MONASH University

MONASH SCIENCE

Faculty of Science

Awards

2020

Welcome

This year the Faculty of Science awards are more important than ever.

Every year we celebrate the outstanding achievements of staff and students.

But this year is the first time the event is being held as an online virtual experience because of the global COVID-19 pandemic.

No one expected this, and it has thrown us many challenges to deal with, individually, as a society, and as scientists.

What we are celebrating today are not just your achievements, but your resilience and adaptability in the face of uncertainty, with many of you having to pivot unexpectedly to be able to quickly deliver courses online, as well as adjusting to other unforeseen demands.

Throughout this difficult time, the Faculty of Science remains a vibrant and dynamic learning community – made so by the passion and commitment of its staff and students.

There is much to be honoured and celebrated at today's event and I look forward to sharing this important occasion with you.

Thank you for your support.

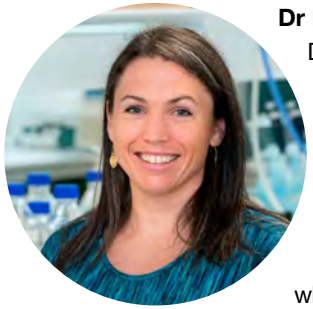
Professor Jordan Nash
Dean, Faculty of Science

Science Faculty Awards

1. Research Excellence by an Early Career Researcher

This Award recognises research excellence by early career researchers who are within five years of the start of their research careers.

The Nominees are:



Dr Rebecca Adrian, School of Biological Sciences

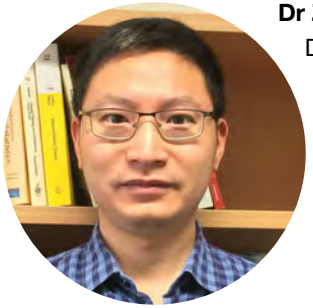
Dr Adrian is an evolutionary and behavioural ecologist currently working as an ARC DECRA Fellow within the School of Biological Sciences. Her PhD from Auburn University (Alabama, USA), focused on understanding variation in sexually selected displays in birds—specifically, red and yellow ornaments formed by carotenoid pigments. Her research tested whether such pigments confer health benefits in addition to serving as colourful signals, resulting in several high-impact publications. Dr Adrian's interest in understanding the fundamental bases of variation in mating displays has led to her current research into mitochondria, in which she explores how differences at the cellular level affect whole-organism performance. Shifting from songbirds to fruit flies, the research brings new perspectives to longstanding questions by uniting previous work in behavioural research with the new field of 'mito-nuclear ecology'.

Dr Jessica Walsh, School of Biological Sciences

Dr Walsh is an interdisciplinary conservation ecologist, with a passion for developing cost-effective and evidence-based solutions to improve conservation decisions. The defining theme across her research is to measure the effectiveness of conservation policy and practice for threatened species and ecosystems. Dr Walsh started at the School of Biological Sciences in 2019 and now leads a growing lab of students and research assistants focused on evaluating the biodiversity outcomes of conservation decisions and integrating scientific evidence into conservation management. Dr Walsh completed her PhD at the University of Cambridge, UK, and three post-doctoral positions at Simon Fraser University, Canada, and the University of Queensland. She works to strengthen the interface between science and practice, through established collaborations with international researchers, environmental government agencies and not-for-profit organisations. Her applied research has resulted in changes in how conservation decisions are made in Australia and around the world.

Dr Greg Ashton, School of Physics and Astronomy

Dr Ashton has been pivotal in the new field of gravitational-wave astronomy. He was part of the international team which made the first discovery of gravitational waves from colliding black holes in 2015. The discovery was awarded the 2017 Nobel Prize for Physics. Dr Ashton was the co-recipient of the 2016 Special Breakthrough Prize in Fundamental Physics. Since joining Monash in 2018, Dr Ashton has led the development of software (called BILBY) currently changing the face of gravitational-wave astronomy around the world. The BILBY software is being used to determine the properties of all astrophysical collisions seen by LIGO. Dr Ashton played a key role in the analysis of the second-ever observed collision between neutron stars, and led a Nature Astronomy publication revealing never-seen-before phenomena associated with rotational irregularities of a neutron star; a result that gained national and international media attention.

