

NEWSLETTER

NEWS

Source: ANU Media Release
 Wednesday, August 19th, 2009

FROG AND REPTILE FINDER WINS TOP ACCOLADE

An ANU researcher whose discovery of an unknown tree frog species shed new light on the relationship between hybridization and the evolution of new species won a Eureka Prize in Sydney last night.

Dr Conrad Hoskin from the Research School of Biology at ANU has been awarded the 2009 Australian Biological Resources Study Eureka Prize for Early Career Species Discovery, worth \$10,000. The prize is given to a researcher aged 35 or under, as part of the Australian Museum Eureka Prize ceremony.

Despite being at the green end of his career, Dr Hoskin has been involved in the discovery and naming of nine new frog and reptile species. He was also involved in the recent rediscovery of the Armoured Mist Frog, *Litoria lorica*, thought to have been lost to the world because of disease. Dr Hoskin has also been researching the level of evidence and types of data required to say something is a new species, and has worked extensively to make sure new species discoveries lead to direct conservation outcomes.

One of his most impactful achievements to date was the discovery of the *Litoria myola* species of green-eyed tree frog, which lives in northern Queensland and

evolved from the *Litoria genimaculata* tree frog. Historic climate change forced the *Litoria genimaculata* frog to diverge into northern and southern lineages. When further climate change brought the habitat of these two lineages back together, a population of the southern lineage evolved into the *Litoria myola* species.



Dr Hoskin and colleagues were able to use the interactions between the new species and its evolutionary forbears to explore how the risks of hybridization – or breeding between species that leads to non-viable or less healthy offspring – affected animal behaviour. The researchers found that the southern females, but particularly those of the *Litoria myola* species, were much pickier mates than their northern relatives, as tadpoles born to southern females by northern fathers were much more likely to

die. The research suggests that species can evolve strategies to avoid negative hybridization. In this work, Dr Hoskin and colleagues also demonstrated a process that can lead to the rapid formation of new species.

"Dr Hoskin's work has not only added to our knowledge about the diversity of life on this planet, it has also helped us to understand more about the forces that drive the emergence of new kinds of life," said ANU Vice-Chancellor Professor Ian Chubb. "I congratulate him on winning this prestigious award, and know that all of us at ANU are proud of him."

The \$10,000 ABRS Eureka Prize for Early Career Species Discovery is awarded to an early career Australian individual or group for outstanding research in discovering, naming and identifying Australia's fauna and flora that has provided, or has the potential to provide, innovative or positive outcomes for industry or the environment. Dr Hoskin is an Australian Research Council Postdoctoral Fellow in the Research School of Biology at ANU.

Filed under: Media Release, ANU College of Medicine
 Biology & Environment, Environment, Science
 Reference: <http://www.anu.edu.au/BoZo/Scott/KeoghLab/ConradHoskinHome.html>
 Contacts: Eureka Prizes: [Katie McMurray](#)
 02 9387 8285, 0422 590 321, ;
 ANU media office: [Simon Couper](#) 02 6125 4171,
 0416 249 241.

Issue 5 | 28 August 2009

CONGRATULATIONS

Dr Conrad Hoskin, Keogh Lab, winner of the Eureka Award for Early Career Species Discovery. Conrad was presented with his award by Chris Darwin, the great, great grandson of Charles Darwin (see picture).

Jochen Smolka, Visual Sciences, whose PhD thesis has just been accepted. The title is 'Sampling Visual Space: Topography, colour vision and visually guided predator avoidance in fiddler crabs (*Uca vomeris*)'.

WELCOME

Genomic Interactions Group welcomes **Farzaneh Kordbacheh**, a new student from Iran. Farzaneh is doing her PhD with Michael Djordjevic, GIG, and Chris Parish, JCSMR in the area of 'Plant molecules with biological activity on mammalian cells'.

GRANTS

Gary Bryant, RMIT, Marcus Schortemeyer and Marilyn Ball, Functional Ecology, have been awarded an Australian Antarctic Science Grant (\$17,192) for their project 'Water content and freezing tolerance of Antarctic mosses – indicators of climate change'.

Marilyn Ball, Marcus Schortemeyer, Functional Ecology, and Sharon Robinson, University of Wollongong, have been awarded an Australian Antarctic Science Grant (\$27,590) for their project 'Climate change and carbon gain in Antarctic mosses'.

NOTICES

RSB STUDENT CONFERENCE 8 and 9 October 2009

PhD and MPhil students from RSB will give presentations on their research in Manning Clark Lecture Theatres 2, 4 and 5. All members of the School are encouraged to attend. To register and submit your abstract, [click here](#).

The submission deadline is 8 September 2009. The Conference will be organised into three parallel, theme-based sessions. Talks will be 15 minutes plus 5 minutes of questions. Lunch and morning and afternoon teas will be provided.

If you have any comments or queries please contact:

anton.wasson@anu.edu.au
gabriel.james@anu.edu.au
renee.catullo@anu.edu.au

SEMINARS

Date for your diary: **ACT Mass Spectrometry Symposium** is scheduled for Thursday 8 October and will be held here at RSB in the Robertson Lecture Theatre. The meeting will be opened by Professor Margaret Sheil, current head of the ARC, who will talk on the outlook for research funding in Australia. The programme will be finalised in mid-September. There is no registration fee but we ask people to register for catering purposes by email to charles.hocart@anu.edu.au

Plant Biology Seminar Series

The coordinators of the Plant Biology Seminar Series are seeking speakers to present their latest research discoveries. The following dates are vacant and you are invited to contact christopher.cazzoneli@anu.edu.au if you wish to present on September 2, 9, 23 or 30.

