



The Royal Society of Western Australia

RSWA Awards

Student Medallists 2017 (presented 2018)

The Royal Society of Western Australia Student Medal is awarded annually to graduating science students with an outstanding academic record from the universities in Western Australia. The students are nominated by their institutions.

The 2017 RSWA Student Medallists were awarded at the RSWA Annual General Meeting at the Botanic Gardens and Parks Authority Administration Building, Kings Park, Perth on 20 August 2018.

Congratulations to the Medallists as follows:-

Ms Maddison Fairburn - Curtin University

Ms Grace Wilkinson - Edith Cowan University

Mr Justin Stewart Freeman - Murdoch University

Ms Claire O'Loughlin - The University of Notre Dame Australia

Mr Kang (Theo) Tam - The University of Western Australia

Further information on the Medallists is on the following pages.



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Ms Maddison Fairburn - Curtin University

Maddison's inquisitive nature and enthusiasm for science shines through her academic achievements. Undertaking a double degree in applied geology and geophysics, Maddison attained high distinctions prior to graduating from her geophysics honours year in 2017 with first class marks.

Her honours thesis "Modern 3D seismic interpretation and multi-attribute analysis of the Cretaceous Puffin Formation, Vulcan Sub-basin", was completed with supervision from Murphy Oil Australia, and awarded best technical content across her graduating class. Maddison's research used a deterministic approach to qualitatively reveal the distribution and morphology of potential reservoir sands, unlocking depositional insight in a geologically complex setting.

Maddison has been honoured as the recipient of the Quadrant Energy Geoscience Excellence Scholarship and Woodside Women's in Science and Engineering Scholarship whilst studying at Curtin University. She was awarded West Australian School of Mines silver medals for both geology and geophysics as well as the Geological Society of Australia medal. Throughout her academic career, Maddison was recognised on the prestigious Vice Chancellor's List five times, ranking her in the top 1% of students at Curtin University.

Since graduating Maddison has been working with the Myanmar Exploration team at Woodside Energy. She is enjoying applying her university learnings to a career in science.





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Ms Grace Wilkinson - Edith Cowan University

I received an Edith Cowan University Scholarship at the end of year 12 for academic excellence and endeavor, leadership and commitment to ECU's core values. I completed my Bachelor of Science (Biological Sciences) at ECU, graduating at the end of 2017 and was the graduate speaker for the ceremony. Throughout my degree, I achieved a high distinction overall unit average which included 15 high distinctions and 8 distinctions and through invitation become a Golden Key International Honour Society Member. I was also an ECU Ambassador on the China Environmental Study Tour 2016, an ECU Ambassador for the Vietnam Natural Science Project Work Placement in 2017, and completed a short placement at the Endangered Primate Rescue Center in Cúc Phương National Park. As part of my degree and following my work placement, I designed a Conservation Management Plan for the slow loris (*Nycticebus*) species of Vietnam.

I am currently working on a Masters project with Perth Zoo on the Western Swamp Tortoise (*Pseudemydura umbrina*) supervised by Dr Pierre Horwitz and Dr Peter Mawson. At the same time, I am also completing a Certificate III in Captive Animals with the Taronga Tertiary Institute through Perth Zoo. I hope to acquire an array of skills that better equip me to achieve what I have determined to be my career objective: to contribute to and improve the captive care of animals. As captive facilities are essential to the future of biodiversity conservation, I hope to be able to not only be a part of this industry, but through research be able to improve the current knowledge and practices. At this point in time, my aspiration is to become a zoological nutritionist. Choranaptyxis is the ability to grow or shrink to fit the available space, and with a world in need of a lot of change, I hope to never stop learning, because there's a lot of growing to do, to fill this very big world.





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Mr Justin Stewart Freeman - Murdoch University

After many years of hard work, I have finally finished physics and nanotechnology with honours at Murdoch University. It has been a truly life changing experience and allowed me to learn and experience many amazing things along the way. Some of the highlights include tutoring first year students in math, physics and chemistry, travelling to India for two weeks with five other physics and nanotechnology students to undertake scientific and cultural exchange with KIIT University in Bhubaneswar, and winning the New Colombo Plan Scholarship allowing me to spend a year on exchange at Yonsei University in Seoul, South Korea, where I undertook my final year courses in physics, math and materials science.

I have always loved science, but physics is actually a somewhat recent obsession. Before commencing my studies at Murdoch, I worked in environmental consulting as a botanist, having completed a botany major at UWA in 2009. I was and still am, very passionate about nature and conserving biodiversity (and I love spending time in the outdoors), but I felt my skills were not suited to that profession, and I didn't see much opportunity for making a big difference in conservation without getting into politics.

