



NEWS

Barry Pogson wins top ANU award



Barry Pogson. Image Lannon Harley, ANU.

Barry Pogson was awarded the 2019 Peter Baume Award at the Vice-Chancellor's Awards ceremony this month. This is the University's most prestigious honour, recognising eminent achievement and merit of the highest order. [Read more here.](#)

Promotions

Congratulations to the following RSB academic staff, who were successful in their applications for promotion.



Sasha Mikheyev, who was promoted to Level D.



Megan Head, above left, **Ben Long** (Badger, Price groups), centre, and **Benjamin Schwessinger**, right, who were promoted to Level C.



Above from left: **Helen Bothwell** (Borevitz group), **Onoriode Coast** (Atkin group), **Jason Ng** (Mathesius group), and **David Duchene**, left, (Moritz group) who were promoted to Level B.



Three dedicated members of RSB looking to the future of the scientific world: Jay Prentice (BTLC), Hesam Jahromi (BTLC) and Spencer Whitney welcome the 2019/2020 cohort of Summer Scholars to RSB. Image and caption by Graham Hicks. For more, see Welcome section on page 4.

Four Highly Cited researchers at RSB

Congratulations to **Stefan Bröer**, **Patrick Meir**, **Craig Moritz** and **Barry Pogson** who all made the 2019 Clarivate Highly Cited Research List. The highly anticipated list recognises 'the world's most influential researchers of the past decade, demonstrated by the production of multiple highly-cited papers that rank in the top 1% for field and year in Web of Science.'

Outstanding Thesis prize



Adele Lehané, Adelaide Dennis and Kevin Saliba. Kevin presented Adelaide (centre) with a certificate and giant novelty cheque for \$2000, for winning the RSB Outstanding Thesis prize for 2019. Image: Sharyn Wragg.

The RSB Outstanding Thesis prize for 2019 was awarded to **Adelaide Dennis** (Kirk Lehané group), this month. Adelaide's thesis, 'PfATP4 and the biochemical signature of PfATP4-associated compounds', yielded eight papers published in high-impact journals, and all three examiners unanimously evaluated her thesis as Exceptional/Excellent in all categories.

Director's Prize in Honours



The RSB Director's Prize in Honours was awarded this month to **Carl McCombe** (Williams group) and **Xiangning Liu** (Saliba group). Xiangning is shown above receiving her certificate from RSB Director **Allen Rodrigo** (Image: Sharyn Wragg).

RSB part of successful ANU Grand Challenge bid

Pat Backwell, **Craig Moritz** and **Lindell Bromham** are part of a successful Grand Challenge bid called "Mapping the Future". They will be working with Indigenous communities across northern Australia, mapping biodiversity, helping run a Junior Ranger course, and taking ANU undergraduate students into the communities for two-way learning.

Two DECRA's for RSB

The ARC announced the successful [Discovery Early Career Researcher Awards](#) (DECRA) this month. **Iliana Medina**

(Keogh group) will receive \$414,089 to test the importance of anti-predator defences (warning colours) in species generation. **Ben Scheele** has been awarded \$423,534 for a project that aims to improve understanding of species vulnerability to extinction, and the conditions that allow species to coexist with threats. The project will be shared 50:50 between RSB and Fenner. He will be hosted at RSB by **Scott Keogh** and **Marcel Cardillo**.

RSB HDR Conference

Congratulations to all 90 students who presented at the 2019 RSB student conference. The short-format talks once again provided a highly engaging showcase of the diverse and high calibre research being undertaken within RSB. The student organisers - **Putter Tiatragul** (Keogh group), **Jamie Robertson** (Martin group), **Yi-Chang Sung** (Solomon group), **Brad Posch** (Atkin group), **Alyssa Weinstein** (Peakall group) and **Tanuka Sen** (Verma group) again delivered a wonderfully organised and successful event – the evening catering by The Mandalay Bus a particular hit. Thanks also go to **Jay Prentice**, **Helen Wong**, **Hesam Jahromi** and **Panit Thamsongsana** from BTLC for the 'behind the scenes' administrative efforts required to run the event. Thank you to the session chairs, adjudicators, IT helpers and those who helped on the day - your collective efforts helped to ensure the event was a success. The outstanding quality of the presentations again proved challenging to identify the award winners. The Best Presentation winners were **Kalya Subasinghe** (Gardner group), **Pravin Khambalkar** (Jones group) and **Vanessa Howieson** (Saliba group) who were each awarded \$250 and a \$650 **Hiroto Naora Graduate Student Travel Scholarship**. Runner-up prizes of \$250 were awarded to **Shagufta Iqbal** (Callaghan group), **Fonti Kar** (Noble group) and **Lily Chen** (Furbank group). Winner of the 1 min Elevator Pitch was **Alex Chen** (Fulton group). - **Spencer Whitney**.

