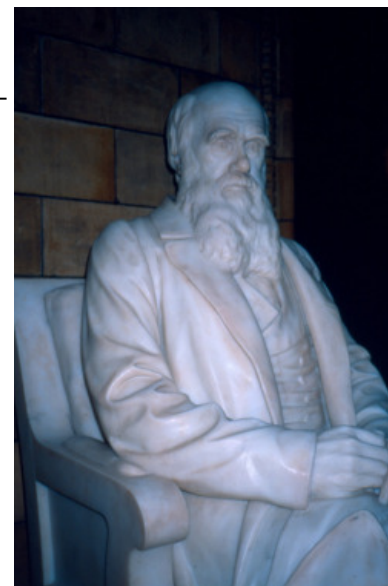


### Celebrating Darwin

On the 24<sup>th</sup> November 1859 a rather ordinary looking book, bound in green cloth and with a only a single illustration, was published in London. This book – Charles Darwin's *On the Origin of Species* - changed biology for ever. Exactly one hundred and fifty one years later The Natural History Museum in Milan, Italy, held its annual day of public lectures on evolution.

This year their theme was 'biodiversity', and the opening lecture of the day was given by Dr Dave Wilkinson (NSP). Dave's lecture was entitled '*The ecological and evolutionary components of biodiversity; unravelling Darwin's entangled bank*'. In the lecture he concentrated on several aspects of the topic that will be familiar to LJMU students who have attended his lectures or read his books and research papers. His key points were the crucial role of microorganisms in ecological processes, the central importance of ideas of trade-offs in understanding questions in ecology and evolution (such as why the world is not dominated by a very limited number of species) and the need for a global approach to ecology that can help address all the changes humans are causing to the planet. On this latter point he discussed James Lovelock's ideas on Gaia as one important way of thinking about these problems at a planetary scale.



### Clarifying Mindfulness



Dr Peter Malinowski is working with colleagues from the Institute of Psychiatry, University of Bologna, Italy to clarify the conceptual basis underpinning current research into mindfulness and, more generally, meditation practice. While the popularity of mindfulness-based practices in clinical and non-clinical settings is growing exponentially, comprehensive, evidence-based theoretical frameworks for positioning this research is sketchy and inconsistent. For instance, the term mindfulness is conceptualised in several distinct ways, denoting a meditation practice, a state of mind, a personal disposition or even an attitude towards one's own thoughts and feelings. More conceptual clarity is needed to guide the related research. Beyond providing an overview and summary of differences and commonalities regarding the different mindfulness-based approaches, they are working to establish a theoretical framework that accounts for psychological processes underlying the development of mindfulness through meditation practice.

### Domesticating fruit trees for the future

Dr Colm Bowe was an invited scientific committee member at the International Symposium on *Indigenous Fruit Trees for Dryland Africa: Domestication for Use in a Changing Environment* held at the Centre CIEVRA, Allada (Republic of Benin) 25-27 October 2010. The conference was attended by participants from Europe, Africa and Asia.

Colm presented his work on looking at the density and environmental niche of the fruit tree species tamarind (*Tamarindus indica*). This was partly based on work he had carried out with local colleagues in Senegal. This work assessed the species potential to adapt to changing climates and identified possible future refugia. The conference was organized by members of the European Union funded DADOBAT-Project on which Colm previously worked. The projects objectives were to develop sustainable production systems of indigenous fruit tree species in three West-African countries based on characterization, conservation and use of local genetic resources. *Right: Colm talks to Dr Baragur N.*



*Divakara from the Indian Council of Forestry Research and Education on a visit to the Africa Rice Centre, a CGIAR (Consultative Group on International Agricultural Research) centre in Cotonou, Benin.*

## New researchers in the School

*Christina Stanley* has started her PhD about equid social behaviour under the supervision of Dr. Claudia Mettke-Hofmann and Prof. Filippo Aureli in collaboration with Dr. Susanne Shultz, Oxford University. She aims to compare the complexity of the social system in different species - free-ranging Welsh ponies and zebras in Africa. *Right: a zebra in the Waterberg, South Africa.*



We also welcome *Dr Eline van Asperen* who has started a fellowship funded by a Marie Curie European Reintegration Grant. The project - *People, prey and predators: community dynamics in the Last Interglacial* - aims to reconstruct the faunal communities of the European Last Interglacial. Approaching the large mammal fauna as a dynamic assemblage of species interacting with each other whilst adapting to large climatic changes. The study focuses on variations in faunal interactions across a large geographical-climatological gradient, and the causal processes underlying these variations. This will shed light on longstanding questions in Quaternary vertebrate palaeontology, such as the reasons for the enigmatic absence of humans, horses and forest rhinos from the British Isles during the last Interglacial (~125,000 years ago).

