

# Archaeology and Natural History

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## ARC Success for ANH!

In the recent round of ARC Fellowship announcements ANH came out as the most successful university department in Australia for the number of Fellowships being awarded in any one department. All applicants who applied through ANH where successful with 1 Laureate Fellowship and 3 Future Fellowships being awarded. The value of these fellowships to the department total over \$4.5million over 5 years. Details of the applicants and their projects are below.

### Laureate Fellowship

Prof Susan O'Connor, *Understanding modern human dispersal, adaptation and behaviour en route to Australia*

Project Summary: This project will investigate modern human dispersal, adaptations and behaviour along the maritime route to Australia. Using strategic testing of ar-



Sue O'Connor

chaeological and biotic deposits, museum collections and predictive modelling, it will help us understand the unique adaptive and cognitive abilities that were required to make this journey.

The award also supports two post doctoral fellowships (FLPDRA) for 5 years and four PhD scholarships. Sue will begin her Laureate project in 2013.

### Future Fellowships

Dr Stuart Bedford, *The archaeology of ritual architecture on the islands of Malakula, Vanuatu*

Project Summary: This project will define the historical trajectory, function and role of ritual architecture across Malakula, Vanuatu, furnishing crucial comparative data and contributing to debates on the dynamics and manifestations of long-term social change across the Pacific. Contemporary issues such as population growth, land and food security will be addressed.

Dr Judith Cameron, *The Maritime Silk Route as a world system*

Project Summary: New archaeological evidence suggests that cultural interaction along the Maritime Silk Route was more complex than previously held. By using new analytical techniques to source artefacts from pre-Oc Eo sites in South Vietnam, this project will provide new insights into the production

and distribution of trade goods 2000 years ago.



Stuart Bedford giving a talk to fieldworkers in Vanuatu.

Dr Marc Oxenham (to be held within CASS), *Origins, health and demography of ancestral Southeast Asians: 2500 BC to 1000 AD*

Project Summary: This project will investigate the origins, demography and health of ancestral Southeast Asian peoples, particularly during and after the Neolithic revolution. This crucial and transformative period in prehistory ushered into Southeast Asia the first farmers, novel technological changes, waves of new migrants and hitherto unknown diseases.

“... Red Lily Lagoon was re-visited again after a successful field-season funded by the George Chaloupka award in 2011.”

## Red Lily Rock Art

Between July and August a team led by ANH staff and students, including **Tristen Jones**, **Christian Reepmeyer**, **Daryl Wesley**, Bruce Brown and Natalie Langowski, spent six weeks in the field working near the East Alligator, based out of Jabiru. Our study area, Red Lily Lagoon, was re-visited again after a successful field-season funded by the George Chaloupka award in 2011. This year the team visited a number of rock-art sites, and undertook a detailed rock-art recording of a number of archaeologically significant sites - -- containing rock-art styles that are assumed to have great antiq-



uity according to established western Arnhem Land rock-art chronologies. Rock-art motifs were re-

recorded, a PXRf study of motifs was undertaken by **Christian Reepmeyer**, and motifs were also sampled for radiocarbon dating. Some members of the team are returning again this month with collaborators from ANSTO, to undertake further sampling for the rock-art dating program being supported by an AINSE grant.



Christian with the pXRF.

The field season was a great success with the returning to country being welcomed by the Traditional Owners, and in the coming months the team will be collaborating with young members of the clan estate, and assisting in practical field training in cultural heritage management, particularly site mapping being led by **Katherine Seikel**. This practical training is a pilot project with the aim of supporting the development of a ranger program in the region.

## Recent Publications

**Cameron, J.** 2012. Léonard Auroousseau's hypothesis revisited: the intersection between history and archaeology, In *Crossing Borders in Southeast Asian Archaeology*. (Bonatz, Reinecke and Tjoa-Bonatz, eds.) Singapore: National University of Singapore Press. Pp.221-230.

**Hung, Hsiao-chun**, M. Carson, and P. Bellwood. 2012. Earliest settlement in the Marianas - a response. *Antiquity* 86(333): 910-914.

**Hung, Hsiao-chun.** 2012. Sa

Huynh- Kalanay and Pre-Sa Huynh Interaction across the South China Sea. *Bulletin of Science* (Thông Báo Khoa Học) 1: 45-58. [In Vietnamese.]

