



SIR JULIAN HUXLEY LECTURE

# PHYLOGENETIC ANALYSIS OF CLADE DIVERSIFICATION: Is ROBUST INFERENCE POSSIBLE?

Prof. Michael Sanderson

University of Arizona, Tucson

**The Linnean Society,  
Burlington House, Piccadilly, London  
Wednesday 8<sup>th</sup> July 2009, 6 pm**

**The meeting is open to visitors**

**Wine will be served after the lecture to members and guests**

**Abstract:** Species richness is not distributed evenly across the tree of life. Some clades are exceptionally diverse, others surprisingly species-poor. The reconstruction of phylogenetic trees and their calibration in geologic time has improved our ability to detect these patterns, but by how much? In this talk I review a spectrum of methods for inferring diversification rates and consider their robustness, focusing in particular on the question of whether time calibration is necessary or useful. Several case studies in angiosperm evolution will be highlighted, including Hawaiian silverswords and both recent and old radiations within the large clade Leguminosae. Although research on diversification rates has been dominated by questions of evolutionary "success", I will end with a discussion of the "depauperons" of life, those clades with surprisingly little diversity.