---

## Food, appetite and mindfulness

Dr Paul Lattimore hosted the Regional Association for the Study of Obesity meeting in LJMU Art and Design Academy in December. The meeting was entitled *Pleasure & Reward: fMRI perspectives on appetite regulation*. Keynote speakers included: Prof. Francis McGlone (LJMU), Prof. Morten Kringsbach (Oxford) and Prof. John Blundell (Leeds). The meeting attracted delegates from UK, Finland, The Netherlands, Sweden and Spain.

In early February the Mindfulness Research Group organised a successful one-day workshop introducing mindfulness practices in relation to eating disorders. The workshop, delivered by Geraldine Thomas from Mindflow Solutions (Hoylake) brought together colleagues from several Eating Disorder Services in and around Merseyside, as well as researchers from LJMU and the University of Bradford, strengthening an existing collaboration with Liverpool's Eating Disorders Service.

---

## Investigating the properties of soil

NSP PhD student Shaun Sparke (supervised by Jenny Jones) has just completed a contract funded by Envirolink to investigate the impact of biochar on soil properties. Biochar has been shown by other researchers to increase soil fertility whilst improving soil structure and biological activity.

Shaun's work, which was based in the Faculty's environmental chamber, suggests that some claims may be exaggerated and that the overall impact of biochar on soil properties may depend upon the texture of the recipient soil. The outcomes of this research were presented to the Envirolink Special Interest Group meeting in February. Shaun will also present his PhD research at the British Society for Soil Science Post-graduate conference in York in March and at the International Symposium on Organic Matter Management and Compost Use in Horticulture in Australia in April. *(Above right: samples under study in the environmental chamber.)*



---

## Medical applications of virtual technology

Dr Steph Davy-Jow and her US-based colleagues have been awarded two grants totaling \$28,000 to continue their research into medical applications of virtual modeling techniques. The 2010 Thomas Benson award and a Tampa General Hospital Research Grant were both awarded to *Create a novel technique for ultrasound-guided Interstim lead placement*. This project uses virtual pelvis models from clinical CT to aid urogynaecologists in the placement of devices to treat uncontrollable bladder incontinence.

## 2010 Awards for Excellence

The Emerald Literati Network chose an article by Margaret Coffey, Lindsey Dugdill and Andy Tattersall entitled *Designing a stress management intervention in social services* as the Outstanding Paper of the Year. The paper was published in the *International Journal of Workplace Health Management* in 2009.

## Carbon dynamics in soils

Helen McCormack, an NSP MPhil student supervised by Dr Jenny Jones, was awarded a British Federation of Women Graduates (BFWG) travel bursary to enable her to attend the Soil Association Annual conference in Manchester in early February. Helen is researching carbon dynamics in agricultural soils with a view to advising farmers on how to manage their land to sequester carbon more effectively. Attending the conference allowed her to network with a range of land users and to learn more about research into carbon in soils. Helen has also been asked to give a presentation on her research to the regional meeting of BFWG in October.

## Examining visitor behaviour in museums and galleries.

Dr Stephen Fairclough is part of the ARtSENSE consortium, a new project funded by the European Commission. This project is concerned with the development of new technology to enhance the experience of visiting museums and galleries. Specifically, the project will investigate how capturing the psychological and behavioural context of the visitor may be used to develop real-time provision of information using augmented reality technology. The project involves a multidisciplinary team of computer scientists, psychologists and museum curators from five different countries. The research conducted within NSP will focus on real-time classification of attention and emotional variables using psychophysiological measures. For further details see the project website at: <http://www.artsense.eu/>



## Research meets politics

In addition to a research seminar at the Max Planck Institute for Biogeochemistry in Germany, Dave Wilkinson also contributed to a meeting of the All Party Group on Climate Change in Westminster in November. Dave was talking about the implications of his ideas on the vegetation of Ascension Island for approaches to reduce atmospheric carbon dioxide levels. *Above right: the Palace of Westminster. Parliamentary copyright images are reproduced with the permission of Parliament.*



## Forthcoming conferences

**May 8<sup>th</sup> 2011.** *Brain and Body Interfaces: Designing for Meaningful Interaction.* This workshop at the Computer Human Interaction (CHI) conference in Vancouver, is being organised by Stephen Fairclough and Kiel Gilleade (both NSP) in collaboration with colleagues from the University of Saskatchewan, Canada.

**June 14<sup>th</sup>-15<sup>th</sup> 2011.** The 7<sup>th</sup> annual Quaternary Vertebrate Research Group (QUAVER) meeting will be hosted by NSP at LJMU. This meeting is being organised by Julie Valentine, Emma Toole, Hannah O'Regan, Nick Felstead and Ian Smith (all NSP).

