Two potential PhD Opportunities

The glucose hypothesis: a unifying mechanism to explain sex allocation.

School of Biological Sciences, University of Tasmania

Project Description: The study of parental effects is a fundamental area in evolutionary ecology, but is characterised by poor integration of proximate causation and ultimate explanation. Parents influence the development of their young through both genetic and non-genetic effects, with sex allocation one maternal effect that can have profound implications for fitness. The glucose hypothesis has been postulated to link the adaptive hypotheses of sex ratio adjustment and unify all other proposed mechanisms. This PhD project will address the link between proximate and ultimate explanations of sex allocation (via the glucose hypothesis) trans-generationally, incorporating both paternal as well as maternal sex allocation effects. This project will be conducted primarily on laboratory mice, but other species can be considered. Other aspects (e.g. other hormones, behaviour) including other field work, and modelling, can be considered.

Funding:
Australian and New Zealand Students: APA ($25,392) plus potential top up $5000 per year
International Students: UTAS offer a number of competitive scholarships that may cover tuition fees and/or living expenses depending on specific circumstances (international applicants are encouraged to pursue funding from their own country also)

Project support – In excess of $20 000 in project funding per year plus infrastructure largely in place (currently supported by the ARC; students will also be encouraged to apply for their research funding via various funding sources)

**all PhD students at UTAS are provided a new personal laptop on enrolment and access to international conference funding during their candidature**

Who are we looking for: You will need to be competitive for an Australian Postgraduate Award (generally First Class Honours or a Research Masters Degree). You will need to enjoy laboratory work and have a passion for research science. A background in evolutionary biology/behavioural ecology/reproductive biology/physiology is also desirable. Finally, students with a mathematical or theoretical background are also encouraged to apply as related projects with a theoretical basis can also be undertaken.

When: Applications due September 30th 2014 for a 2015 commencement.

For more information please contact Prof Elissa Cameron (Elissa.Cameron@utas.edu.au) &/or Assoc Prof Erik Wapstra (Erik.Wapstra@utas.edu.au) at the School of Biological Sciences, University of Tasmania.

About UTAS/SET/Biological Science:
Set in picturesque and diverse Tasmania, the University of Tasmania is among the world’s best institutes for tertiary education. UTAS has been ranked the number one university in
Australia for teaching excellence, receiving more teaching awards than any other university. UTAS is committed to the creation and dissemination of knowledge, and has been ranked in the top 10 research universities in Australia and top 2% worldwide. A medium sized university, UTAS has a five star rating for staff-to-student ratios, placing it amongst the best in Australia, and providing an excellent learning environment.

The Faculty of Science, Engineering and Technology (SET) is the largest and most diverse at UTAS and is committed to innovation, teaching excellence and research that has impact. Within the SET faculty, the School of Biological Sciences is a large and research intensive school. The school covers broad disciplines across evolution and ecology with a major focus on evolutionary biology, behavioural ecology, conservation biology and physiological and forest genetics with facilities for molecular and quantitative genetics and physiology. Research programs span an array of biological organisation from organisms to population, species and communities and take advantage of study systems in a variety of habitats. We take both a real-world problem and theoretical approach to research, and with extensive laboratory and infrastructure support, the School is well placed to run comprehensive research projects that cover laboratory, fieldwork, modelling and industry aspects.

**About the Behavioural and Evolutionary Ecology Research Group**

The BEER group is a dynamic and active research group comprising 4 academics and post-docs, 5 PhD students and numerous undergraduate students. Research involves field and laboratory work as well as theoretical modelling, covers a broad range of topics including sociability, personality and sex allocation and we work on a diverse range of organisms including lizards, mammals and laboratory rodents.