Funding for Indigenous Knowledge Exchange program

The indigenous knowledge exchange program, led by **Lindell Bromham** in collaboration with Charles Darwin University, has received \$10,000 from the [Science Health and Medicine](#)

[Reconciliation Action Plan](#) committee to fund student bursaries. A trial program ran successfully this year and the funding will allow more students to travel to the Northern Territory to participate in an on-country course exploring indigenous cultures and the environment in 2020. The bursaries will be co-funded by RSB and the Medical School, with both biology and health sciences students participating. - **Lindell Bromham**.



Njanjima Ranger, Ursula Badari recounts an important creation story to ANU students at a site in Arnhemland, near Gunbalanyah, NT, during the Indigenous Knowledge Exchange program in July this year. Image: Greg Williams, CDU.

Long-Read Long-Reach workshop



Participants and organisers of the Long-Read Long-Reach Sequencing Workshop held at the EBL this month. Photo by Sharyn Wragg.

Around 40 scientists from across Australia and New Zealand (and one from Germany!) attended the Long-Read, Long-Reach Sequencing Workshop held at the Ecogenomics and Bioinformatics Lab (EBL) at RSB this month. The workshop was a combination of wet-lab and dry-lab/data analysis, with 12 instructors from all over the world, all experts in their fields. In the lab, there was a strong focus on extraction methods for high molecular weight (HMW) DNA, which were customised to participants' interests. Short runs on MinION devices meant many were able to conclude the workshop with sequence data. The data analysis component left participants with a detailed understanding of some genome assembly software and a broad overview of many more. All talks were recorded and links will shortly be available [here](#). The workshop was organised by **Niccy Aitken** (EBL manager), **Benjamin Schwessinger**, and

Ashley Jones (Schwessinger group) with the support of **Claire Stephens** and the Centre for Biodiversity Analysis. - **Niccy Aitken**.

Spring Raffle

Thanks to everyone who donated to the inaugural RSB Spring Raffle and who bought tickets at the Spring Lunch. Because of RSB's inventive and creative donations we were able to have four hampers - Home Comforts (including food, books and household goods), HomeMade (with home produce and handcrafts), Australiana (featuring Australian produce and a koala) and the Coffee Lovers Hamper (including free coffees from the Little Pickle). We raised \$425 for the RSPCA. Hopefully we will run it again next year, so don't forget next spring to start making, baking and buying for the Raffle. Special thanks to **Jay Prentice** (BTLC), who volunteers for RSPCA and helped sell raffle tickets on the day, and to **Corin Pennock** (Technical Services) for bringing baby wombat Duggie to be admired by a crowd of doting biologists. - **Lindell Bromham**.

A visit from Mars Incorporated



Jock Gavel (ANU Philanthropy, Aly Weirman (APPF), Jennie Mallela (Rodrigo group), Chloe Dougherty (Mars), Alicia McArdle (Mars), Tim Brown (APPF), Frank Mars, Ian Pople (Mars), Georgia Kendall (ANU Philanthropy) and Owen Atkin (CEAT). Image: Sharyn Wragg.

On Tuesday 22nd Oct, ANU hosted a visit by Frank Mars (Board of Directors of Mars, Incorporated, and until most recently, the Global President of Mars Symbioscience) and members of his team (Ian Pople, Alicia McArdle and Chloe Dougherty). Frank Mars is passionate about finding ways to produce food in an environmentally sustainable manner. With that in mind, the ANU used his visit to showcase a range of research capabilities of relevance to sustainable food production. This included **Bob Furbank** talking about the work the CoE for Translational Photosynthesis is doing with the Gates Foundation, **Aly Weirman** and **Tim Brown** (both Borevitz group) giving Frank and his team a tour of the Australian Plant Phenomics Facility,

and **Peter Solomon** discussing ANU's work in the biosecurity/plant pathogen area. The event was attended by the ANU VC **Brian Schmidt**, PVC-I **Mick Cardew-Hall**, as well as representatives from the Fenner School. Thanks to the College of Science philanthropy team and the Centre for Entrepreneurial Agri-Technology (CEAT) for organising the visit. - **Owen Atkin**.

50 years of biology at ANU panels move to permanent home



Benjamin Schwessinger checked out the 50 years of Biology panels in their new home. Image: Mel Norris.

