

# Australian National University

# RESEARCH SCHOOL OF BIOLOGY NEWSLETTER



#### NEW WEBSITE LAUNCHED

RSB's new-look website has been launched, bringing the School in line with the new ANU branding. Many thanks to Sharyn Wragg and Kim Holburn for making this happen.

#### HANDOVER OF KEYS TO THE NEW BUILDING

Nine-hundred and fifty concrete trucks, 400,000 man hours, 24,000 cups of coffee and 54,000 biscuits later, the keys to the new Biology Building were handed over to the University on Friday 1 July. The Director, expressed the School's appreciation to the many people involved in the design and construction of the building, as he received the keys to the multi-million dollar facility.

The official opening and naming ceremony of the building will be held later in the year, on a date to be announced.





#### **BIODIVERSITY INITIATIVE**

Owen Atkin's lab, has been invited to join an extended field campaign assessing the biodiversity and carbon balance of Amazonian forests. The field work will focus on collecting data on rates of leaf respiration, photosynthesis and related leaf traits as part of a wider project supported by organizations in the USA, UK and local Peruvian authorities. As part of this work, Lasantha Weerasinghe and Odhran O'Sullivan will spend two months in Southern Peru to quantify rates of leaf gas exchange starting mid July 2011. The lab also recently contributed data to a new global data base on plant traits leading to a publication in Global Change Biology.

#### GRANTS

Hanna Kokko. EEG. with Finnish professors Johanna Mappes, Jaana Bamford and Liselotte Sundtröm, have won a multi-million Euro grant to form a Finnish Centre of Excellence network that will span two Finnish universities (Jyväskylä and Helsinki) as well as the ANU. While Australia is technically not part of Finland, we can now expect a stream of Finnish visitors. Likewise, students and postdocs who join the network will have the opportunity to learn new skills in Finnish labs.

Sophie Callander (Backwell and Jennions labs, EEG) has been awarded a grant by the Lerner Gray Memorial Fund of the American Museum of Natural History. Sandra Binning (Backwell and Keogh labs, EEG) and Dominique Roche (Jennions lab, EEG) have received funding from the Vice-Chancellor and from the University of Washington to attend the five-week course 'Fish Swimming: Kinematics, ecomorphology, behavior, and environmental physiology' at University of Washington, Friday Harbor Laboratories on San Juan Island, Washington, USA.

#### WELCOME & NEW APPOINTMENTS

Thanit Pewnim of Silpakorn University, Bangkok, Thailand is visiting the Cooper lab for one month. He will be working on isolation of hormones and immunohistochemistry of daphniids in relation to the effects of endocrine disruptors in waterways.

#### MEDIA

Hanna Kokko, EEG, media release: <u>Monogamous queens</u> <u>help bees cooperate</u>.

Renee Catullo, Keogh lab, EEG, extensive online and radio coverage for media release: <u>Scientists find new</u> <u>Australian frog.</u>

Stefan Broer, BSB, <u>media</u> release and article: <u>Can</u> protein intake control fat? The weight-loss search continues.

**Bill Foley,** EEG, multiple mentions and an interview with Phillip Adams on <u>Late Night</u> <u>Live</u> regarding <u>comment</u> on the mapping of the *Eucalyptus grandis* genome.

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#### CONGRATULATIONS

**Gonzalo Estavillo,** PS, has been awarded the Australian Society of Plant Scientists Teaching Award for 2011.

The 'plant detectives' team -Adrienne Nicotra, EEG, Gonzalo Estavillo, PS, Ulrike Mathesius, PS and Beth Beckmann, CEDAM – have been recognized with a team citation, and Christopher Fulton, EEG, with an individual citation in the 2011 Australian Learning and Teaching Council (ALTC) Citations for Outstanding Contributions to Student Learning.

Sandra Binning, Backwell and Keogh labs, EEG, was awarded the Michael Hall Student Innovation Award from the Australian Society for Fish Biology.

**Nadiatul Radzman**, Djordjevic lab, PS, won the Alan H. Gibson Prize for the best talk at the Sun Fix Symposium in July in Sydney.

**Tegan Dolstra**, Martin lab, BSB, won best poster at the ASMR New Investigator's Forum for her presentation 'Two to Tango: Just two mutations are required for chloroquine transport via the malaria parasite's chloroquine resistance transporter'.

Haylee Weaver, Alleva Lab, BSB, has been awarded The Australian Biological Resources Study Churchill Fellowship to clarify the taxonomy and systematics of acanthocephalan parasites of Australian tropical fish.

Susan Howitt, BSB, is part of a team including Philip Poronnik, Ian Dawes, Janet Macaulay, Yvonne Hodgson and Louise Lutze-Mann, who have received \$100,000 from the Australian Learning and Teaching Council (ALTC) to develop the 'Collaborative University Biomedical Education Network (CUBENET)'.

## **ANU COLLEGE OF MEDICINE, BIOLOGY & ENVIRONMENT**

#### HR AND FINANCE HAVE MOVED DESKS IN ROBERTSON

Visiting JAG HR and Finance contacts have moved to the desk in the Director's Office foyer, outside Steve O'Connor's office. HR are available Monday, Wednesday and Friday from 9.30am – 12.30pm and Finance are available Wednesday from 1.30pm – 4.30pm.

