Australian National University

Research School of Biology Newsletter

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From the Director

Dear Colleagues

As far as I can tell, we are off to a smooth start to second semester teaching, barring some frustrating IT glitches for those using Apple computers.... Enrolments are good, with a substantial increase in the 2nd year Evolution class. And it is great to see the undergrads back on campus and around Robertson as that always brings extra energy to the place.

On Wednesday this week, we had the annual presentation of the Slatyer Medal, the major prize for achievements in biological science, that RSB organises on behalf of ANU each year. Stephen Simpson from University of Sydney was this year's awardee, and he gave a wonderful talk on his integrative approach to nutritional ecology, as applied to humans and underlying causes of obesity. His body of work reminds us of Ralph Slatyer's approach to science in being highly integrative across organisms (mice, flies, insects, humans all featured) and spanning physiology, behaviour, ecology and evolution.

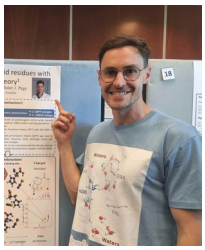
Like Ralph's work, Simpson also showed how a blend of fundamental and translational research can make significant contributions to solving major societal concerns – in this case increasing obesity. The medal presentation and seminar can be viewed on the RSB website.

I do have a request. An important part of the social environment in RSB is the biweekly social hour. This is run by ECR volunteers (PhDs and postdocs) and the most recent team – Jesus, Jack and Heber – have done a terrific job. But now they are done and keen to hand over to a new set of volunteers. Most of the work involves buying the food and drink, sending reminder emails and organising a roster of helpers to run the social hour every fortnight. I really hope that some of you will step up to enable this long-running event to continue – please contact Jesús Ruiz Flores if you are interested. As it stands now, there will be no more social hours until we have a new team.

Welcome

Welcome to **James Phillips** (Spry Group, BSB) who has started his PhD in the Spry Group in BSB. James is studying vulnerable proteins of unknown function from M.tuberculosis, with the aim of uncovering novel targets for new tuberculosis drugs.

Farewell



Farewell (and congratulations!) to **Kas Gregory** (Corry Group, BSB) who has just started an independent lectureship in computational chemistry at the University of New England. Over the last 2 years Kas has been a fantastic contributor to research at RSB, working on projects examining proton transport in membrane proteins and novel approaches to water desalination, and has assisted in supervising both undergraduate and graduate students. Kas has also been involved in many RSB events, including repeatedly volunteering as a chair for the HDR conference. His extensive knowledge, supportive nature, and sense of humour will be greatly missed from the lab, and we wish him all the best in his new role. 'Sho' long Kas!

Grants awarded

Samuele Ramelini (Farine Group, E&E) was awarded a grant from the Canberra Ornithologists Group valued at $5000.

William Bray (Langmore Group, E&E) was awarded a Stuart Leslie Bird Research Award from Birdlife Australia valued at $4,545. William was also awarded a 2024 Ethel Mary Read Research Grant from the Royal Zoological Society of New South Wales valued at $3000.

Sasha Mikheyev (E&E) was awarded a 2023 Saving Native Species (Priority Species) grant from the Department of Climate Change, Energy, the Environment and Water (DCCEEW) valued at $300,000.

Scott Keogh (E&E) was awarded a 2023 Saving Native Species (Priority Species) grant from the Department of Climate Change, Energy, the Environment and Water (DCCEEW) valued at $481,704.

Congratulations

Congratulations to **Callum O'Flaherty** (Furlong Group, BSB) who was awarded a Postgraduate Research Award (PGRA) from the Australian Institute of Nuclear Science and Engineering (AINSE) valued at $9000.

Congratulations to **Lucy Darragh** (Visiting PhD Student, Bryt Group & Mathesius Group, PS) who was awarded a Crawford Fund Conference Scholarship which will

support her attendance at the 2024 Crawford Fund Conference in August 2024 as well as several special Conference Scholars activities. This year's conference theme is Food and Nutrition Security: Transformative Partnerships, Local Leadership and Co-Design.

PhDs commenced

Chia-Han Chen (Mathesius Group, PS)

Rachel Leonard (van Dooren Group, BSB)

James Phillips (Spry Group, BSB)

PhDs awarded

Cindy Likic (Mathesius Group, PS)

Andreas Bachler (Stone Group, E&E) *A pan-genomics approach linking genotype and phenotype in the mega-pest, Helicoverpa armigera*

In the Media

Naomi Langmore's (E&E) research on how parasitic relationships create new species has been widely reported on across outlets such as radio, print and online platforms, including BBC, ABC and Australian Geographic.

The recent paper, 'Coevolution with hosts underpins speciation in brood-parasitic cuckoos', published in Science, is the culmination of a rewarding collaboration between ANU and CSIRO biologists. The cross-disciplinary study combined the expertise of behavioural ecologists (ANU, University of Cambridge), molecular geneticists (CSIRO, ANU) and macroecologists (ANU, University of Melbourne) and was supported by ARC Discovery and Centre for Biodiversity Analysis grants awarded jointly to researchers at ANU and CSIRO.

