



## NEWS

### Order of Australia



**Graham Farquhar** (PS) has been awarded an [Officer of the Order of Australia](#) for 'service to Australian society and science in plant physiology'.

### Promotion

**Rowena Martin** (BSB) has been promoted to Level C (Senior Lecturer) in association with the award of an NHMRC Career Development Fellowship.

### ARC Linkage grant success

The following grants have been awarded to members of RSB:

**Rod Peakall** (EEG), Dixon Kingsley, Gavin Flematti, Russell Barrow, Eran Pichersky. 'The chemical, molecular and evolutionary basis of key pollination transitions in Australian orchids and their conservation consequences' (\$398K).

**Justin Borevitz** (PS & EEG), Margaret Byrne, **Adrienne Nicotra** (EEG), Linda Broadhurst, **Jason Bragg** (EEG), and Matthew Daws. 'Landscape restoration genomics for climate adaptation in eucalyptus foundation species' (\$375K).

### Awards

**Nadia Radzman** (Djordjevic lab, PS) won the 2013 [AW Howard Memorial Fellowship](#). The Fellowship, open to Australian post-graduates whose studies relate to the development, management and use of pastures, provides an annual \$5K 'top up' stipend for up to three years. This is the second time a student from the Djordjevic lab has received this award.

**Christina Salmon** (Fahrer Lab, BSB) won the Viewer's Choice Oral Award (\$100), and **Claire O'Brien** (Allison Lab, BSB) the Viewer's Choice Poster (\$100) at the Australian Society for Medical Research New Investigator Forum.



Male lyrebirds sing several different songs and accompany each with a unique dance (see item under 'MEDIA'). (Photo by Alex Maisey.)

### Thesis submission

**SweeSeong Tang** (Verma lab, BSB) and **Farzaneh Kordbacheh** (Djordjevic lab, PS) have submitted their PhD theses.

### Apicomplexan retreat

Members of a number of the 'apicomplexan parasite' (malaria and toxoplasma) groups (Maier, Saliba, van Dooren and Kirk labs, BSB, together with Ian Cockburn from JCSMR) held a retreat at the ANU Kioloa campus from 6-8 June, and spent an enjoyable two days discussing research and teaching in their area. Discussions are underway with the Australian Society for Parasitology about the possibility of running an annual parasitology course at Kioloa, aimed at PhD students and postdocs from around the country.



## MEDIA

A [paper](#) published in *Current Biology* by **Anastasia Dalziel**, **Alexandra Dorland**, **Andrew Cockburn**, **Alex Maisey**, and **Robert Magrath** (EEG), has been widely

[featured in the media](#). The researchers discovered that male lyrebirds coordinate dance movements with the different songs they perform, accompanying each with a unique dance coreography.

A [paper](#) published in *Behavioural Ecology and Sociobiology* by **Dominique Roche** (Jennions lab, EEG) and colleagues, about



how fish with parasites attached to their heads exhibit lateralisised behaviour, has been featured in [ANU](#) and other online media.

**Celeste Linde** (EEG) has been featured in *The Canberra Times* '[Digging in to root out a solution for local truffle growers](#)' and the *Sydney Morning Herald* online '[Growers at wits' end as truffles fail to show](#)'.

**William Feeney** (EEG) has an article in *The Conversation* '[Superb fairy-wrens recognise an adult cuckoo ... with some help](#)'.

## WELCOME

**Trevor Jordan** has joined the Combined Workshop as a Carpenter and Joiner.

**Kshiti Mishra** from the Indian Institute of Science Education and Research, Pune, is visiting the Ziel lab (EEG) from June to July to work on gaze directions of nocturnal bull ants.

## Lab Leader profile:

### Kevin Saliba (BSB)



#### Lab researching:

Mainly looking at vitamin utilisation pathways, but also pH regulation, in the red blood cell stage of the

human malaria parasite *Plasmodium falciparum*. We are investigating these pathways/processes as potential drug targets for new antimalarials.

#### Greatest achievement:

On the vitamin side of things, it's probably the demonstration that the human malaria parasite synthesises its own coenzyme A from pantothenate (vitamin B5). *P. falciparum* was previously believed to acquire coenzyme A directly from the host cell.

#### Next big thing:

We are just getting set up to start using *P. knowlesi* - a monkey malaria parasite capable of infecting humans. This parasite has recently been adapted for in vitro culture in human red blood cells and it is highly amenable to genetic manipulation. We are hoping that it will dramatically increase our capacity to generate transgenic human malaria parasites.

#### Science hero:

Paul Ehrlich (1854-1915) - considered to be the founder of chemotherapy. He developed the first modern chemotherapeutic agent (arsphenamine, to treat syphilis) in the early 1900s and coined the term "magic bullet" for drugs specifically targeting infectious organisms.