## Pondering porcupines

Dr Hannah O'Regan, in collaboration with colleagues at the University of the Witwatersrand, has been investigating bone collection by the Cape porcupine (*Hystrix africaeaustralis*) and its implications for palaeoenvironmental reconstructions. The contents of five lairs, collected in 1956, from the Kgalagadi Transfrontier Park, South Africa were examined. The bones from the lairs were from a variety of species, ranging from mongeese to large antelopes. Although all sizes of bones had been collected by the porcupines the largest bones had the highest frequency of gnawing. Porcupines may also carry bones over large distances, but just how far remains to be tested. The work on porcupine lairs has now been accepted for publication by the *Journal of Taphonomy*, but the research on porcupine behaviour and its implications for human evolution studies continues... *Right: Porcupine footprints and quill trails in Rose Cottage Cave, South Africa.*



## Forthcoming research seminars

**Natural Science seminars** take place every week on Wednesdays at 4.30pm in Room 327, Byrom Street.

**March 9<sup>th</sup>** **Andy Young, LJMU.** *Namaqualand, South Africa.*

**March 16<sup>th</sup>** **Richard Payne, Manchester Metropolitan University.** *The most important microbes you've never heard of?: 3 good reasons to care about testate amoebae.*

**Psychology seminars** are held on Tuesdays at 1pm in the Board Room (room 1.49) in the Tom Reilly Building.

**March 1<sup>st</sup>** **Naomi Fisher (LJMU)** *Satisfying this hunger or at least not feeling this way: The relationship between mindfulness, emotion regulation, habitual thinking and hedonically motivated eating* and **Elena Soto Calvo (LJMU)** *Cognitive Skills and Mathematical Development.*

**March 15<sup>th</sup>** **Ulrich Ott, Bender Institute of Neuroimaging, University of Giessen, Germany.** *Neuroscience of meditation.*

---

## Some recent publications by staff within the School

Amici F., **Aureli F.**, Call J. (2010) Monkeys and apes: are their cognitive skills really so different? *American Journal of Physical Anthropology* 143, 188-197.

**Aureli F.**, Yates, K. (2010) Distress prevention by grooming others in crested black macaques. *Biology Letters* 6, 27-29.

**Clare, T. (2010)** Megalith size and the implications for our understanding of contemporary society, with particular reference to Cumbria, North-West England. *Oxford Journal of Archaeology* 29, 245-252.

Charisi D., **Eliopoulos C.**, Vanna V., Koiliias Ch., Manolis S.K. (2011) Sexual dimorphism of the arm bones in a Modern Greek population. *Journal of Forensic Sciences* 56, 10-18.

Chiesa, A., **Malinowski, P.** (2011) Mindfulness based approaches: are they all the same? *Journal of Clinical Psychology* 67, 1-21.

**Eliopoulos C.**, Moraitis K., Vanna V., Manolis S.K. (2011) Greece. In N. Marquez-Grant and L. Fibiger (eds): *The Routledge Handbook of Archaeological Human Remains and Legislation: An International Guide to Laws and Practice in the Excavation and Treatment of Archaeological Human Remains.* London, Routledge.

**Lattimore, P.**, Fisher, N., **Malinowski, P.** (2011) A Cross-sectional Investigation of Trait Disinhibition and its Association with Mindfulness and Impulsivity. *Appetite* 56, 241-248.

**Law, A. S.**, Langton, S. R. H., Logie, R. H. (2010) Assessing the impact of verbal and visuo-spatial working memory load on eye-gaze cueing. *Visual Cognition* 18, 1420-1438.

Lewis, M., Pacher, M., **Turner, A.** (2010) The larger Carnivora of the West Runton Freshwater Bed. *Quaternary International* 228, 116-135.

Logie, R. H., **Law, A. S.**, Trawley, S., Nissan, J. (2010) Multitasking, working memory and remembering intentions, *Psychologica Belgica* 50, 309-326.

Masson, D.G., Huvenne, V.A.I., de Stigter, H., Wolff, G.A. **Kiriakoulakis, K.**, Arzola, R.G., Blackbird, S. (2010) Efficient burial of carbon in a submarine canyon. *Geology* 38, 831-834.

Salesa, M.J., Antón, M., **Turner, A.**, Alcalá, L., Montoya, P., Morales, J. (2010) Systematic revision of the Late Miocene sabre-toothed felid *Paramachairodus* in Spain. *Palaeontology* 53, 1369-1391.

**Small, R.W.** (2010) Conservation grazing: delivering habitat management for conservation using livestock. *Journal of the Royal Agricultural Society of England* 171, 38-44.

**Van Asperen, E.N.** (2011) Distinguishing between the late Middle Pleistocene interglacials of the British Isles: a multivariate approach to horse biostratigraphy, *Quaternary international* 231, 110-115.

**Van Asperen, E.N.** (2010) Ecomorphological adaptations to climate and substrate in late Middle Pleistocene caballoid horses, *Palaeogeography, palaeoclimatology, palaeoecology* 297, 584-596.