### RESEARCH SCHOOL OF BIOLOGY



## **NEWSLETTER**

**ISSUE 21** | 30 JULY 2010

**NEWS** 

ARC LAUREATE FELLOWSHIP Hanna Kokko, Professor of Animal Ecology at the University of Helsinki has been awarded an ARC Laureate Fellowship and will take up a position in EEG later this year. View the ANU Media Release, and see the back page.

#### **GOLDACRE MEDAL**

Chris Cazonelli of the Pogson lab, PS, has won the 2010 Peter Goldacre Medal. The Goldacre is awarded annually by the Australian Society for Plant Scientists, on the merit of original research by an early career scientist.

Chris was awarded the Goldacre medal for his work on carotenoids, colourful plant pigments required for photosynthesis,



photoprotection and the biosynthesis of phytohormones. An important question in plant biology is what are

the mechanisms regulating carotenoid accumulation and plant development? Chris has identified a novel chromatin modifying gene that alters DNA packaging and promotes expression of a carotenoid biosynthetic gene. He has, as well, discovered other novel regulatory processes controlling carotenoid accumulation. Chris's work has essentially established a new wave in carotenoid regulatory biology.

Chris joins a long list of distinguished recipients that includes many RSB researchers.

**EUREKA PRIZE FINALIST**Rowena Martin, BSB, is a finalist in the Eureka Prize category for Early Career Research. Rowena's



nomination is based on her work on the mechanism of drug resistance in the malaria parasite, as described in a

paper published in *Science* last year. View the ANU Media Release.

#### TRUFFLE TASTING EVENING

RSB celebrated the Canberra truffle season by staging a tasting of this venerated fungus. Ninety people gathered in the Banks building on a cold July evening to savour the aroma of truffles and to taste a number of truffle orientated dishes. A highlight of the evening was an entertaining talk by Celeste Linde on truffle folklore and the properties of this amazing fungus. The tasting menu consisted of brie and truffled mascarpone; cauliflower, potato and truffle soup; truffle risotto finished with a butter-champagne sauce; pasta with a périgueux sauce made from beef stock, cognac, sweet sherry and truffle, and the evening



was finished with pavlova. The success of the evening was very much due to truffle chef extraordinaire Leila Blackman, with thanks

as well to Pat Backwell, Michael Jennions, Lauren Du Fall, Liam Cassidy and Jan Elliott.

#### ANU COUNCIL REPRESENTATIVE

Kiaran Kirk has been elected as the Deans and Directors representative on the ANU council. His two year term starts at the end of September. Kiaran is RSB's second representative on council; Matthew King from the RSB workshop is the ANU General Staff representative.

#### **GRADUATION**

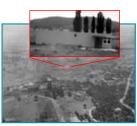
Congratulations to all RSB students who graduated at the mid-year ceremony. The photo below is of the Building 41 contingent.



L-R: Megan Nash, Rowena Martin, Carolyn Behm, Christina Spry, Ulrike Mathesius, Rob Allen, Helen O'Neil, Alison Knight, Rebecca Hinton, Kiaran Kirk, Anton Wasson

## EARTH-MOVING END FOR HISTORIC HUT

The 'Old Mag Hut' situated in the back compound of the R.N. Robertson building will soon be demolished to make way for the School's new greenhouse facility. The hut was built in 1955 and was host to significant scientific discoveries. In 1958, rock samples from around the world were radiometrically dated and their magnetic orientation recorded, to establish the validity of continental drift hypothesis, which was at the time much debated. Many rock samples were found to have reverse magnetisation, leading to the discovery of polar reversal in the Earth's magnetic fields. A plaque was erected in 2008 to commemorate the hut. See the ANU Media release for details.



The Hut predates much of the ANU.