If you've been missing the plywood panels from the 50 Years of Biology at ANU exhibition in Catcheside Court, you can revisit them in their new permanent home, in the corridor next to the EBL, leading to the Workshop.

Outreach News



Xiaoxiao Zhang talks to students at the Academy of Future Skills in Chisholm. Image: screengrab from WIN News video, supplied by Xiaoxiao Zhang..

STEM in Schools is a national event bringing together STEM professionals, parliamentarians and schools to celebrate STEM careers. **Xiaoxiao Zhang** (Rathjen group) partnered with ACT Deputy Chief Minister **Yvette Berry** MLA, and the Academy of Future Skills in Chisholm. She gave a talk about her STEM career and her research as a 'Plant Doctor' to students from Caroline Chisholm Senior School and Gowrie Primary School. She received a lot of interesting questions from the students, and the team leader of the STEM facility, Paula Taylor, later said that she did "...an outstanding job in delivering such and impactful and informative presentation to our visiting students. They

really found your specialty to be quite interesting as did I." WIN TV also attended the event, and you can [watch a video here](#).

WAVE Bioreactor installed

The new WAVE Bioreactor, obtained with Major Equipment Grant funding, has been installed in room 3.101 in the Linnaeus building. Training will be organised to take place before the end of the year.

Congratulations

Janet Gardner and **Lynda Sharpe** (Gardner group) have been awarded a \$20,000 grant from the ANU Global Research Partnerships Scheme to work with researchers at the University of Pretoria (Andrew McKechnie) and the University of Cape Town (Susan Cunningham) on the loss of biodiversity under climate change. The funding will support exchange of ideas, methodologies and expertise between research groups to facilitate cross-continent comparisons, increasing understanding of principles, mechanisms and impacts of climate change in hot climates in the southern hemisphere.

IN THE MEDIA

Research showing that red deer on a Scottish island had evolved to give birth earlier in the year as the climate warms was covered widely by UK and international media. The work, authored by **Timothée Bonnet** (Kruuk group), **Loeske Kruuk** and collaborators in the UK, was covered by the BBC, The Times (UK), The Independent (UK), The Scotsman, The Herald Scotland, the Aberdeen Press and Journal, and many other outlets.



Sharyn Wragg's (RSB IT) encounter with a large brown snake while hiking in the Budawang National Park was reported in the Canberra Times on 9 November. Sharyn's photo (shown above) of the animal rearing up to strike one of her companions (who fortunately was able to get out of the way) was included with the article.

PHDS SUBMITTED

Fatimah Ahmad Rashid – (Atkin group) 'Thermal acclimation of respiration in rice.'

PHDS AWARDED

Ian Brennan (Keogh group) 'Macroevolution across a changing Australian landscape.'

Ross Deans (Farquhar group) 'The economic challenge of leaf gas exchange.'

Ross Dennis (Furbank group) 'The role of primary carbohydrate metabolism in wheat grain dormancy and germination.'

Xuankun Li (Rowell group) 'Systematics of the Australian members of bee fly subfamily Bombyliinae and molecular phylogeny of the superfamily Asiloidea using anchored hybrid enrichment and transcriptome data.'

Mrinalini Pratap (Maier group) 'Host red blood cell modifications induced by the malaria parasite *Plasmodium falciparum*.'

Zoe Reynolds (Cardillo group) 'Effects of fire on bird diversity in semi-arid woodland.'

Melanie Ridgway (Maier group) Sex-specific biology of *Plasmodium falciparum*.'

PAPERS ACCEPTED

Bohman B, Tan M, Phillips R, Scaffidi A, Sobolev A, Moggach S, Flematti G, Peakall R, A specific blend of drakolide and hydroxymethylpyrazines - an unusual pollinator sexual attractant used by the endangered orchid *Drakaea micrantha*, *Angewandte Chemie*.

Bohórquez J, Robertson AW, Millner JP, Gullan PJ, Changes to the composition of scale insect species (Coccothraupidae: Eriococcidae) on New Zealand mānuka (*Leptospermum scoparium*; Myrtaceae) in the last seventy years, *New Zealand Journal of Crop and Horticultural Science*.

Brown P, Rahimi F, RELISH Consortium, Zhou Y, Large expert-curated database for benchmarking document similarity detection in biomedical literature search, *Database*.

Busch FA, Tominaga J, Muroya M, Shirakami N, Takahashi S, Yamori W, Kitaoka T, Milward S, Nishimura K, Matsunami E, Toda Y, Higushi C, Muranaka A, Takami T, Watanabe S, Kinoshita T, Sakamoto W, Sakamoto A, Shimada H, Overexpression of BUNDLE

SHEATH DEFECTIVE 2 improves the efficiency of photosynthesis and growth in Arabidopsis, *The Plant Journal*.