## PAPERS ACCEPTED

Agrawal S, Chung D-W, Ponts N, van Dooren, GG, Prudhomme J, Brooks CF, Rodrigues EM, Tan JC, Ferdig MT, Striepen B & Le Roch KG. An apicoplast localized ubiquitylation system is required for the import of nuclear-encoded plastid proteins. *PLoS Pathogens*.

Bromham L. 'Molecular evolution: rates (Advanced: 3.0)' in John Wiley & Sons, *Encyclopedia of Life Sciences*, Chichester.

Bromham L, Cowman, PF & Lanfear, R. Parasitic plants have increased rates of molecular evolution across all three genomes. *BMC Evolutionary Biology*.

Callander S\*, Kahn, AT\*, Hunt J, Backwell PRY & Jennions MD. The effect of competitors on calling effort and lifespan in male field crickets. *Behavioural Ecology* \*equal co-first authors.

Carra OP, Glendinning KA, Leamey CA & Marotte LR. Overexpression of Ten-m3 in the retina alters ipsilateral retinocollicular projections in the wallaby (*Macropus eugenii*). *International Journal of Developmental Neuroscience*.

Cazzonelli CI, Vanstraelen M, Simon S, Yin K, Carron-Arthur A, Mathesius U, Cuttriss AJ, Tarle G, Searle I, Masle J, Benkova E, Friml J and Pogson BJ. Role of the Arabidopsis pin6 auxin transporter in auxin homeostasis and auxin-mediated development. *PLoS ONE*.

Chan XWA, Wrenger C, Stahl K, Bergmann B, Winterberg M, Müller IB & Saliba KJ. Chemical and genetic validation of thiamine utilization as an antimalarial drug target. *Nature Communications*.

de Villiers M, Macuamule C, Spry C, Hyun Y-M, Strauss E & Saliba KJ. Structural modification of pantothenamides counteracts degradation by pantetheinase and improves antiplasmodial activity. *ACS Medicinal Chemistry Letters*.

Eyles RP, Williams PH, Ohms SJ, Weiller GF, Ogilvie HA, Djordjevic DA, Imin N. MicroRNA profiling of root tissues and root forming explant cultures in *Medicago truncatula*. *Planta*.

Gummer JPA, Trengove RD, Oliver RP & Solomon PS. Dissecting the role of G-protein signalling on primary metabolism in the wheat pathogen *Stagonospora nodorum*. *Microbiology*.

Jennions MD & Kokko H. 'Mate Choice'.

in J Losos (ed.). *Oxford Bibliographies in Evolutionary Biology*, New York: Oxford University Press.

Krams I, Kokko H, Abolins-Abols M, Krama T & Rantala MJ. The excuse principle can maintain cooperation through forgivable defection in the prisoner's dilemma game. *Proceedings of the Royal Society of London B*.

Livernois AM, Waters SA, Deakin JE, Graves JAM & Waters PD. Independent evolution of transcriptional inactivation on sex chromosomes in birds and mammals. *PLoS Genetics*.

Narendra A, Gourmaud S & Zeil J. Mapping the navigational knowledge of individually foraging ants, *Myrmecia croslandi*. *Proceedings of the Royal Society, B*.

Narendra A, Raderschall CA & Robson SKA. Homing abilities of the Australian intertidal ant, *Polyrhachis sokolova*. *Journal of Experimental Biology*.

Pesce E, Maier AG & Blatch GL. 'Role of the Hsp40 family of proteins in the survival and pathogenesis of the malaria parasite', in A Shonhai & G Blatch (eds). *Heat shock proteins of malaria*, Springer.

Reid SF, Narendra A, Taylor RW & Zeil J. Foraging ecology of the night-active bull ant, *Myrmecia pyriformis*. *Australian Journal of Zoology*.

Rusden AD, Stephenson DP & Verma NK. Topological investigation of glucosyltransferase V in *Shigella flexneri* using the substituted cysteine accessibility method. *Biochemistry*.

Starrs D, Ebner BC & Fulton CJ. Can backcalculation models unravel complex larval growth histories in a tropical freshwater fish? *Journal of Fish Biology*.

van Dooren GG & Striepen B. The algal past and parasite present of the apicoplast. *Annual Review of Microbiology*.

van Noorden GE & Mathesius U. 'Auxin as long distance signal controlling root architecture in response to nitrogen' in F Baluška (ed.). *Long-distance systemic signaling and communication*, Springer, pp. 205-217.

This monthly newsletter is archived at [biology.anu.edu.au/newsletter](http://biology.anu.edu.au/newsletter).  
Content & layout: Sharyn Wragg  
Editing: Kiaran Kirk & Sharyn Wragg

## FAREWELL

**Farzaneh Kordbacheh** (Djordjevic lab, PS) leaves RSB to take up a postdoctoral research officer position from June 3 at the University of Queensland Centre for Clinical Research (UQCCR) in the Oral Cancer Research Group.

**Siri Søndergaard** (Corry lab, BSB) leaves RSB after nine months with the Corry lab. Siri has returned to Denmark to complete her Masters thesis, and hopes to start a PhD at Aarhus next year.