

Curriculum Vitae: Dr. Gareth John Dyke

Date of Birth: 26th January 1976

Present Position:

2011- **Senior Lecturer in Vertebrate Palaeontology**

School of Ocean and Earth Sciences (National Oceanography Centre), University of Southampton, Waterfront Campus, European Way, Southampton SO14 3ZH UK.

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Other Positions:

2002- **Research Associate**, American Museum of Natural History, New York.

2003- **Research Associate**, National Museum of Ireland, Dublin.

Previous Positions:

2008-2011 **Senior Lecturer** in Vertebrate Zoology, University College Dublin, Ireland.

2002-2008 **College Lecturer**, University College Dublin, Ireland.

2000-2002 **Postdoctoral Fellow**, American Museum of Natural History, New York.

Qualifications: PhD Palaeontology, University of Bristol 2000. BSc Hons Geology and Biology (First), University of Bristol 1997.

Research Activities: I am a vertebrate palaeontologist with research interests in the evolution of birds, their dinosaurian relatives, and the development and refinement of flight and aerodynamics. I led a research group at University College Dublin (since 2002, six PhD and seven research MSc students and two full-time PDRAs) and have recently moved to the University of Southampton (late 2011). My expertise lie in the description, analysis and interpretation of early fossil birds (from the Mesozoic and Paleogene) and closely-related theropod dinosaurs as well as in functional biology, biomechanics and experimental aerodynamics. I conducts annual palaeontological field expeditions (in the last three years in Kazakhstan, Russia, western Canada and Morocco). I have published more than 110 peer-reviewed technical papers many in leading journals (*Nature*, *Science*, *Geology*, *Evolution*, *Annual Reviews of Ecology and Systematics*, *Trends in Ecology and Evolution*, *Journal of Evolutionary Biology*, *Journal of Zoology*, *Cladistics*, *Proceedings of the Royal Society*). I have numerous peer-reviewed conference abstracts, book reviews, invited contributions and book chapters and have recently co-edited a book of contributed chapters that deal with the evolution of modern birds (*Living Dinosaurs: The Evolution of Modern Birds*, Wiley Blackwell, May 2011) and a set of conference papers from a co-organised symposium at a 2009 conference (*Journal of Systematic Palaeontology*, January 2011). Since 2004, I have won more than €1,700,000 (\$1,950,000) in funding (Irish Government, European Union, National Science Foundation USA), including significant donations from corporate sponsors for long-term fieldwork projects. I am the Editor-in-chief of *Historical Biology* (Taylor & Francis) and serve on editorial boards for three other high-profile international journals.

Current and Recent Research Funding:

2012 Southampton PI, EPSRC Bridging the Gap – *Aerodynamics of dinosaurs*, £16,244

2011 Dublin PI - LifePathWorks: *Exploration of galliform osteology and phylogenetics*, €15,000.

2010-2011 Dublin PI - SensComm Ireland Inc.: *Exploration palaeontology in Kazakhstan*, €60,000

2009-2010 Dublin PI - UCD Seed Funding: *Vertebrate Palaeontology of the Cretaceous Kem Kem beds, Morocco*, €9,120

2006-2009 Dublin PI – Science Foundation Ireland (SFI) *Undergraduate Research and Knowledge*

- 2007 Award (UREKA) site with the National Museum (Natural History), €199,000
 Dublin PI - UCD Seed Funding: *Using feather microanatomy to reconstruct the higher-level relationships of birds*, €14,500
- 2005 Dublin PI – Intune Technologies: *Dinosaurs of Kazakhstan*, €20,000
- 2005-2009 Dublin PI - Science Foundation Ireland (SFI) basic research grant: *Anatomy and systematics of galliform birds*, €85,000
- 2004-2007 Dublin PI – Science Foundation Ireland (SFI) *Undergraduate Research and Knowledge Award (UREKA) site with the National Museum (Natural History)*, €199,000
- 2004 Dublin PI -- Science Foundation Ireland (SFI) basic research grant: *Fossil birds from the Eocene of Denmark and the early diversification of Neornithes*, €110,000
- 2004 Dublin co-PI – National Science Foundation (NSF): *The early evolutionary radiation of modern birds: new evidence from the Lower Eocene of Denmark*, €95,000