**Hung, H.** 2012. From the Yangtze Valley of southern China to the Pacific-an update of archaeological perspective on Austronesian prehistory. Paper published in the proceedings of the Fourth International Conference on Sinology, Academia Sinica, Taipei.

**O'Connor, S.**, A. McWilliam, J.

**Fenner**, and **S. Brockwell.** 2012. Examining the Origin of Fortifications in East Timor: Social and Environmental Factors. *The Journal of Island and Coastal Archaeology* 7: 200-218.

Zhang, C. and **Hung, H.** 2012. The emergence of agriculture in southern China, In *Physical Anthropology: Selections from Popular Science to Primary Research* (Weiss, ed.). San Diego: University Readers. Pp. 227-242. [Paper originally published in *Antiquity* 84(323)]

## Archaeological Field School in Vanuatu, July 2012



Excavation at Matantas Area A.

The 2012 ANU Master's of Archaeological Science Advanced Field School was run at Matantas Village in Big Bay on the north coast of Espiritu Santo (Northern Vanuatu) this July. Stuart Bedford and Matiu Prebble ran the school with the aim of providing students with the experience of doing archaeological research among a remote Ni-Vanuatu community in an archaeologically rich and biologically diverse landscape.

The site was found during a test-pit program in 2006 and is located within the village, situated on the banks the Matantas River on the highest of a series of extensive uplifted terraces. Lapita pottery associated with the initial colonisation of Vanuatu were previously located on this highest terrace and this sequence is one of only two on Santo, the largest island in Vanuatu. The aim of this school was to expand the excavations in order to locate more evidence of both initial human colonization, and later phases of settlement. The phases were interrupted by large-scale volcanic ash deposited periodically over the last 2300 years and probable site aban-

donment due to disease epidemics after initial contact with Europeans after AD 1606.

Eight students were accompanied by three field workers from the Vanuatu Kaljarol Senta during the two-week field school which also employed numerous local people in the excavations, surveying and coring activities. During the school, students and locals were exposed to various methods of archaeological science, including swamp and lake coring, flotation, metal detection and differential GPS to extend the archaeological and ecological knowledge of this important area and to contribute to future management strategies.

The main findings of the project include extensive Lapita-ware pottery and associated lithics, but also evidence of local pottery manufacturing over the last 2000 years. The apparent extent of human occupation prior to European arrival was evident from the excavations but also ground surveys across the eastern side of Big Bay revealed abundant surface scatters of red slip pottery.



Heading out to core Aleka lake on Thion Island, near Port Olry, Espiritu Santo.

### In Other News

The course **Ulrike Proske** convenes, *Master of Natural Hazards and Disasters* has recently won the 2012 ACT Resilient Australia Award in the category 'Education and Training'.

The award is sponsored by the Australian Government Attorney-General's Department and the ACT Government and was presented by Simon Corbell, Minister for Police and Emergency Services.

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**Jack Fenner** was a chair of the Archaeological Science working group at the FAIMS Stocktaking Workshop 2012 held at UNSW in Sydney on 16-19 August. The workshop explored new approaches to archaeological information management and recommended a series of improvements to data collection, storage and distribution.

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The hardwork of **Geoff Clark** and **Christian Reepmeyer** on the Rock Islands World Heritage Nomination paid off when Palau's Rock Islands Southern Lagoon was listed by UNESCO. The site has been listed due to its invaluable natural and cultural heritage.

Congrats to **Geoff** and **Christian!**

## From the Desk of Geoff Hope

Jim Juvik, who spent several years at ANU in the 1980's with his wife Sonia, is now the Professor of Biogeography at Hilo, in Hawaii. He got the idea (and funding) for a meeting on the environments and management problems of high tropical mountains on islands and invited me to attend to represent New Guinea.

So I was off to Hawaii in early August to work for a few days in the little wet town of Waimea with my colleague Mike Prentice on our joint project on ice loss from Mt. Jaya. We drove to the top of the highest mountain and found a rock desert dotted with old cinder cones and large observatories, a huge contrast to the ever-wet boggy New Guinea

summits. After a few days we moved to a school dormitory near Waimea and found about

15 colleagues including climatologists (Henry Diaz and Ray Bradbury) and botanists from Hawaii (Jim Juvik, Dieter Mueller-Dombois, Shelly Crausby, Donna Delcourte), the Andes, the Canaries, Cameroon and Reunion. It rapidly dawned on me that the western Pacific is unfashionable, as most of the other locations have drastically dry summits, usually on active or just extinct volcanos. They also have massive problems with invasive species such as goats and deer which attack the endemics that have evolved free of vertebrate pests. For New Guinea we do have pigs, but in general the flora can look after itself, with a few exceptions.

