

Research School of Biology Newsletter

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ANU COLLEGE OF MEDICINE, BIOLOGY AND ENVIRONMENT

CONGRATULATIONS

Awards and prizes



Fubao Sun (Roderick Lab, PS) will receive the 2014 Outstanding Young Scientist in Hydrological Sciences Award from the European Geosciences Union.

Will Feeney (Langmore Lab, EEG) was awarded the Best Student Talk prize at the Australasian Evolution Society Conference.

Debora Veliz (Mathesius Lab, PS) won a Student Poster Prize at the <u>Combio2013</u> conference in Perth.

OTHER NEWS

NHMRC grants

Understanding the role of the putative phospholipid translocase ATP11c in B cell development. ANU. **Stefan Bröer** (BSB); Anselm Enders; **Richard Callaghan** (BSB); \$440 K.

Regulation of T cell effector function in peripheral tissues. University of Melbourne. Thomas Gebhardt; Sammy Bedoui; **David Tscharke** (BSB): \$675 K.

NHMRC Early Career Fellowships were awarded to **Rong Chen** and to **Natalie Spillman**, both through BSB.

Vale

Martin J Canny (Professor, Visiting Fellow, PS) passed away peacefully on Tuesday, 29 October 2013, after a brief illness.

PHD SUBMISSIONS AND AWARDS

Leon Lin (Tscharke Lab, BSB) has had his thesis 'Effect of inoculation route on priming pathway and CD8+ T cell immunodominance during vaccinia virus Infection' accepted. **Michael (Yik Chun) Wong** from the same lab submitted his thesis 'Investigation of CD8+ T cell priming by two commonly used vaccinia virus strains'.

Jing Ji formerly JCSMR and recently O'Neill Lab (BSB) has submitted her thesis 'Effects of heat labile enterotoxin B subunit on murine dendritic cells'. Sawang Petvises from the same lab submitted his thesis 'Hematopoiesis in the context of the spleen microenvironment'.



Christmas Island red crabs make a two-week migration from their forest burrows to the shore to mate. Allison Shaw and colleague found that a late or light rainy season can delay or entirely cancel this process (see items under 'MEDIA' and 'PUBLICATIONS'). Image: Allison Shaw. This work was supported by grants from the National Geographic/Waitt Institute for Discovery, NSF, and NASA.

MFDIA

Sylvain Forêt (EEG) and colleagues have had a <u>paper</u> published in *Nature*. The paper was <u>reviewed</u> in *Nature News & Views*, and the findings reported in <u>ABC online news</u>.

An article by **Stefan Bröer** (BSB), entitled '<u>Unravelling the vast paper trail</u>' has been published in *The Australian*'s Higher Education supplement (23 October).



Tonya Haff and Rob Magrath (EEG) have had their research featured on <u>ABC Science online</u>. Tonya and Rob found that parent scrubwrens

make a calculated risk when they send an alarm call. The alarm call silences noisy young, but might also alert a predator to the presence of the nest. The <u>paper</u> was published in *Biology Letters* and is <u>featured on the cover</u> with photo of a currawong, which is the scrubwren's major predator.

Jennie Mallela (EEG) has had her research, recently published in <u>PLoS ONE</u>, featured

in an ANU news article, entitled 'Coral skeletons tell historical tale of water pollution.'

Allison Shaw (Kokko Lab, EEG) has had their research on Christmas Island red crabs featured in the media. The paper, published in Climate Change Biology, describes how the timing and success of the breeding migration of the crab is closely related to the amount of rain that falls in the period prior to potential egg release dates, which is in turn related to the Southern Oscillation index. The work was undertaken while Allison was a PhD student at Princeton.

Barry Pogson (PS) and lab, in conjunction with the ARC Centre of Excellence in Plant Energy Biology, designed the world's biggest and bounciest cell - a jumping castle called 'Bio-Bounce', which was unveiled at Floriade.

APPOINTMENTS AND FAREWELLS

Rob Allen (ARC Postdoctoral Fellow, Millar Lab, PS) has left to join the metabolic

Lab Leader profile: Helen O'Neill (BSB)



Lab researching: Extramedullary hematopoiesis which occurs in spleen is a little known phenomenom but

one which has huge potential in regenerative medicine. Currently we are studying the stromal cells which support hematopoiesis and the endogenous progenitors which differentiate within spleen.

Greatest achievement:

We have identified a novel antigen presenting cell type and its lineage origin in both murine and human spleen.

Next big thing:

Merging the study of hematopoiesis with studies on spleen organogenesis which Jon Tan has brought back to the lab.

What do you see as future challenges for your field of research?

Adult stem cells are the future. If we can learn to regulate their development and to transplant them, then strategies for tissue regeneration can be entertained.

engineering group at CSIRO, Plant Industry.