Recent publications:

- Godefroit, P., Cau, A., Dong-Yu, H., Escuillie, F., Wenhao, W. and **Dyke, G.J.** (2013) A Jurassic avialan dinosaur from China resolves the early phylogenetic history of birds. *Nature*, 498, 359-362.
- Belvedere, M., Nour-Eddine, J., Breda, A., Gattolin, G., Bourget, H., Khaldoune, F. and **Dyke, G.J.** (2013) Vertebrate footprints from the Kem Kem beds (Morocco): a novel ichnological approach to faunal reconstruction. *Palaeogeography Palaeoclimatology Palaeoecology*, 383-384, 52-58.
- Fernández, M., Simoncini, M and **Dyke, G.J.** (2013) Irregularly calcified eggs and eggshells of *Caiman latirostris* (Alligatoridae: Crocodylia). *Naturwissenschaften*, 100, 451-457.
- Naish, D, Simpson, M and **Dyke, G.J** (2013) A new small-bodied azhdarchoid pterosaur from the Lower Cretaceous of England and its implications for pterosaur anatomy, diversity and phylogeny. *PLoS ONE*, 8, (3) (doi:10.1371/journal.pone.0058451).
- Chan, N.E., **Dyke, G.J.** and Benton, M.J. (2013) Primary feather lengths may not be important for inferring the flight styles of Mesozoic birds. *Lethaia*, 46, (2), 146-153.
- Godefroit, P., Demuynck, H., **Dyke, G.J.**, Hu, D., Escuillié, F. and Claeys, P. (2013) Reduced plumage and flight ability of a new Jurassic paravian theropod from China. *Nature Communications*, 4, 1394. (doi:10.1038/ncomms2389).
- Vremir, M, Kellner, A, Naish, D and **Dyke, G.J.** (2013) A new azhdarchid pterosaur from the Late Cretaceous of the Transylvanian Basin, Romania: Implications for azhdarchid diversity and distribution. *PLoS ONE*, 8, (1) (doi:10.1371/journal.pone.0054268).
- Fernández, Mariela, Garcia, Rudolfo, Fiorelli, Lucas, Scolaro, Alejandra, Salvador, Rodrigo, Cotaro, Carlos, Kaiser, Gary and **Dyke, G.J.** (2013) A large accumulation of avian eggs from the Late Cretaceous of Patagonia (Argentina) reveals a novel nesting strategy in Mesozoic birds. *PLoS ONE*, 8, (4) (doi:10.1371/journal.pone.0061030).
- Averianov, A., Archibald, J. D. and **Dyke, G.J.** (2013) A new eutherian mammal from the Late Cretaceous of Kazakhstan. *Acta Palaeontologica Polonica* (doi:10.4202/app.2011.0143). (In Press).
- Nudds, R., Atterholt, J., Wang, X., You, H. and **Dyke, G.J.** (2013) Locomotory abilities and habitat of the Cretaceous bird *Gansus yumenensis* inferred from limb length proportions. *Journal of Evolutionary Biology*, 26, 150-154.
- Dyke, G.J.**, Vremir, M., Kaiser, G. and Naish, D.W. 2012. A drowned Mesozoic bird breeding colony from the Late Cretaceous of Transylvania. *Naturwissenschaften* 99(6): 435-442.
- Palmer, C. and **Dyke, G.J.** 2012. Constraints on the wing morphology of pterosaurs. *Proceedings of the Royal Society of London, Series B* 279: 1218-1224.
- Wang, X., Nudds, R.L., Palmer, C. and **Dyke, G.J.** 2012. Size scaling and stiffness of avian primary feathers: implications for the flight of Mesozoic birds. *Journal of Evolutionary Biology* 25(3): 547-555.
- Naish, D.W., **Dyke, G.J.**, Cau, A., Escuillié, F. and Godefroit, P. 2012. A gigantic bird from the Upper Cretaceous of Central Asia. *Biology Letters* 8: 97-100.