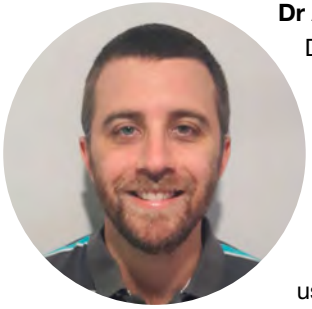


Dr Zongzheng (Eric) Zhou, School of Mathematics

Dr Zhou completed his PhD in 2016 at Monash University. He was employed as a research fellow at the University of Melbourne in 2016 and is currently employed as a research fellow in the ARC Centre of Excellence for Mathematical & Statistical Frontier, at Monash University. His research interests are applied probability and statistical mechanics. He has published 12 research papers in high-quality journals. His recent work clarified a long-standing debate on a fundamental theory in the field of critical phenomena, which produced two publications in Physical Review Letters, respectively in 2017 and 2018.

Dr Giovanni Liguori, School of Earth, Atmosphere and Environment

Dr Liguori has made significant contributions to our understanding of the mechanisms that generate decadalscale climate variability and climate change in the Pacific Ocean. Combining observations with Earth system model simulations, he has shown that changes in mean climate associated with anthropogenic forcing increases the decadalscale climate variability in the Pacific by affecting the interaction between tropics and mid latitudes. Dr Liguori holds a PhD in Climate Dynamics and Oceanography from the Georgia Institute of Technology. He joined Monash University as a research associate for the Centre of Excellence in Climate Extremes shortly after completing his PhD in 2018. Dr Liguori has published 15 peer reviewed articles in top quality journals and currently has two papers in review, including a first author paper in the high impact journal Nature Communications. In addition, he has authored a series of highly viewed YouTube tutorials and a MATLAB Toolbox for climate data analysis.



Dr Alex McCoy-West, School of Earth, Atmosphere and Environment

Dr McCoy-West's research focuses on using geochemical and isotopic tools to understand the processes involved in the formation, differentiation and evolution of our planet. Following a PhD at the Australian National University he held postdoctoral positions at Durham University (UK) and Monash University. He is the pioneer of neodymium stable isotope analyses, which have provided new insights into the differentiation of Earth's core, and the origins of the basalts that dominate the Earth's oceanic crust. His most prominent research output was recently published in Nature Geoscience. This work used novel mass balance modelling to show that four times the present-day volume of continental crust was produced in Earth's first billion years, which implies both rapid growth and destruction of the crust in Earth's early history. This new finding has significant implications for global geodynamics and would have inhibited the evolution of life in Earth's first 500 Myr due to the lack of stable continental crust.

Dr Michelle Yap Khai Khun, School of Science, Malaysia

Dr Yap earned her Bachelor of Science in 2009 followed by conferment with a PhD (Molecular Medicine) in 2014 from the University of Malaya, Malaysia. Her PhD focused on the toxicology and pharmacology of bioactive proteins from medically important venomous species, an interest she still continues with as an appointed lecturer at the School of Science, Monash University Malaysia. After completion of PhD Viva Voce, she joined the Department of Pharmacology and Department of Molecular Medicine, University of Malaya as a Research Fellow. Dr Yap is keen to investigate the proteomes, immunogenicity and molecular modelling of toxins. In addition, she is also interested in geriatric public health. Her current research interests are in molecular mechanisms of venom cytotoxin, toxin-receptor interactions, immunoinformatic and next-generation antivenomics.

2. Faculty of Science Award for Research Impact (Economic and Social Impact)

This award recognises excellence by researchers who have achieved, or are currently achieving, outstanding economic and/or societal impacts.

