



## Congratulations

Congratulations **Megan Head** (E&E) and **Adrienne Nicotra** (E&E) who won the Vice-Chancellor's Award for Teaching Excellence. Their innovative approach to Field Studies in Functional Ecology builds both scientific and professional skills. Together they are developing the next generation of evolutionarily and ecologically literate professionals. This builds on the award to Alex Maier (BSB) last year and is testament to the superb teaching that we do in the lab and field.



Congratulations **Danielle Way** (PS) who was awarded the Natural Sciences and Engineering Research Council of Canada (NSERC) Arthur B. McDonald Fellowship. This fellowship is awarded annually to recognise early stage academic researchers in the natural sciences and engineering.



Danielle pictured in the centre with Dr Mona Nemer (Chief Science Advisor of Canada), Dr Arthur McDonald (Noble Prize, 2015) and Dr Alejandro Adem (the President of NSERC).

Congratulations to the 2023 ARC Discovery awardees **Giel van Dooren**, **Adele Lehane** and **Kieran Kirk** (BSB) *How do apicomplexan parasites steal amino acids from their hosts?*

**Lindell Bromham** (E&E) *Dynamic evolution of mutation rates: causes and impacts on genomic analysis;*  
**Benjamin Schwessinger**, **John Rathjen** (PS) and collaborators *Genome evolution & adaptation of the multinuclear wheat stripe rust fungus;*  
**Owen Atkin**, **Andrew Scafaro**, **Graham Farquhar**, **Guillaume Tcherkez** (PS) and collaborators *Revealing the impacts of super-charged photosynthesis on leaf respiration;*  
**Craig Moritz**, **Emily Roycroft** (E&E) and collaborators *Hybridisation leading to lost sex: genomic and experimental insights.*

Congratulations **Robert Furbank**, **Barry Pogson** and **Danielle Way** (PS) made the Clarivate Highly Cited list for 2022.

Congratulations to **Damien Farine** (E&E) who is on this year's ISI Highly cited list. Well done Damien!



**Christina Spry** (BSB) has been awarded HDR Supervisor of the Month for October 2022. Details have been published on the 'HDR Supervisor of the Month' [webpage](#).

**Yun Hsiao** (Rowell Group, E&E) was selected as featured researcher in Rostrum, a digital newsletter for circuloideoidea research this [year](#).

## Coast to Conference HDR student activities



Congratulations to all 45 PhD presenters at the recent HDR conference. The quality of the presentations was (as always) extremely high making the decision process for awarding prizes very difficult.

For the first time there were RSB Summer Scholar Choice Awards on offer. The winners of these inaugural awards went to (from left to right) **Putter Tiatragul** (Keogh Group, E&E) and **Tanya Skinner** (Whitney Group, PS).



Three runner up prizes were awarded to (from left to right) **Joe Chung** (Jennions Group, E&E), **Cindy Wang** (Mathesius Group, PS) and **Christine Liu** (Saliba Group, BSB).



As for the major prize winners, adding to the list of prior Hirota Naora Awards winners on the [web](#) are **Putter Tiatragul** (above) (Keogh Group, E&E) *Australia's hidden radiation: phylogenomics reveal rapid radiation in blind snakes;* **Capella Maguire** (left) (van Dooren Group, BSB);



*Malate metabolism in Toxoplasma gondii: 1 reaction, 2 enzymes and*  
**Carl McCombe** (right) (Williams Group, PS) *How the enzymatic activity of a rice blast effector activates phosphate starvation responses in plants.*





PhD students celebrating the return to Kioloa.

## RSB Faculty Retreat

Finally, after a three year Covid-19 induced hiatus, we managed to assemble most of our Faculty for two days of discussion at the beautiful Mt Stromlo venue. We covered research aspirations and priorities, PhD supervision, aspects of undergraduate teaching, and how we might move forward with expanding and coordinating sharing of skills and capabilities across the School. More information will follow on all aspects as we move into 2023.



