

PROJECT TITLE: Power and politics in the animal world: African wasps as a model system

Project Science Theme: Evolution and Biodiversity Through Space and Time

Project keywords: Power, dominance, sociality, wasps, Africa

Lead Institution: University of Bristol

Lead Supervisor: Patrick Kennedy, University of Bristol, School of Biological Sciences

Co-Supervisor: Andrew Higginson, University of Exeter, Department of Psychology

Co-Supervisor: Paul Williams, BBC Natural History Unit

Co-Supervisor: Andrew Radford, University of Bristol, School of Biological Sciences

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Project aims and methods:

In this PhD, you will explore what makes the powerful powerful. Why do some animals dominate others, and how do they stay in power? You will turn to one of the most fascinating social organisms on the planet: the beautiful and long-neglected wasps of Africa (*Belonogaster*). To reveal the drama of social life in the wild, you will use field-cameras to track dominance displays, submission, social networks, and struggles for control of social groups. You will be supported to devise creative behavioural experiments with wild wasps (e.g., manipulating food resources to test key hypotheses about where power comes from) and novel evolutionary game theory to illuminate the strategies individuals pursue. Finally, you will zoom out to survey the vast diversity of power struggles across vertebrates and invertebrates, with the potential to develop cutting-edge meta-analyses. During your PhD, you will conduct an internship with wildlife-filmmakers at the BBC Natural History Unit in Bristol, learning how insect behaviour is filmed and how science is translated into documentaries. This PhD will provide you with highly diverse set of skills, including designing and running ambitious field-experiments, macro-videography for studying behaviour, mathematical and computational modelling, and the ability to innovate in evolutionary biology and ecology.

Project CASE partner:

The BBC Natural History Unit are the CASE partner. Internship placement at the BBC Natural History Unit, planned to take place during production of the major upcoming BBC series on insects, 'Hidden Planet', which will provide the student with an understanding of wildlife filmmaking (with a direct focus on insect behaviour) and how academic research is translated into natural history documentaries. Whilst working at the BBC, in-kind contributions include support with desk space at BBC offices in Bridgewater House, Bristol, as well as access to the BBC's dedicated studio filming space. The team can provide informal, and potentially some formal, BBC training during the placement. The BBC will also support with additional resources as required when on placement, such as a laptop and IT assets.

Useful recruitment links:

For information relating to the research project please contact the lead Supervisor via:

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Bristol NERC GW4+ DTP Prospectus:

<https://www.bristol.ac.uk/study/postgraduate/research/great-western-four-doctoral-training-partnership-nerc/>

How to apply to the University of Bristol:

<http://www.bristol.ac.uk/study/postgraduate/apply/>

The application deadline is Monday 13 January 2025 at 2359 GMT.