In 2008, I found this awesome podcast while searching online called 'The Skeptic's Guide to the Universe', and it opened my eyes to a world of science I didn't really know much about. It helped me understand the bigger picture of why science is so important, taught me how to think critically, and got me really excited about all branches of science, in particular nanotechnology. I decided I wanted to get into this exciting new field to make better use of my abilities, and because nanoscience has a lot of promise for improving renewable technologies. If renewable energy is made cheaper and more effective, it can help mitigate one of the primary threats to biodiversity – climate change – and was something I could really be proud to be part of. I didn't study physics in year 12, but I have always been good at technical problems and really enjoyed the introductory physics course I took at UWA during my botany degree, so I chose to return to study physics and nanotechnology at Murdoch University.

In addition to my passion for science, I am also a brass musician; specialising in Euphonium, but I also play Trumpet, Trombone and Tuba. The Euphonium is a beautiful instrument and practicing is great stress relief between my work and studies. I learnt it on a scholarship at Churchlands SHS and even did six months of music study at UWA before changing to science. To keep up my music I joined WA Brass, WA's premier brass band, which I have been a member of since 2005, and last year I also joined the WA Wind Symphony. We perform regularly throughout the year around Perth, and next year I will be traveling to Brisbane with WA Brass for the national band championships. I am actually already working on a difficult Euphonium piece to play in the solo competition.



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As well as music and science, I love to keep fit and active. I have trained and competed in Muay Thai kickboxing and Zendokai, and I love running, cycling, rock-climbing, snowboarding (where feasible) and many other sports. I'm also an avid gardener with an ever-growing collection of cacti, have regular crops of home grown vegies, and more recently have been getting into Arduino electronics projects. If only there were more hours in the day, or less hours I needed to sleep!

My Murdoch journey has come to an end, but I'm very excited about the future. I'm starting a PhD with Professor Rob Atkin at UWA in August on exfoliating 2D materials with ionic liquids. I will be working on an exciting scaling up process for pristine single layer graphene and other valuable 2D materials with promising applications in renewable energy and many other new technologies. As for my career, I want to do research in materials science, preferably if it's related to renewable energy. I am still unsure as to whether I will pursue industry or academic work after my PhD, but I'm sure it will become clear in the coming years.





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Ms Claire O'Loughlin - The University of Notre Dame Australia

Claire graduated from Notre Dame in December 2017 with a Bachelor of Science, majoring in Environmental Science and Biology. During her degree, Claire achieved 19 high distinction and 3 distinction grades – an outstanding performance.

Claire came to Notre Dame with much life experience, energy, enthusiasm and a strong work ethic, which clearly contributed to her success and the path of study she chose. During her final year Claire harnessed her passion and commitment to sustainability and environmental care to complete a project titled, "Impact of Active Wear: Investigating Microplastic Fibre Pollution from Domestic Laundry". During her research she decided that the best way to change the industry at the centre of her work was to become an active participant.

In the short time since graduating Claire has harnessed her momentum to launch a swimwear brand that 'walks the talk'; offering an environmentally-conscious model for others to follow. By choosing ethical fashion production, using fabrics made from re-claimed ocean plastics, and including a brand 'tag' that is in fact a laundry filter bag designed to catch microplastics shed from the product, she aims to maximise consumer awareness and education regarding the impact of fashion choices. Claire's ultimate goal for her business is to ensure circular production, transparency and environmental accountability.

An all-round impressive effort on top of tutoring at the University, navigating the publication of her research and caring for her young family!





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Mr Kang (Theo) Tam - The University of Western Australia

I graduated from the University of Western Australia in 2018, with a double major in environmental science and conservation biology. Thanks to my amazing lecturers, I quickly grew interested in global environmental issues and WA's unique diversity. I am especially fascinated by all things soil.

Throughout my degree, I have been involved in a range of scientific endeavours from raising awareness for the importance of soil to studying soil microbes sourced from citizen scientists across WA. Thank to this, I have also had the privilege of travelling to Edmonton (Alberta, Canada) and Narrabri (NSW) to further my research training in soil science, through the Mitacs Globalink and CSIRO Undergraduate Vacation scholarships respectively. I am also the proud recipient of this RSWA medal, the CFH & EA Jenkins Prize and finalist of the UWA Guild's Volunteer of the Year.

In 2018, I worked with the Centre for Mine Site Restoration to evaluate the potential of native soil crusts for restoring biological functioning in post-mining soils.

Outside of work and research, I enjoy reading and writing fiction, music jamming, travelling with friends and volunteering. Over the years, I was able to experience a variety of roles with UWA Guild Volunteering, ConnectGroups, Partnership for the Outback, the MicroBlitz project and many more.

I am always open to new opportunities to explore and practice my passion for the environment and soils.