Foremost, to me, it was a valuable opportunity for extensive collegial discussion and a chance to re-boot from the isolating environment we all have experienced over recent years. My thanks to all for your contributions –especially Terri and Steve for organising, and to Charlie, Spencer and Maja for leading discussions. Now we all know how to use Miro boards. Craig Moritz

The Faculty brainstormed emerging research themes. As part of a strategic research planning session the Faculty reviewed current themes, imagined their future research programs in 2029, and then identified emerging themes. Ideas and themes included stress and disease biology, synthetic biology, global change biology, and systems biology. Additional input from RSB researchers will be collected through workshops and surveys in December and early next year. Themes with strong opportunities for cross School and multi-disciplinary interactions will be championed. Theme working groups will be formed and supported. We hope the working groups can support the growth of the emerging themes through leading fun activities, identifying gaps, and engaging with stakeholders across sectors. All are welcome, please contribute your ideas to the surveys and we hope to see you at an emerging theme activity next year. Charlie Morgan.

## Grants awarded

**Ryan O'Donnell** (Linde Group, E&E) Australasian Systematic Botany Society Hansjörg Eichler Scientific Research Fund \$5k - *An integrative taxonomic study of the Pterostylis macrosepala* (D.L.Jones) G.N.Backh. complex. (Orchidaceae; Pterostylidinae) and Australian Orchid Foundation Research Grant \$10k - *The evolution and diversification of the Australian Diurideae: Understanding the influence of genome size and chromosome number.*



## PhDs submitted

**Reynaldi Darna** (Solomon Group, PS)

## PhDs awarded

**Gregory Gauthier-Coles** (Broer Group, BSB)

*A Study of Cellular Amino Acid Homeostasis Identifies Novel Targets, Inhibitors and Combination Therapies in Cancer*

**Merryn Fraser**, Dual Award (ANU-HUB) (Maier Group, BSB)

**Marc Freestone** (Linde Group, E&E) *Conservation of Prasophyllum - understanding orchid mycorrhizal fungi to save threatened orchids from extinction*

**Rocco Notarnicola** (Nicotra Group, E&E) *Responses of an alpine plant to warming temperatures: from plasticity to molecular pathways*

## Welcome

The RSB 2022/23 Summer Research Program has commenced with 25 participants, from around Australia and New Zealand. The program runs for nine weeks over the summer period, please make them welcome.



Welcome **Hannah Calich** (PostDoc) and **Xiaohan Xu** (Administration and Project Support Officer) who are both now here as part of **Ana Sequeira's** Group (E&E).

Welcome back to **Lucy Aplin** (E&E) who arrived in Canberra last week.

Welcome **Danielle Maas** who has joined the BTLC team as a Student Administration Officer.

## Farewell

**Daniela Číhalová** (BSB Divisional Technical Services Team) has taken up a position with the Therapeutic Goods Administration and will be leaving RSB from 9 December. Daniela joined RSB in 2018 as a Research Officer with the Maier Group (BSB). Afterwards, as part of the BSB Technical Services Team since 3 August 2021, Daniela actively took care of the BSB animal colonies and supported the Division with technical and compliance aspects of their work. BSB and RSB have benefited from her presence, support, initiatives, proactivity, focus, her willingness to learn, instruct and interact, and direct and friendly demeanour. We wish Daniela all the best for her new role.



## Papers

**Abdu S, Chimento M, Alarcón-Nieto G, Aplin LM, Farine, DR et al.** The performance of field sampling for parasite detection in a wild passerine. *Ecology and Evolution*. <https://doi.org/10.1002/ece3.9242>.