Catullo RA, Llewelyn J, Phillips BL, Moritz CC, The potential for rapid evolution under anthropogenic climate change, *Current Biology*.

Chou C-C, Head ML, Backwell PRY, Effects of temperature on reproductive timing and hatching success in a tropical fiddler crab, *Biological Journal of the Linnean Society*.

Chung M-HJ, Jennions MD, Fox RJ, Novel ablation technique shows no sperm priming response by male eastern mosquitofish to cues of female availability, *Behavioral Ecology & Sociobiology*.

Gardner JL, Amano T, Peters A, Sutherland WJ, Mackey B, Joseph L, Stein J, Ikin K, Little R, Smith J, Symonds MRE, Australian songbird body size tracks climate variation: 82 species over 50 years, *Proceedings of the Royal Society London B*.

Iglesias-Carrasco M, Fox RJ, Vega-Trejo R, Jennions MD, Head ML, An experimental test for body-size dependent effects of male harassment and an elevated copulation rate on female fecundity and offspring performance, *Journal of Evolutionary Biology*.

Keighley MV, Langmore NE, Heinsohn R, Genetic and vocal data show that topography and restricted habitat corridors determine population connectivity in a large parrot, *Landscape Ecology*.

Krosch MN, Herold N, Thornhill AH, Cranston PS, How 'Gondwanan' is *Riethia* (Diptera: Chironomidae)? Molecular phylogenetics elucidates the mode and tempo of diversification in the Austro-Pacific, *Invertebrate Systematics*.

McDonald-Spicer CJ, Moritz CC, Ferrier S, Rosauer DF, The importance of defining measures of stability in macroecology and biogeography, *Frontiers of Biogeography*.

Mathesius U, Jin J, Li Y, Watt M, 'Advances and gaps in understanding plant root interactions with rhizobacteria

to improve biological nitrogen fixation in crops', in P Gregory (ed), *Understanding and Improving Crop Root Function*, BD Publishing.

Mohammadi M, Abadi ATB, Rahimi F, Forootan M, *Helicobacter heilmannii* colonization is associated with high risk for gastritis, *Archives of Medical Research*.

Naser-Khdour S, Minh B, Zhang W, Stone E, Lanfear R, The prevalence and impact of model violations in phylogenetic analysis, *Genome Biology and Evolution*.

Ng JLP, Welvaert A, Wen J, Chen R, Mathesius U, The *Medicago truncatula* PIN2 auxin transporter mediates basipetal auxin transport but is not necessary for nodulation, *Journal of Experimental Botany*.

Rahimi F, Talebi Bezin Abadi A, Tracking the virulent *Helicobacter pylori* strains instead of its pan-screening to prevent gastric cancer, *BioNanoScience*.

Sharpe LL, Cale B, Gardner JL, Weighing the cost: the impact of serial heatwaves on body mass in a small Australian passerine, *Journal of Avian Biology*.

Skeels A, Esquerre D, Cardillo M, Alternative pathways to diversity across ecologically distinct lizard lineages, *Global Ecology and Biogeography*.

Tang H-q, Cranston PS, A new tribe in the Chironominae (Diptera: Chironomidae) validated by first immature stages of *Xiaomyia* Sæther & Wang and a phylogenetic review, *Raffles Journal of Biology*.

Zozaya S, Fenker J, Macdonald S, A new species of rock-dwelling gecko (Gekkonidae: Gehyra) from the Mt Surprise region of northern Queensland, Australia, *Zootaxa*.



WELCOME

Welcome to the 2019/2020 cohort of summer scholars! They are, front row from left: **Rong Bao** (Brock group), **Anna Sharp** (Schwessinger group), **Katherine Johnson** (Byrt group), **Georgina Kahan** (Nicotra group), **Tenzin Norzin** (Nicotra group), **Gabrielle Smith** (Adamska group), **Tanya Skinner** (Whitney group), **Marvin Jin** (Head group) and **Xinran Miao** (Head group).

Back row, from left: **Callum O'Flaherty** (Brock group), **Abigail Piscioneri** (Schwessinger group), **Lauren Crean** (Rathjen group), **Tarryn Myburgh** (Byrt group), **Jemimah Hamilton** (Nicotra group), **Kaitlyn Spooner** (Nicotra group), **Eoin Nobel** (Moritz group), **Lydia Murphy** (Head group). Photo by Graham Hicks.

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