Post-Doctoral Research Associate in the Accumulation of Biodiversity in Anthropocene Environments

Department:	Leverhulme Centre for Anthropocene Biodiversity and associated Department
Hours of work:	Full time, 37 hours per week
Contract type:	Fixed Term for 3 years
Salary:	Grade 6 - £32,817 to £40,322 a year

Grade: 6 **Ref**: 210

Introduction

The Leverhulme Centre for Anthropocene Biodiversity (LCAB) is a major new research centre funded by the Leverhulme Trust to increase knowledge of how the relationship between humanity and the natural world is changing, and how we might move forwards to maintain and develop a sustainable Earth. The Centre represents an interdisciplinary collaboration between the University of York, the University of Sherbrooke (Canada), the Australian National University and the University of St Andrews.

We are recruiting a cohort of dynamic post-doctoral researchers to conduct innovative transdisciplinary research in areas relevant to the Centre's strategic research goals. This particular position is available full-time for 3 years to conduct research on ecological diversification associated with ecosystem changes. The postholder will be mentored by Chris Thomas at York, and in collaboration with Maria Dornelas at St. Andrews, Mark Vellend at Sherbrooke and Phil Platts at York.

We are looking for a person with advanced analytical skills, including high levels of competency in statistical modelling, meta-analysis, spatial statistics, and the ability to obtain and manipulate species, phylogenetic, ecosystem, taxonomic and diversity data. The post will use global and national databases, statistical modelling, and meta-analysis approaches primarily to assess population and community, landscape-scale, and regional biodiversity changes associated with land use change, biological invasions, and other human-associated causes of change. They will collaborate with social scientists, evolutionary biologists, modellers and others to understand human-associated and biological drivers of biodiversity accumulation in novel and perturbed environments.

Human-caused changes to the world are so great that we increasingly think of the Earth as having entered a new geological epoch, the 'Anthropocene', which is as much a culturally-defined state of human thinking as it is a scientific phenomenon. This disruption has already resulted in the extermination of many species; however, transformation of our planet is enabling many species to thrive in parts of the world that they would not otherwise have reached, and to hybridise with species from which they were previously isolated. These gains are often ignored and disliked, seen as evidence that the Earth system has moved away from a more desirable state of nature, located somewhere in the historical past.

LCAB will redress this imbalance, recognising biological gains as well as losses, changes that are beneficial to humans as well as ones that are harmful, and identifying the circumstances under which changes are perceived as either positive or negative. It will aim to understand and thus inform and influence society's response to these changes.

Main purpose of the role

This role will develop knowledge of biological change in response to human perturbation of the Earth system. It will quantify and identify why some places are gaining species, higher taxa and ecosystem types, while other places are losing them.

1) You will identify the biological, geographic and societal predictors of positive changes in different aspects of biodiversity, including community assembly and ecosystem diversity, and beta diversity, and hence identify circumstances under which particular elements of biodiversity are increasing. You will develop analytical and statistical approaches and use existing data to estimate the different temporal and spatial scales, regions, and human-environmental conditions under which trends are negative or positive. In a world experiencing multiple drivers of dynamic changes to biodiversity, is it possible to recognise opportunities for humanity to increase biodiversity deliberately? We anticipate that this research will occupy about 60% of the researcher's time.
2) You will collaborate with other LCAB researchers to enhance your own core projects and theirs. In particular, you will jointly develop an overall framework for ecological and evolutionary changes in the Anthropocene, to which the above project will contribute, ranging from the consideration of human motivation to bring about change through to the mathematics of ecological and evolutionary diversification. This will take up approximately 20% of the researcher's time.
3) You will jointly develop, coordinate and engage in cross-cutting themes within the Centre, bringing together its researchers in programmes of work and collaboration designed to build transdisciplinary understanding of novel biodiversity.
4) You will play an active role in LCAB's general intellectual life, contributing to and developing the range of research interactions and discussions, and offering expert guidance and contributions to the other strands of the Centre's research.

Activities 2-4 will take up approximately 40% of the researcher's time.

Overarching tasks will be:

- To conduct research under the mentorship of senior colleagues and contribute to the production of research
- To assist in the identification and development of potential areas of research and the development of proposals for independent or collaborative research projects
- To collaborate with, and advise, other researchers to increase the effectiveness of transdisciplinary research in the Centre

Key responsibilities

(Role holders will be required to undertake some or all of the duties below)

- To plan, coordinate and carry out world-leading individual and collaborative LCAB research on biodiversity change, with the assistance of project mentors
- To help develop and coordinate LCAB cross-disciplinary themes
- To communicate effectively, collaborate with, and advise researchers with different types of expertise, from diverse disciplinary backgrounds, so as to facilitate Centre research projects
- To write-up research findings for publication, and other forms of communication
- To attend research group meetings to develop ongoing research projects
- To contribute to the development of future research proposals

- To produce content for the LCAB website and reports in liaison with the LCAB management team.

Person specification	Essential / Desirable
Qualifications	
First degree in a relevant discipline	**Essential**
PhD in a related subject area or equivalent experience	**Essential**
Knowledge	
Advanced knowledge of biodiversity and the drivers of biodiversity change	**Essential**
Knowledge of a range of research techniques and methodologies relevant to the field of study	**Essential**
Research expertise in an area that will complement and enhance the Centre's research strategy and goals	**Essential**
Skills, abilities and competencies	
Advanced analytical skills, including high levels of competency in statistical modelling, meta-analysis, spatial statistics	**Essential**
Bayesian statistics and process-based modelling skills	**Desirable**
Ability to obtain and manipulate species, phylogenetic, ecosystem, taxonomic and diversity data	**Essential**
Highly developed communication skills to engage effectively with a wide-ranging audience, both orally and in writing, using a range of media	**Essential**
Ability to write up research work for publication in high profile journals and engage in public dissemination	**Essential**
Ability to develop research objectives, projects and proposals for own and joint research, with the assistance of a mentor if required	**Essential**
Ability to identify sources of funding and contribute to the process of securing funds, with collaborators if required	**Essential**
Competency to make presentations at conferences or exhibit work in other appropriate events	**Essential**
Experience	
Experience of carrying out both independent and collaborative research	**Essential**
Experience of writing up research work for publication	**Essential**
Ability to work as part of a team and also to work independently using own initiative	**Essential**
Personal attributes	
Attention to detail and commitment to high quality	**Essential**

Collaborative ethos	**Essential**
Interest in and enthusiasm for the subject matter of the project(s)	**Essential**
Positive attitude to colleagues and students	**Essential**
Willingness to work proactively with colleagues in other work areas/institutions	**Essential**
Ability to plan and prioritise own work in order to meet deadlines, including using initiative to plan research programmes	**Essential**
Commitment to personal development and updating of knowledge and skills	**Essential**