## PAPERS ACCEPTED

Binning, S.A. and Fulton, C.J. Non-lethal measurement of pectoral fin aspect ratio in coral reef fishes. Journal of Fish Biology.

Callender, S., Jennions, M.D., and Backwell, P.R.Y. Female choice over short and long distances: neighbour effects. *Behavioural Ecology* and Sociobiology.

Djordjevic, M.A., Oakes, M., Wong, C.E., Singh, M., Bhalla, P., Kusumawati, L., and Imin, N. Border sequences of *Medicago truncatula* CLE36 are specifically cleaved by endoproteases common to the extracellular fluids of *Medicago* and soybean. *Journal of Experimental Botany* 

Edwards, M.J., Hinds, L.A., Deane, E.M., and Deakin, J.E. Physical mapping of innate immune genes, mucins and lysozymes, and other non-mucin proteins in the tammar wallaby (*Macropus eugenii*). Cytogenetic and Genome Research.

Faham, A., Herringson, T.P., Parish, C.R., Suhrbier, A., Khromykh, A.A. and Altin, J.G. pDNA-lipoplexes engrafted with flagellin-related peptide induce potent immunity and anti-tumour effects. *Vaccine*.

Fromhage, L. and Kokko, H. Monogamy and haplodiploidy act in synergy to promote the evolution of eusociality. Nature Communications.

Fang, Y., Solomon, P.S., Oliver, R.P. Brown L.S. Photochemical Characterization of a Novel Fungal Rhodopsin from Phaeosphaeria nodorum. *Biochimica et Biophysica Acta - Bioenergetics* 

Gunn, B.F., Baudouin, L., and Olsen, K.M. Independent Origins of Cultivated Coconut (*Cocos nucifera* L.) in the Old World Tropics. *PLoS* ONE 6(6): e21143.

Herringson, T.P. and Altin, J.G. (2011) Effective tumor targeting and enhanced anti-tumor effect of liposomes engrafted with peptides specific for tumor lymphatics and vasculature. *International Journal of Pharmaceutics*.

Jayatilaka, P., Narendra, A., Reid, S.F., Cooper, P., and Zeil, J. Different effects of temperature on the foraging activity schedules in sympatric *Myrmecia* ants. *Journal of Experimental Biology*.

Lehtonen, J. and Kokko, H. Positive feedback and alternative stable states in inbreeding, cooperation, sex roles and other evolutionary processes. *Phil. Trans. R. Soc. Lond.* B.

Magrath, R. D. and Bennett, T. H. A micro-geography of fear: learning to eavesdrop on alarm calls of neighbouring heterospecifics. *Proceedings of the Royal Society of London, B.* 

Mathesius, U., Djordjevic, M.A., Oakes, M., Goffard, N., Haerizadeh, F., Weiller, G.F., Singh, M.B. and Bhalla, P.L. Comparative proteomic profiles of the soybean (*Glycine max*) root apex and differentiated root zone. *Proteomics*.

Maurer, G., Double, M. C., Milenkaya, O., Süsser, M. and Magrath, R. D. Breaking the rules: sex roles and genetic mating system of the pheasant coucal. *Oecologia*.

Ribi, W., Warrant, E., and Zeil, J. The organization of honeybee ocelli: Regional specializations and rhabdom arrangements. Arthropod Structure & Development.

Sabeti, F., Maddess, T., Essex, R.W., and James, A.C. Multifocal pupillographic assessment of age-related macular degeneration. *Optom Vis* sci.

Saur, I.M., Oakes, M., Djordjevic, M.A. and Imin, N. Crosstalk between the nodulation signaling pathway and the autoregulation of nodulation in *Medicago truncatula*. New Phytologist.

Siddle, H.V., Deakin, J.E., Coggill, P., Whilming, L., Harrow, J., Kaufman, J., Beck, S., and Belov, K. The tammar wallaby major histocompatibility complex shows evidence of past genomic instability. *Genome Biology*.

Brown, S.G.A., Van Eeden, P., Wiese, M.D., Mullins, R.J., Solley, G.O., Puy, R., Taylor, R.W., and Heddle, R.J. Causes of ant sting anaphylaxis in Australia: the Australian Ant Venom Allergy Study. *Medical Journal of Australia*.

Sommerville, K.E., Sack, L., and Ball, M.C. Hydraulic conductance of *Acacia phyllodes* (leaves) is driven by primary nerve (vein) density. *Plant, Cell & Environment.* 

van de Pol, M. R-package odprism: Optimal Design and Performance of Random Intercept and Slope Models.

Wang, C., Deakin, J.E., Rens, W., Zenger, K.R., Belov, K., Graves, J.A.M., and Nicholas, F.W. A first generation integrated tammar wallaby map and its use in creating a virtual tammar wallaby first-generation genome map. *BMC Genomics.* 

Wang, C., Webley, L., Wei, K., Wakefield, M.J., Patel, H.R., Deakin, J.E., Alsop, A.E., Graves, J.A.M., Cooper, D.W., Nicholas, F.W. and Zenger, K.R. A second-generation anchored genetic linkage map of the tammar wallaby (*Macropus eugenii*). *BMC Genetics*.