**Aplin L.** Culture in birds. *Current Biology*. <https://doi.org/10.1016/j.cub.2022.08.070>.



- Arifin AR, Phillips RD & Linde CC. Strong phylogenetic congruence between *Tulasnella* fungi and their associated *Drakaeinae* orchids. *Journal of Evolutionary Biology*. <https://doi.org/10.1111/jeb.14107>.
- Attisano A, Gill B, Anderson M, Langmore NE. Polymorphism at the nestling stage and host-specific mimicry in an Australasian cuckoo-host arms race. *Journal of Animal Ecology*.
- Backhouse F, Welbergen JA, Magrath RD & Dalziell AH. Depleted cultural richness of an avian vocal mimic in fragmented habitat. *Diversity and Distributions*. <https://doi.org/10.1111/ddi.13646>.
- Brandl HB, Pruessner JC & Farine DR. The social transmission of stress in animal collectives. *Proceedings of the Royal Society B*. <https://doi.org/10.1098/rspb.2021.2158>.
- Carley CN, Chen G, Das KK, Ng JLP, Wang P *et al*. Root biology never sleeps. *New Phytologist*. <https://doi.org/10.1111/nph.18338>.
- Dow L, Barrow RA, White RG, Mathesius U. Photolysis of caged cytokinin in single cells of *Arabidopsis thaliana*. *Plant Methods*. <https://doi.org/10.1186/s13007-022-00953-4>.
- East NJ, Clifton BE, Jackson CJ & Kaczmarski JA. The role of oligomerization in the optimization of cyclohexadienyl dehydratase conformational dynamics and catalytic activity. *Protein Science*. <https://doi.org/10.1002/pro.4510>.
- Farine DR. Collective action in birds. *Current Biology*. <https://doi.org/10.1016/j.cub.2022.08.035>.
- Farine DR. Collective behaviour: Jackdaws vote to leave with their voice. *Current Biology*. <https://doi.org/10.1016/j.cub.2022.03.070>.
- Fuenzalida TI, Blacker MJ, Turner M, Sheppard A, Ball MC. Foliar water uptake enables embolism removal in excised twigs of *Avicennia marina*. *New Phytologist*. <https://doi.org/10.1111/nph.18613>.
- Guppy M, Guppy S, Withers P *et al*. Home-range sizes of 11 bird species on a 10ha forest site in south-east Australia. *Journal of Field Ornithology*.
- Harrison L & Jennions MD. Revisiting and interpreting the role of female dominance in male mate choice: the importance of replication in ecology and evolution. *Evolutionary Ecology*. <https://doi.org/10.1007/s10682-022-10214-4>.
- Havenga M, Halleen F, Baloyi A, Linde CC *et al*. Predominant clonal reproduction with Infrequent genetic recombination of *Phaeoacremonium minimum* in Western Cape Vineyards. *Microbial Ecology*. <https://doi.org/10.1007/s00248-022-02142-1>.
- He P, Klarevas-Irby JA, Papageorgiou D & Farine DR *et al*. A guide to sampling design for GPS-based studies of animal societies. *Methods in Ecology and Evolution*. <https://doi.org/10.1111/2041-210X.13999>.
- Heinen VK, Benedict LM, Sonnenberg BR, Farine DR *et al*. Experimental manipulation of food distribution alters social networks and information transmission across environments in a food-caching bird. *Animal Behaviour*. <https://doi.org/10.1016/j.anbehav.2022.08.007>.
- Jackson SM, Baker AM, Eldridge MDB, MacDonald AJ, Potter S *et al*. The importance of appropriate taxonomy in Australian mammalogy. *Australian Mammalogy*. <https://doi.org.virtual.anu.edu.au/10.1071/AM22016>.
- Jennions MD, Fromhage L. Assumptions, models and data: a comment on Richardson and Zuk. *Behavioral Ecology*.
- Joho Y, Vongsouthi V, Spence MA, Kaczmarski JA, Colin JJ *et al*. Ancestral sequence reconstruction identifies structural changes underlying the evolution of Ideonella sakaiensis PETase and variants with improved stability and activity. *Biochemistry*. <https://doi.org/10.1021/acs.biochem.2c00323>.
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- Nicotra AB, Geange SR, Bahar NHA, Carle H, Garcia A, Harris RJ, Head ML, Jin M, Zurcher H, Beckmann EA *et al*. An innovative approach to using an intensive field course to build scientific and professional skills. *Ecology and Evolution*. <https://doi.org/10.1002/ece3.9446>.
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- Wanelik KM & Farine DR. A new method for characterising shared space use networks using animal trapping data. *Behavioral Ecology and Sociobiology*. <https://doi.org/10.1007/s00265-022-03222-5>.
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Photography: Sharyn Wragg