#### CONGRATULATIONS

Students in the Fulton Fishlab, EEG, won awards at the conference of the Australian Society for Fish Biology: PhD student Dan Starrs won the Barry Jonassen Award for his research on trans-generational tagging in larval freshwater fish, Rosie Sheb'a won the Michael Hall Award for her Honours research on the ecomorphology of coral reef Damselfish, and Tyrie Starrs won the Gilbert Whitley Award for his talk on using swimming performance as a measure of invasion risk in exotic freshwater fishes.

Rebecca Hinton, O'Neill Lab, BSB, whose PhD thesis 'In vitro hematopoeisis and dendritic cell development'. has been passed by her examiners. Rebecca is now working to complete the publication of papers from her thesis.

#### **GRANT AWARDED**

Marilyn Ball, Marcus Schortemeyer, PS, and Sharon Robinson (2010). Climate change and carbon gain in Antarctic mosses. Australian Antarctic Science Grant (\$22,309 plus logistic support worth \$82,222).

#### WELCOME

Yvonne Gonzalez-Cendales has just commenced a PhD in Plant Science working on resistance to *Fusarium* wilt disease in tomato. She has an MSc from the University of Wollongong and worked as a research assistant in The Canberra Hospital before joining the David Jones Plant Disease Resistance Lab, PS.

**Gillian Gibb**, a Research Assistant with Matt Phillips, EEG, for 3 months.

Myles O'Neill, a PhD Student with Carsten Kulheim, EEG, until Nov 2010.

#### **FAREWELL**

Diane Whitehead, PA to the last three RSB/ RSBS Directors, was farewelled from the ANU after 18 years of service earlier this month.

Darren Cullerne, IT, will leave RSB on Friday 6 August to pursue a career in Bioinformatics at CSIRO Plant Industry. Darren was very active in helping resolve Helpdesk requests, and establishing the IT Client Services team.

# A UNIQUE WEB RESOURCE FOR PHYSIOLOGY, ECOLOGY AND THE ENVIRONMENTAL SCIENCES: PROMETHEUSWIKI

Lawren Sack, Will K. Cornwell, Louis S. Santiago, Margaret M. Barbour, **Brendan Choat, John R. Evans**, Rana Munns and **Adrienne Nicotra**. *Functional Plant Biology*, 37:687-693

This paper is the feature article of the current issue of *Functional Plant Biology* and is accompanied by an editorial by Editor Rana Munns.

The paper introduces an exciting new resource: a wiki for protocols in ecological and environmental plant sciences that is supported by the ARC Vegetation Function Network and CSIRO Publishing. The editorial board includes John Evans and Brendan Choat, PS, and Adrienne Nicotra, EEG, is the Editor in Chief.

The site launched last week with a presentation at the Association for Tropical Biology and Conservation in Bali and will be presented next week at the Ecological Society of America meeting in Pittsburgh and the Botanical Society of America meeting in Providence. Several members of RSB have had substantial involvement in the development of the site and have contributed both protocols and articles.

The site is open for browsing, users can register to edit and upload protocols. All are most welcome to visit and join the PrometheusWiki community. http://prometheuswiki.publish.csiro.au/

This newsletter is distributed monthly by email and hard-copy, and is archived at <a href="http://biology.anu.edu.au/Newsletter">http://biology.anu.edu.au/Newsletter</a>. Contact <a href="Sharyn Wragg">Sharyn Wragg</a> to submit material for future issues.

#### WELCOME HANNA KOKKO

Professor Hanna Kokko, Professor of Animal Ecology at the University of Helsinki has been awarded an <u>ARC Laureate Fellowship</u> that will enable her to take up a position in RSB, in the Division of Evolution, Ecology and Genetics, later this year.

Hanna's original degree was in engineering, but she switched to the field of evolutionary ecology for her PhD (University of Helsinki, 1997). This was followed by postdoctoral positions in Cambridge and Glasgow. She has held the position of Professor of Animal







Ecology at the University of Helsinki since 2004. Hanna has won a number of international prizes and in 2007 became the youngest member of the Finnish Academy of Science and Letters (the Finnish equivalent of the Australian Academy of Science). She is on the Board of Reviewing Editors for Science.