I learnt a lot from the generally younger scientists at the meeting and had a good work out visiting the only lake on Mauna Kea and the clean air research station on Mauna Loa (which strangely is the active volcano of the pair). US science is big money; the NOAA station has about 18 continuous air analysers, mass specs and an array of instrumentation for meteorology. It was thought that we might reach 400 ppm CO2 but it won't be long before it

comes up. They are the poor cousins to the astronomers who are on Mauna Kea. But even the U. Hawaii PhD student (John DeLay) had 2 on site gas analysers near the Killalea volcano where he is studying the effects of invasion of the forest by guava. John also took us to the fog zone to show us fog drip experiments. With the fog comes weeds, in this case kilometres of gorse. I couldn't help feeling lucky that New Guinea mountains escape such weed problems, and the 'shoot 'em up hunters,' even while noting that I was at the conference precisely because no one has gone on after me to study the New Guinea mountains in detail.

Of course the meeting was not all free lunches, as we all had to produce a paper for a special volume of *Arctic, Antarctic and Alpine Research*. But it was a pleasure to wheeze after the fit mountain people and ask dumb questions. And Jim organises a great meeting with luai, beers and slack key guitars. After the meeting he was off for a 10 day student field trip so I hope he held up.



Workshop participants on 100 year old lava flows, Mauna Loa.

## Kimberley Fieldwork

A large team has just returned from fieldwork in the southern Kimberley. They include **Sue O'Connor**, **Tim Maloney**, **Ella Ussher**, **Rose Whitau** and **Josue Gomez**. They have been re-excavating several sites Sue excavated in 1995 in the Windjana Gorge region to gain larger samples of Pleistocene-aged material. They also excavated a newly discovered shelter, Mt Behn, which has an extensive rock art panel. Many new sites

including painted and engraved rock art, extensive surface artefact scatters and raw material quarries were located and recorded.



2012 Kimberley fieldcrew.

## First IARU Global Summer Program Course

### Long-term Biodiversity and Climate Change in the Asia-Pacific Region

A three week intensive senior undergrad course was successfully completed in July through ANH under the new International Alliance of Research Universities Global Summer Program, which takes advantage of the academic strengths of partner universities in IARU to offer highly driven students the opportunity to study together during the (northern hemisphere) summer. Staff contributing to the course included **Simon Haberle**, **Mi-**

**chael-Shawn Fletcher**, **Mark Burrows** and **Jasmyn Lynch** (UCan). This year students from Oxford University, University of Copenhagen, Peking University, National University of Singapore, University of California Berkeley, ANU and UNSW came together for a week of lectures at ANU followed by 2 weeks of fieldwork and laboratory work in the Wet Tropics of northeast Queensland. The course will be open to Masters of Arch. Science students in 2013. For more details visit [www.iaruni.org](http://www.iaruni.org).



Students at Chumbrumba Pocket .

## Conference Season

**Janelle Stevenson**, **Ulli Proske**, **Feli Hopf** and **Jay Chin** recently attended the 13th International Palynological Congress and 9th International Organisation for Palaeobotany Conference in Tokyo. The conference attracted approximately 800 delegates, which included around 15 Australians. **Janelle** and **Ulli** co-convended a session along with colleagues Zhen Li from China and Thi Mai Huong Nguyen from Vietnam titled "Late Quaternary Environments in Southeast Asia." **Ulli** and **Hermann Behling** from the Uni-

versity of Gottingen also co-convended "Tropical coastal environments: Drivers and consequences of change in the late Quaternary". Both sessions were well attended and contained some interesting new work from southeast Asia and Australia, including some really interesting high resolution records and refined taxonomic work from China. **Jay** and **Feli** both presented excellent posters that will be on display in the upstairs corridor soon. Although the hot steamy weather took many by surprise, Tokyo

was a great conference city and an exciting time outside of proceedings was had by all. ---  
 In July, **Katherine Seikel** and **Ella Ussher** attended the 8th International Conference on Easter Island and the Pacific in Santa Rosa, CA. **Ella** presented preliminary results of starch grain analysis from Talasiu, Tonga. **Katherine** was involved in the presentation of two papers related to her 2011 fieldwork on monumental mortuary structures from Pohnpei, Micronesia. They both received useful feedback from other conference attendees.



