PhD available

Soft tissue origins of the mammalian middle ear

Uni of Queensland and Uni of New England

The Weisbecker Lab at The University of Queensland (www.weisbeckerlab.com.au) and the Wroe Lab at The University of New England (http://www.thefearlab.com/stephen-wroe/) are looking for a motivated PhD student to research the soft-tissue origins of the mammalian middle ear based on investigations into the development of the marsupial middle ear region, starting either mid-year 2014 or after.

The Project: The origin of the mammalian middle ear was an extreme transformation in the evolution of mammals from reptile-like ancestors. Initially devoted to feeding, the jaw joint of the ancestral reptilian jaw joint was “re-tooled” and miniaturized to form middle ear bones (tympanic ring, hammer, and anvil). This process recapitulates at least partially during marsupial mammal development, presenting a great opportunity to infer intermediate stages and functional properties of MME detachment for which fossils are lacking. The PhD project is aimed at detailing the development of the mammalian middle ear to glean biomechanical information on its ancient function as a hearing/chewing intermediate. You will characterize the soft tissue environment of the developing marsupial middle ear, using histological and perhaps CT staining techniques. This project allows a good degree of intellectual freedom as to the protocols used, and can be conducted in a series of high-profile publications as chapters.

Requirements: A degree in Biological, Veterinary, or Biomedical sciences. Good spoken and written English is essential.

Funding: Students within Australia will need to apply for an Australian Postgraduate Award (APA). Overseas applications are encouraged, particularly for candidates who have already published, as the School of Biological Sciences at The University of Queensland has made available a number of competitive international PhD scholarships. For further information and conditions of employment, please visit http://www.biology.uq.edu.au/scholarships.

To apply or just have a chat about the project, contact Vera: v.weisbecker@uq.edu.au