PhD Studentship

Fossils and the Tree of Life

Systematics, Phylogenetics and Palaeontology

Applications are invited for a studentship on Fossils and the Tree of Life.

Can we infer the true Tree of Life without fossils?
Are fossil characters phylogenetically biased, and if so, does it matter?
Is the phylogeny of some groups really much more intractable than others?
Are ghost ranges much more common in some groups, and if so, why?

The student will investigate the quality of fossils in phylogenetic data sets, as well as the level of congruence between cladograms and the fossil record. They will also be part of a larger group investigating macroevolutionary trends and the importance of fossil data. This team will comprise one postdoc, three PhD students (all starting in September 2009), Dr Matthew Wills (Bath) and Mr Clive Moncrieff (Head of Biometrics, NHM, London). A project summary is given below.

Candidates should have/anticipate a good degree (2i or better) in a biological, geological or mathematical discipline, and have an excellent understanding of phylogenetics. Good programming skills are an advantage.

The duration of the studentship is three years, and the successful candidate will receive an annual stipend of £13,290 per annum. PhD fees will be paid. This studentship is funded by the Leverhulme Trust. See http://www.leverhulme.ac.uk/about/ for details. Informal enquiries can be addressed to Dr Matthew Wills (m.a.wills@bath.ac.uk).

Applicants should send a CV, a letter detailing their suitability for the studentship, and details of two academic referees to:
Dr Barbara Reeve, Head of Postgraduate Admissions, Department of Biology and Biochemistry, University of Bath, The Avenue, Claverton Down, BA2 7AY.
Please also complete the web form at:
https://secure.bath.ac.uk/prospectus/cgi-bin/applications.pl
Select MPhil/PhD research in biology (full-time)

Closing Date: 18 May 2009

Overall Project Summary: Major evolutionary trends and the importance of fossil data

What are the largest scale trends in the history of Life? Do animal groups become inexorably more complex with time? Do clades explore most anatomical design options early in their history? Do more “advanced” clades competitively replace their forebears? Answers to these questions can only be obtained by combining data from fossils and stratigraphy with inferences from phylogeny. Before embarking on this, we must know if evolutionary trees and fossil dates are reliable. If biases exist, where are they, and how can we control for them? This project will address all of these related questions using novel statistical palaeontological approaches.