Toni Asher will replace Karen Scholte in the Biology Teaching and Learning Centre, and will start on 4 November. Karen is on secondment to RSPE for 15 months. Brooke Mozley has resigned from her role in the Centre.

Tom Fitzpatrick has joined the Macroevolution and Macroecology group to work with Lindell Bromham (EEG) and Simon Greenhill (ANU College of Asia and the Pacific) studying the rate of evolution of Polynesian languages. Tom has a Masters in Linguistics, his areas of expertise include Phonology, Sanskrit, and Thai.

Megan Head has joined the Jennions Lab (EEG) as a postdoc. Megan has

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returned to the ANU after postdoctoral work in Wisconsin (USA) and London, Leicester and Exeter (UK). Regina Vega Trejo has also joined the Jennions Lab, as a PhD student. She recently completed her MSc at the National Autonomous University of Mexico.

Visitors

Daniel Osorio from the University of Sussex is visiting ANU from 23 October to 21 November, hosted by the ARC Centre of Excellence in Vision. Professor Osorio works on animal colour vision and eye design, visual ecology and the evolution of visual signals. He will be giving several seminars, including one on Wednesday 20 November, Gould Seminar Room. For more information, or if you would like to meet Professor Osorio, please contact Ted Maddess or Lindell Bromham.

Paweł Ręk has joined the Magrath Lab (EEG) as a Visiting Fellow for three years to study acoustic communication in the Rallidae. He is an Assistant Professor in the Department of Behavioural Ecology, Adam Mickiewicz University, Poland, and his time at the ANU is supported by a Mobility Plus grant from the Polish Ministry of Science and Higher Education.

Hiro Shimono, from Iwate university, Japan, is visiting the Evans Lab (PS) until February. Hiro is investigating the impact of CO₂ transported from roots on photosynthesis.

PAPERS ACCEPTED

Allen, RS, Nakasugi, K, Doran, R, Millar, AA & Waterhouse, PM, Facile mutant identification via a single parental backcross method and application of whole genome sequencing based mapping pipelines. Frontiers in Plant Science.

Banea, JP, Bradbury JH, Mandombi C, et al, Effectiveness of wetting method for control of konzo and reduction of cyanide poisoning by removal of cyanogens from cassava flour. Food Nutrition Bulletin.

Deveson, I. Li. J & Millar, AA, MicroRNAs with analogous target complementarities perform with highly variable efficacies in Arabidopsis, FEBS Letters.

Dobson, BM & Tscharke, DC, Truncation of gene F5L partially masks rescue of vaccinia virus strain MVA growth on mammalian cells by restricting plaque size, Journal of General Virology.

Fulton, CJ, Depczynski, M, Holmes, TH, et al, Sea temperature shapes seasonal fluctuations in seaweed biomass within the Ningaloo coral reef ecosystem. Limnology & Oceanography.

Haff, TM & Magrath, RD, To call or not to call: parents assess the vulnerability of their young before warning them about predators. Biology Letters.

He, Z, Zhou, J, Lu, X & Corry, B, Bioinspired graphene nanopores with voltage tunable ion selectivity for Na+ and K+, ACS Nano.

Jakhetia, R, Talukder, K & Verma, N, Isolation, characterization and comparative genomics of bacteriophage SfIV: a novel serotype converting phage from Shigella flexneri. BMC Genomics.

Mead, O, Thynne, E, Winterberg, B & Solomon, PS, Characterising the role of GABA and its metabolism in the wheat pathogen Stagonospora nodorum. PLoS One.

Periasamy, P & O'Neill, HC, In vitro hematopoiesis reveals a novel denDritic-like cell present in murine spleen Current Stem Cell Research & Therapy.

Raina, J-B, Tapiolas, DM, Forêt, S, et al, DMSP biosynthesis by an animal and its role in coral thermal stress response, Nature.

Roche, DG, Lanfear, R, Binning, SA, Schwanz, LE, Cain, KE, Haff, TM, Kokko, H, Jennions, MD & Kruuk, LEB, Troubleshooting public data archiving: suggestions to increase participation. PLoS Biology.

Shaw, AK & Kelly, KA, Linking El Niño, local rainfall, and migration timing in a tropical migratory species, Global Change Biology.

Starrs, D, Ebner, BC, Eggins, SM & Fulton, CJ, Longevity in maternal transmission of isotopic marks in a tropical freshwater rainbowfish and the implications for offspring morphology. Marine & Freshwater

Tumer, E, Bröer, A, Balkrishna, S, Julich, T, Bröer, S, Enterocyte-specific regulation of the apical nutrient transporter SLC6A19 (B0AT1) by transcriptional and epigenetic networks, Journal of Biological Chemistry.

Walker, JA, Alfaro, M, Noble, MM, & Fulton, CJ, Body fineness ratio as a predictor of maximum prolonged-swimming speed in coral reef fishes. PLoS ONE.