The cornerstone of the study was the development of a non-destructive method for extracting DNA from tiny (2 cm) cuckoo eggs by **Alicia Grealy** (Langmore Group, E&E), **Naomi Langmore** (E&E) and Clare Holleley (CSIRO). This unlocked a genetic goldmine in the form of the historical egg collection housed at the Australian National Wildlife Collection, CSIRO, which comprises 31,000 clutches of birds' eggs.

A multimedia essay was released by the College of Science that celebrates the Unexpected Poetry of PhD Acknowledgments featuring PhD Theses from across the College. **Lucy Aplin** (E&E) and **Yuzhen Fan** (Atkin Group, PS) both feature in the article's accompanying video, Scientists react to their PhD Acknowledgements.

Caitlin Byrt (PS) spoke with ABC Radio Canberra about growing plants in space. Tune in at the 2:41 minute mark of Alice Matthews Canberra Afternoons to hear her full interview.

Outreach

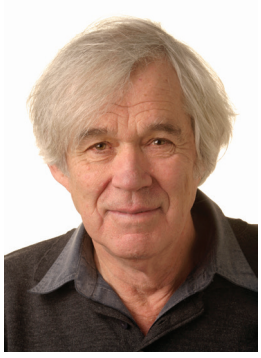
Curious Minds empowers girls from regional and rural areas who are passionate, high performers in Science, Technology, Engineering, and Mathematics (STEM) to explore their full potential, through an eight-month hands-on extension and mentoring program. They spent a week in July at ANU residential camp in the biology teaching labs experimenting with lactase specificity, the structure of DNA, the structure of hominid skulls and development of modern humans. Across the week there were 52 students participating in the labs.

From the IDEA Committee

The IDEA committee is hosting the RSB School Morning Tea on the 27th of August at 10:30am. Come along to chat to members of the IDEA committee and tell us about what IDEA-related initiatives you'd like to see in RSB.

Organising an event soon? Make sure to read the newly updated "Inclusive and accessible events at the Research School of Biology" guidelines on the RSB intranet.

Obituary



It is with profound sadness that I write to let you know that our friend and Colleague, Prof. Ian Clark, died on Monday the 23rd of July, after a short illness.

Ian has led an extraordinarily rich life, from life as a young jackaroo in north Queensland, to a veterinary degree at UQ, a Ph.D. and D.Sc. in London, many, many years as an NHMRC-funded research fellow at ANU, and then as an emeritus Professor in our department. His research on Malaria led to him becoming interested in the cytokine TNF, a field he has followed (and often pioneered) since its inception.

An extremely private man, many of us did not know much about his personal life. He was devoted to his wife Judith, they were a couple with matching and remarkable intellect. Unbeknown to his colleagues, Ian cared for Judith for a decade after she tragically developed early-onset Alzheimer's disease. Ian's interest in TNF in cerebral Malaria led him to understand that this immune cytokine also had pleiotropic effects on brain function, development, and disease (including in Alzheimer's disease). This led not only to accessing a treatment for Judith, but also to the next phase of Ian's scientific career.

For the last twenty years of his "retirement" and Emeritus Professorship, Ian has developed an encyclopaedic knowledge of many disparate fields related to TNF and brain function. He has written a remarkable series of papers. These: explained the mechanism of using TNF blockers to treat brain diseases and injuries; debunked the prevailing hypothesis of beta amyloid as a cause of Alzheimer's disease; and proposed how TNF (and other cytokine) blockers could be used in the treatment of a series seemingly disparate disorders which he realised were either caused by, or worsened by, a cytokine feedback loop in the brain. His most recent paper on this topic was published in October.

For the last twenty years Ian and I met over tea and pastries in his office, where Ian would show me his remarkable photographs from his latest trip, and we would discuss our research. He would run his latest theories by me, and I would try to find the "holes" and challenge him to clarify parts of his arguments. I will miss these sessions, and my friend Ian, dearly.

In the last decade of his life, Ian was fortunate to find happiness with another remarkable scientist and intellect. Characteristically, he did not divulge this. I did finally start to suspect something with his, (mildly) improved attire, sudden interest in the life cycle of moths, and the fact that his amazing world trips (Galapagos, Falkland Islands, South Georgia, as well as Europe) clearly involved a travelling companion.

The last words Ian spoke to me on Thursday, with evident pride, as she briefly left his bedside, was that Marianne had recently been awarded an AO.

I'm sure you will join me in offering my most sincere condolences to Ian's partner, Dr. Marianne Horak (AO).

Vale Professor Ian Clark, you will be sorely missed.

Obituary written by **Aude Fahrer** (BSB)

Papers

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