Hanna is also a committed teacher. She has written a text on mathematical modelling in biology, and has won awards for public communication of science.

Hanna is a longstanding visitor to the School and she has active collaborations with a number of labs in EEG. She has been an adjunct Professor at the ANU since 2007 and has been here on sabbatical for the past year. She is presently back in Finland, but we will look forward to welcoming her back, as a permanent member of staff, later in the year.

http://www.anu.edu.au/BoZo/staffandstudents/staffprofiles/kokko.

### PAPERS ACCEPTED

Atkinson, L.J., Campbell, C.D., Zaragoza-Castells, J., Hurry, V.M. and Atkin, O.K. Growth temperature and scaling relationships linking photosynthetic metabolism to leaf functional traits. *Functional Ecology*.

Booksmythe, I., Kokko, H., Jennions, M.D. Sexual selection: the weevils of inbreeding. Current Biology.

Foret, S., Seneca S., de Jong, D., Bieller, A., Hemmrich, G., Augustin, R., Hayward, D.C., Ball, E.E., Bosch, T.C.G., Agata, K., Hassel, M., Miller, D.J. Phylogenomics reveals an anomalous distribution of USP genes in metazoans. *Molecular Biology and Evolution*.

Gorsuch, P.A., Sargent A., Penfield, S., Quick, W.P. and Atkin, O.K. Systemic low temperature signaling in Arabidopsis. Plant and Cell Physiology.

Hassan, S., Behm, C.A., and Mathesius, U. Effectors of plant parasitic nematodes that re-program root cell development. Functional Plant Biology.

Lockett G.A., Wilkes F, Maleszka, R. Brain plasticity, memory and neurological disorders; an epigenetic perspective. NeuroReport (review).

Maddess, T., Ho, Y.-L., Wong, S.S.Y., Kolic, M., Goh, X.-L., Carle, C.F., James, A.C. Multifocal pupillographic perimetry with white and colored stimuli.

Matthews, P., Schindler, N., Howles, P., Arioli, T., and Williamson, R., A CESA from *Griffithsia monilis* (Rhodophyta, Florideophycae) has a family 48 carbohydrate-binding module. *J Exp. Bot*.

Mengersen, K., Jennions, M.D., Schmid, C. Chapter 14: Non-independence: methods for combining effect sizes within studies. *In* 'Handbook of Meta-analysis in Ecology and Evolution'. Princeton University Press.

Pengelly, J.J.L., Sirault, X.R.R., Tazoe, Y., Evans, J.R., Furbank, R.T., von Caemmerer, S. Growth of the C<sub>4</sub> dicot *Flaveria bidentis:* photosynthetic acclimation to low light through shifts in leaf anatomy and biochemistry. *J. Exp. Bot.* 

Phillips, M.J. and Penny, D. Mammalian phylogeny. *In* Encyclopedia of Life Sciences.

Ponton. F., Lalubin, F., Fromont, C., Wilson, K., Behm, C., Simpson, S.J. Hosts use altered macronutrient intake to circumvent parasite-induced reduction in fecundity. *Int. J. Parasitol.* 

Song, L., Chow, W.S., Sun, L., Li, C. and Peng, C. Acclimation of photosystem II to high temperature in two *Wedelia* species from different geographical origins: implications for biological invasions upon global warming. *Journal of Experimental Botany*.

Yuen, T.J., Flesch, I.E.A., Hollett, N.A., Dobson, B.M., Russell, T.A., Fahrer, A.M. and Tscharke, D.C. Analysis of A47, an immunoprevalent protein of vaccinia virus leads to a re-evaluation of the total anti-viral CD8+ T cell response. *J. Virol.* 

Editing: Kiaran Kirk & Sharyn Wragg. Layout: Sharyn Wragg. Banner image: Adrienne Hardham, Pea root.