RSB External Website Draft release for comment

The draft site is anticipated for release to the School for comment within the next week or so.

A call will soon be made to those interested in forming a committee to govern content management, site architecture, and web-mastering.

Thanks to Marie McNamara, Barbara Van Leeuwen and the Honours conveners for their assistance in developing this draft.

This newsletter is distributed fortnightly by email and hard-copy, and is archived at <http://insider.rsbs.anu.edu.au/RSBNewsletter>. Please contact [Diane Whitehead](#) to be added to the mailing list and to submit material for future issues.

RSB RESEARCHER JOINS THE ARC CENTRE OF EXCELLENCE FOR CORAL REEF STUDIES

Dr Chris Fulton, a Lecturer in the Research School of Biology, has been invited to become the newest Chief Investigator in the ARC Centre of Excellence for Coral Reef Studies, which was recently awarded an ARC funding extension to 2013.

Founded in 2005, the Centre is a partnership among coral reef researchers at James Cook University (JCU), the Australian Institute of Marine Science (AIMS), The Australian National University (ANU), Great Barrier Reef Marine Park Authority (GBRMPA), University of Queensland (UQ) and University of Western Australia (UWA). With a budget of ~A\$40 million over the next 5 years, 54 chief and partner investigators, 24 post-doctoral fellows and 155 PhD students, the Centre is the world's largest concentration of coral reef scientists.

The Centre's activities span five programs: 1) Evolutionary and environmental change, 2) Understanding and managing coral reef biodiversity, 3) Marine reserves and reef connectivity, 4) Genetic, molecular and physiological processes, and 5) Resilience of



linked social-ecological systems. Staff and students in Chris' lab will be contributing to Program 2 through their research on biophysical coupling in coral reef ecosystems. This will involve several

multidisciplinary projects that combine techniques in biomechanics, ecology and oceanography to explain how and why groups of coral reef species change their phenotype, distribution and abundance in response to changes in their thermal and hydrodynamic environments.



Chris will travel to Centre headquarters in Townsville this month to give his inaugural research seminar, where he will outline one of his current projects: unraveling why seemingly healthy coral reefs suddenly change into algae-

covered reefs with a huge loss of biodiversity. Chris is using his expertise in algal biomechanics and oceanography to develop analytical models that explain why reefs sheltered from waves change into algal barrens while wave exposed reefs remain healthy under similar levels of fishing pressure, eutrophication and thermal stress.



PAPERS ACCEPTED

Antoni, E., Rybak, K., Tucker, M., Hane, J.K., Solomon, P.S., Drenth, A., Shanker, M. & Oliver, R.P. (2009) Ubiquity of ToxA and absence of ToxB in Australian populations of *Pyrenophora tritici-repentis*. *Australasian Plant Pathology*.

Barry P. H., Coster H. G. L. and Chow W. S. (2009) Biographical memoir: Alexander Beaumont Hope, Australian biophysicist, 1928-2008. *European Biophysics Journal*.

Fernández W.D., Bergvall-Kåreborn B., Djordjevic M.A., Lovegrove K., and Nayar S. Using design as a boundary spanning object in climate change mitigation projects. *Australian Journal of Information Systems*.

Hashemi H., KhabazKhoob M., Iribarren R., Morgan I.G., Mohammad K. and Fotouhi A. Hyperopic shift in the elderly: the Tehran Eye Study, *British Journal of Ophthalmology*.

Hogslund, N., Radutoiu, S., Krusell, L., Voroshilova, V., Hannah, M.A., Goffard, N., Sanchez, D.H., Lippold, F., Ott, T., Sato, S., Tabata, S., Liboriussen, P., Lohmann, G.V., Schauser, L., Weiller, G.F., Udvardi, M.K. and Stougaard, J. Dissection of symbiosis and organ development by integrated transcriptome analysis of lotus japonicus mutant and wild-type plants, *PLoS one*, 4, e6556.

Kahn A, Mautz B, Jennions MD. Females prefer to associate with males with longer intromittent organs in mosquitofish. *Biology Letters*.

Liu, Z., Faris, J.D., Oliver, R.P., Tan, K-C., Solomon, P.S., McDonald, M.C. McDonald, B.A., Nunez, A., Lu, S., Rasmussen, J.B. & Friesen, T.L. (2009) SnTox3 acts in effector triggered susceptibility to induce disease on wheat carrying the *Snn3* gene. *PLoS Pathogens*.

Martin, R.E., Ginsburg, H. and Kirk, K. (2009) Membrane transport proteins of the malaria parasite. *Molec. Microbiol*.

Meyer, E.H., Tomaz, T., Carroll, A.J., Estavillo, G., Delannoy, E., Tanz, S., Small, I.D. Pogson, B.J., and Millar, A.H. (2009) Remodeled respiration in *ndusf4* with low phosphorylation efficiency suppresses *Arabidopsis* germination and growth and alters control of metabolism at night. *Plant Physiology*.

Stagg, R., Tang, Swee-Seong, Carlin, N., Talukder, K., Cam, P. and Verma, N. K. A novel glucosyltransferase involved in O-antigen modification of *Shigella flexneri* serotype 1c. *Journal of Bacteriology*.