The Nominees are:

Associate Professor Jeffrey D. Stilwell, School of Earth, Atmosphere and Environment

Palaeontologist Associate Professor Jeff Stilwell and his co-researchers in Spain, Italy, and the UK, including many PhD and Honours students, reached a major milestone in Australia by achieving in the discipline what is recognised as 'The Holy Grail'—the discovery of the first and oldest fossiliferous amber (ancient tree resin) entombing animals, plants and microorganisms in perfect 3-D space, just as they died millions of years ago, when Australia was still attached to Antarctica. These significant findings, yielding key evidence of the origin and antiquity of the modern terrestrial biotas, have attracted global notoriety and the top media attention in April 2020 with highest-tier news articles, including The New York Times. Importantly, after more than 150 years of research in this country, Australia has finally joined the amber palaeontology community with vast, future potential, including an intended commercial venture and diverse, exciting, new student projects.

Dr Ailie Gallant and Monash Climate Change Communications Research Hub team members (Dr David Holmes, Ms Stephanie Hall, Ms Remy Shergill, Ms Zoe Gillett, Mr Steven Thomas, Dr James Goldie), School of Earth, Atmosphere and Environment, School of Communications and Media Studies

The Monash Climate Change Communication Research Hub is a unique Australian research entity, bringing the research resources of Monash University to the world of climate communication. The first of its kind in Australia, the Hub takes scientific climate information and applies research strategies from media studies, journalism studies, sociology and political science to seek to improve public literacy of climate change science. The Hub does this by partnering with mainstream media entities, including television networks and community newspapers, to deliver localised climate information to large audiences in meaningful ways. In 2019, this has seen semi-regular graphics and explanations of climate information presented by TV meteorologists during news broadcasts and via publication of a weekly column in the 23 Leader Community Newspapers that are distributed around Melbourne.

3. Faculty of Science Award for Outstanding Contributions by a Graduate Research Student to the Life of the Faculty/School Community

This Award celebrates outstanding contribution/s to the life of the Faculty of Science/ School community, by individuals or teams of graduate research students within the Faculty of Science, that are above and beyond their own research and the expectations of a postgraduate student.

The Nominees are:

Matthew Gebert, School of Physics and Astronomy
Matthew is a first-year PhD candidate in the ARC Centre of Excellence in Future Low-Energy Electronics Technologies (FLEET) within the School of Physics and Astronomy. Matthew has been nominated for his contribution to extensive outreach activities for the School of Physics and Astronomy

Marycarmen Diaz, School of Earth, Atmosphere and Environment
Marycarmen is a second-year PhD candidate in the School of Earth, Atmosphere and Environment studying the biogeography of coastal wetlands. Marycarmen has been nominated for her contribution to generating, establishing and running wellbeing initiatives for the postgraduate student community, and ensuring student wellbeing amongst the student cohort in the School of Earth, Atmosphere and Environment.

4. Norris Family Award for Outstanding Author Contribution by a Graduate Research Student to a published 'Quality' Scholarly Research Output

This award recognises an outstanding contribution by a graduate research student to the authorship of a quality scholarly research output (i.e. Book, Book Chapter, Journal Article, Conference proceeding).

The Nominees are:

- **Rahil Valani,** School of Physics and Astronomy
- **Michelle Hill,** School of Chemistry
- **Zoe Gillet,** School of Earth, Atmosphere and Environment
- **Owen Missen,** School of Earth, Atmosphere and Environment
- **Tara-Lynn Carter,** School of Biological Sciences

5. Mollie Holman Doctoral Medal for Science

The Mollie Holman Medal was established in 1998 and is named after the late pioneering physiologist, Emeritus Professor Mollie Holman AO, in honour of her significant contributions to science and education. Each year, a maximum of 10 medals are awarded to doctoral students, who have fulfilled their degree requirements and presented their faculty's best thesis of the year.

