreas Alvarado-Monte, Macquarie University, School of Mathematical and Physical Sciences**. **Jaime** received the **2023 Jak Kelly Award prize from the Royal Society of NSW**. The Royal Society of New South Wales congratulates Jaime on this outstanding achievement.

The AIP, RACI and RSNSW congratulates all the Postgraduate students for their outstanding presentations!



The AIP would like to sincerely thank the judging panel for their time and dedication in judging the 2023 presentations:

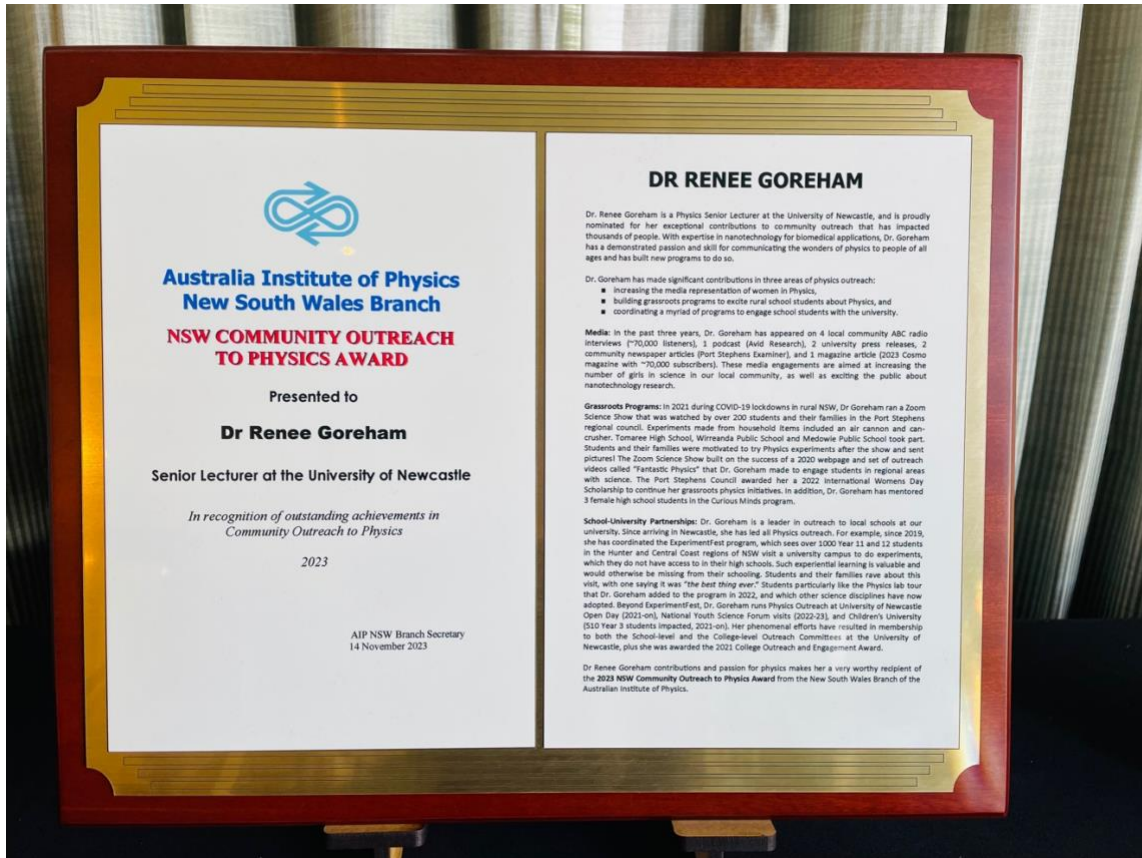
- Dr Jesse Shore – **Prismatic Sciences**
- Tibor Molnar – **Honorary Research Associate, Department of Philosophy, University of Sydney**
- Dr Shaila Akhter – **Australian Institute of Physics NSW**
- Dr Erik Aslaksen – **The Royal Society of New South Wales**



L-R: Dr Jesse Shore, Dr Erik Aslaksen, Dr Shaila Akhter and Tibor Molnar



In its tenth year, the NSW Branch recognised the work of individuals for community outreach to the discipline of physics in New South Wales. The Award seeks to acknowledge an individual, with a clearly notable record of work in contributing to outreach, physics education, and has demonstrated passion for the study of physics in New South Wales.



The Australian Institute of Physics congratulates **Dr Renee Goeham**, Senior Lecturer at the University of Newcastle as our tenth-year winner of the **Community Outreach to Physics Award in 2023**.

Dr Renee Goreham is a Physics Senior Lecturer at the University of Newcastle, and is proudly nominated for her exceptional contributions to community outreach that has impacted thousands of people. With expertise in nanotechnology for biomedical applications, Dr. Goreham has a demonstrated passion and skill for communicating the wonders of physics to people of all ages and has built new programs to do so.

Dr Goreham has made significant contributions in three areas of physics outreach:

- **increasing the media representation of women in Physics,**
- **building grassroots programs to excite rural school students about Physics, and**
- **coordinating a myriad of programs to engage school students with the university.**



Dr Renee Goreham Community Outreach Winner



Dr Renee Goreham with Helen Lorigan from Laboratories Credit Union (LCU) Chief Executive Officer

Media: In the past three years, Dr Goreham has appeared on 4 local community ABC radio interviews (~70,000 listeners), 1 podcast (Avid Research), 2 university press releases, 2 community newspaper articles (Port Stephens Examiner), and 1 magazine article (2023 Cosmo magazine with ~70,000 subscribers). These media engagements are aimed at increasing the number of girls in science in our local community, as well as exciting the public about nanotechnology research.

Grassroots Programs: In 2021 during COVID-19 lockdowns in rural NSW, Dr Goreham ran a Zoom Science Show that was watched by over 200 students and their families in the Port Stephens regional council. Experiments made from household items included an air cannon and can-crusher. Tomaree High School, Wirreanda Public School and Medowie Public School took part. Students and their families were motivated to try Physics experiments after the show and sent pictures! The Zoom Science Show built on the success of a 2020 webpage and set of outreach videos called “Fantastic Physics” that Dr Goreham made to engage students in regional areas with science. The Port Stephens Council awarded her a 2022 International Womens Day Scholarship to continue her grassroots physics initiatives. In addition, Dr Goreham has mentored 3 female high school students in the Curious Minds program.

School-University Partnerships: Dr Goreham is a leader in outreach to local schools at our university. Since arriving in Newcastle, she has led all Physics outreach. For example, since 2019, she has coordinated the ExperimentFest program, which sees over 1000 Year 11 and 12 students in the Hunter and Central Coast regions of NSW visit a university campus

to do experiments, which they do not have access to in their high schools. Such experiential learning is valuable and would otherwise be missing from their schooling. Students and their families rave about this visit, with one saying it was “*the best thing ever.*” Students particularly like the Physics lab tour that Dr. Goreham added to the program in 2022, and which other science disciplines have now adopted. Beyond ExperimentFest, Dr. Goreham runs Physics Outreach at University of Newcastle Open Day (2021-on), National Youth Science Forum visits (2022-23), and Children’s University (510 Year 3 students impacted, 2021-on). Her phenomenal efforts have resulted in membership to both the School-level and the College-level Outreach Committees at the University of Newcastle, plus she was awarded the 2021 College Outreach and Engagement Award.



Dr Renee Goreham contributions and passion for physics makes her a very worthy recipient of the **2023 NSW Community Outreach to Physics Award** from the New South Wales Branch of the Australian Institute of Physics.