Group photo at the Tokyo IPC.

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**Simon Haberle** and **Mark Burrows** attended the XII International Palaeolimnology Symposium in Glasgow (UK), 21-24 August 2012. The conference brought together over 350 international delegates to present on a wide range of topics from stable isotope analysis and palaeoenvironmental statistics through to a host of biotic proxy records (e.g.

diatoms, chironomids) from around the globe. **Simon** presented a keynote on his palaeoecological research on human impacts and climate change in New Guinea, and **Mark** presented a talk on recent results from his PhD work on past wet-dry phases on the Atherton Tableland of northeast Queensland. ---

## Upcoming Faunal Analysis Masterclass

### Faunal Analysis for Archaeology and Palaeoecology - November 12-18

The cross-collegiate Master of Archaeological Science program is currently preparing a new course in vertebrate faunal analysis as part of its Master Class series. Held over seven days in November at the ANU, the intensive training course will be led by Ken Aplin from the Smithsonian Institution and supplemented by contributions from academics including **Jack Fenner**. Through a combination of tutorials, hands-on experience and local excursions, its key aim is to provide basic vocational training in vertebrate faunal

analysis. These will range from the practical methods required to recover, preserve and identify faunal remains, through to methods of quantification and interpretation in the dual contexts of archaeology and palaeoecology.

The Master Class (ARCH8037) is open to Master of Archaeological Science program students with some places available to professionals on a fee-paying basis. The Master Class series is part of a growing number of short course options that

provide opportunities for part-time study, distance learning and flexible program delivery. Details of the program, booking and costs will be available soon:

[archaeological.science@anu.edu.au](mailto:archaeological.science@anu.edu.au)



“This course was definitely a once-in-a-lifetime experience ...”

## Intensive Course on Archaeology in China

**Hsiao-chun Hung** and seven ANU students visited China in July as part of the ASIA 3051/6151 course. They examined significant archaeology sites, museums, research institutes and World Cultural Heritage sites in Zhejiang and Jiangsu Provinces. The students were accommodated most hospitably by museum directors and Chinese archaeologists. As a pleasant

surprise before the students left the country, their course was reported by several Chinese newspapers.

The students were especially excited to see fantastic archaeological discoveries, such as Liangzhu (3000 BC), Tianluoshan (5000 BC) and Kuahuqiao (7000 BC) Neolithic remains, the cutting-edge of modern museum exhibi-

tions, as well as to enjoy luxuriant banquets treated by Chinese hosts in many cities! As one of the students noted in her field journal, “I feel very lucky that I was able to gain such great access to the many sites and museums we have visited, and listen to the lectures of so many key figures in the field of archaeology in China. This course was definitely a once-in-a-lifetime experience that I have learnt so much from.”



Hsiao-chun with the students in China.

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Research in Archaeology and Natural History at the ANU School of Culture, History and Language aims to understand prehistoric human societies, the environments in which they developed and the environmental consequences of human presence. Departmental research ranges from southeast Asia and the Pacific, through the tropical forests of New Guinea and the savannahs of Australia, to the islands of Oceania.

Field research in ANH is supported by well-equipped laboratories that were fully updated and refurbished during 2009. Our laboratories support research into prehistoric textiles, archaeobotanical remains, rock art, prehistoric environments, zoological material and ceramics. ANH houses the largest pollen reference collection in Australia, as well as plant, bone, shell and ceramic collections. We also have access to world-class ANU facilities for archaeological dating, stable isotope analysis, and electron microscopy.

## Upcoming Events ...

### Morning Teas

9th October - Hosted by Ulli Proske and Julie Robert, 10:30 am

6th November - Hosted by Janelle Stevenson and Tim Maloney, 10:30 am

4th December - Hosted by Fenja Theden-Ringl and Billy O'Foghlu, 10:30 am

### Lunchtime Talks

Please sign up for empty time slots with Janelle.

### Conferences

9-13 December 2012: Australian Archaeological Association Conference, Wollongong, NSW

3-7 April 2013: Society for American Archaeology Meeting, Honolulu, Hawaii