

School of Biology University of St Andrews St Andrews, UK **PhD studentship**: Theory of social adaptation Natural selection explains the appearance of design in the living world. But at what level is this design expected to manifest - gene, individual, society - and what is its function? Social evolution provides a window on this problem, by pitting the interests of genes, individuals and societies against each other. I invite applications for a PhD studentship in my research group at the School of Biology, University of St Andrews, UK. I'm looking for a biology graduate who has a strong interest in social evolution theory, or an economics / mathematics / philosophy / physics graduate with a strong interest in social behaviour. Current research in my lab involves development of general theory - using kin selection, multilevel selection, game theory and theoretical population genetics approaches - and application of mathematical and simulation models that are tailored to the biology of real organisms, from microbes to insects to humans (see

www.andygardner.org

for more details). To this end, I strongly encourage interactions within the wider grouping of theoretical and empirical biologists in St Andrews, as well as with collaborators further afield. If social evolution really fascinates you, and you are a careful thinker, then you will flourish in the type of project that I enjoy supervising. Theoretical projects suit people of either sex, from any background, regardless of physical abilities. Please direct informal enquiries to Dr Andy Gardner (

andy.gardner@st-andrews.ac.uk

). Some examples of my research: 1. d'Žbeda F, Ohtsuki H & Gardner A (2014) Ecology drives intragenomic conflict over menopause. *Ecology Letters* 17, 165-174. 2. Gardner A, Alpedrinha J & West SA (2012) Haplodiploidy and the evolution of eusociality: split sex ratios. *American Naturalist* 179, 240-256. 3. Gardner A & Smiseth PT (2011) Evolution of parental care driven by mutual reinforcement of parental food provisioning and sibling competition. *Proceedings of the Royal Society of London B* 278, 196-203. More information here:

<http://www.findaphd.com/search/ProjectDetails.aspx?PJID=56711>

Andy Gardner