The Winner is:

Dr Hayley MacPherson, School of Physics and Astronomy.
Thesis title: *Inhomogeneous Cosmology in an Anisotropic Universe.*

6. Vice-Chancellor's Commendation for Thesis Excellence

The Vice-Chancellor's Commendation for Thesis Excellence was established to recognise and reward outstanding doctoral and research master's thesis excellence. Each year, a maximum of five commendations are awarded to doctoral and/or research masters students, who have fulfilled their degree requirements and have presented as outstanding contributors to research by their faculty.

The Winner is:

Dr Kevin Hendrey, School of Mathematics
Thesis title: *Extremal Graph Theory for Minors, Improper Colourings and Gonality.*

7. Dean's Honours List

This award celebrates the achievements of our top students.

The Awardees are:

- **Jack Allsop**
- **Jory Lachlan Braun**
- **Guy Henry Davis**
- **Marc Alexander Robert Distel**
- **Rebecca Ann Freeman**
- **Madison Geeson**
- **Jemma Kate Gullick**
- **Kyle Thomas Ian Lyon**
- **Ryan Philips Jardine**
- **Anthony Jason Muleta**
- **Evgenii Neumerzhitckii**
- **Ethan Payne**
- **Corbin James Reid**
- **Joshua Edward Smith**
- **Jin Tianle**
- **Arron Tran**
- **Jacob Cooper Vandenberg**
- **James Anthony Walker**
- **Richard Yan**
- **Yu Fiona Chuo Yan**
- **Jonathan Zuk**

8. Dean's Excellence in Teaching Award

This Award recognises and celebrates outstanding contributions to the Faculty of Science teaching programs made by individuals or teams. Awardees have demonstrated outstanding approaches to teaching and/or the support of learning that influences, motivates and inspires students, excellent development of curricula, resources or services reflecting a command of the field, high-quality evaluation of practises that lead to improvements in teaching and learning, and influential innovation, leadership or scholarship that shifts the dial on teaching, learning or the student experience.

9. Dean's Award for Innovation in Learning and Teaching

This new Award recognises outstanding innovation driven by technologies or curriculum which improves student engagement, teaching, learning or assessment. Nomination is open to all academic staff, professional staff and teaching associates of the Faculty of Science. Awardees have demonstrated outstanding approaches to teaching and learning through curriculum or technological innovation, development of curricular, resources or services, evaluation practises that bring positive change, innovation, leadership or scholarship.

10. Dean's Citation for Outstanding Contribution to Student Learning

This Award recognises and celebrates outstanding contributions to the Faculty of Science teaching programs made by early career academics or professional staff, as individuals or teams.

11. Faculty of Science Student Impact Awards

These awards recognise students for efforts beyond academic achievement by contributing to supporting their fellow students.

- **The Community Spirit Award** recognises students for outstanding contributions to the students and staff community in the Faculty of Science. This may be for extracurricular or program-based work that creates a positive shift and sense of collegiality for peers and or educators.
- **The Young Science Leader Award** recognises students who have actively participated or promoted social inclusion initiatives including social justice, enterprise and efforts towards charitable or not-for-profit groups.
- **The Science Communication Award** recognises superb science communication for the purposes of meaningfully integrating science in society, including via cultivating science-based blogs, impactful micro-blogging, vodcasts or other social media, or developing impactful science communication workshops, events, resources and or communities of practice.
- **The Master Impact Awards in Society** recognises outstanding graduate students who have demonstrated impact in their disciplinary field of environment and sustainability, mathematics, financial mathematics, earth science, physics, astrophysics, or atmospheric science. The student's impact may be in research or for impact on society, through positive outcomes led by the student to advance an issue relating to the community, a social good program, a NPO/NGO, industry or government.

12. Award for Exceptional Service to the Faculty of Science

This Award recognises and celebrates exceptional service provided by individuals or teams to advance the Faculty of Science vision.

MONASH University

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