

## RESOURCING/

## JOB DESCRIPTION:

### Research Associate



<b>Ref Number:</b>	<b>STM-109-20</b>
<b>Salary Scale:</b>	<b>Grade 7: £34,804 to £40,322 per annum.</b> <b>Due to the funding for the position the starting salary is likely to be £34,804</b>
<b>Contract:</b>	<b>For a fixed term period until 31 January 2022 AND Full Time</b>
<b>School/Department:</b>	<b>School of Mathematics, Statistics and Actuarial Science</b>
<b>Location:</b>	<b>University of Kent, Canterbury Campus</b>
<b>Responsible to<sup>1</sup>:</b>	<b>Dr Eleni Matechou</b>
<b>Expected start date:</b>	<b>As soon as possible</b>

### The Role

As a Research Associate (RA) you will assist Dr Eleni Matechou with her NERC project entitled “Integrating new statistical frameworks into eDNA survey and analysis at the landscape scale”. This is an interdisciplinary project with Dr Alex Bush, University of Lancaster, Professor Jim Griffin, Statistical Science, UCL, Professor Richard Griffiths, Durrell Institute of Conservation and Ecology, University of Kent, and Professor Doug Yu, UEA as co-Investigators.

The aim of the project is to develop an integrated statistical framework for DNA-based surveys of biodiversity. The framework will allow the estimation of community compositions and the identification of the landscape characteristics that drive them. The project will involve: developing a Bayesian hierarchical model accounting for the probabilistic nature of DNA-based data due to observation error and taxonomic uncertainty and for model uncertainty due to the unknown strength and direction of landscape effects on the system; developing sophisticated and efficient algorithms within a Bayesian framework for identifying the important landscape covariates that predict community structure and providing guidelines on optimal allocation of resources in DNA-based surveys.

This project requires the participation of a researcher with a strong research track record, as well as relevant skills and experience in applied Bayesian modelling and the implementation of associated computational methods. Further details about the project can be found here: <https://blogs.kent.ac.uk/seak/2020/01/13/nerc-funded-project-on-integrating-new-statistical-frameworks-into-edna-survey-and-analysis-at-the-landscape-scale/>.

v.1.5 – January 2020

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<sup>1</sup> Line Manager may be subject to change and will be confirmed in the employment contract issued to the successful candidate.



The RA is expected to work in close collaboration with Dr Matechou and all Cols and to integrate with the Statistical Ecology @ Kent research group. For more details about the research group, see <https://research.kent.ac.uk/statistical-ecology/>.

The RA working on the project will have the opportunity to attend international conferences and workshops in Australia, Canada, Germany and the UK. The expertise of the team and their corresponding research groups ensure that the RA will be ideally placed to be exposed to the latest developments in Bayesian methodology and statistical ecology and for developing accessible tools for dissemination of the methods developed as part of the project.

The RA will be based on the Canterbury campus of the University of Kent and will join the Statistics group at the School of Mathematics, Statistics and Actuarial Science (SMSAS). The SMSAS is an energetic school that provides a stimulating research environment in Statistics, complemented by numerous research seminar series, international conferences and workshops. The School values diversity and inclusivity, and the SMSAS was the first school at the University of Kent to obtain an Athena Swan Silver award. Full details about the School can be found on our website: <https://www.kent.ac.uk/mathematics-statistics-actuarial-science>

### Key Accountabilities / Primary Responsibilities

The main responsibility of the RA is research in the SMSAS in collaboration with Dr Matechou and the Cols. In particular, the RA will

- Devise and undertake appropriate research to achieve the goals and milestones as described in the research project. This would include a significant element of independent work, e.g., in the planning and execution of the research, and the write up of work for publication.
- Write regular reports, compile results acquired in a form to allow rapid transformation of documented research outcomes, write papers for publication in journals and give presentations at international conferences.
- Maintain an up to date/detailed log of the research activity undertaken and of the results obtained.

### Key Duties

- Carry out the research programme in the NERC project. Generate independent and original research ideas and methods in the development of new models and software for eDNA data;
- Design, plan and conduct a programme of investigation, in consultation with Dr Matechou and the Cols;
- Evaluate methods and techniques used and results obtained by other researchers and relating such evaluations to your own research;
- Develop computer software to make the new methodology accessible to non-statisticians;
- Make a significant contribution to the dissemination of research results by publication in leading peer-reviewed journals and by presentation at national and international meetings;
- Lead workshops to train end-users to understand the new approaches and in the utilization of the software;

- Attend national/international conferences relevant to the research and present their research findings;
- Report on progress regularly to Dr Matechou and the Cols at the scheduled monitoring meetings.

### Other possible Duties

- Opportunities to engage in teaching or research project supervision will be available.

### Health, Safety & Wellbeing Considerations

This role involves undertaking duties which include the Health, Safety and wellbeing issues outlined below. Please be aware of these, when considering your suitability for the role.

- Regular use of Screen Display Equipment

### Internal & External Relationships

Internal: University of Kent staff and students

External: Researchers, Conservation Managers, Learned Societies

### Person Specification

The Person Specification details the necessary skills, qualifications, experience or other attributes needed to carry out the job. Please be aware that your application will be measured against the criteria published below.

Selection panels will be looking for clear evidence and examples in your application, or in your cover letter where applicable, which back-up any assertions you make in relation to each criterion.

Qualifications / Training	Essential	Desirable	Assessed via*
A PhD in Statistics acquired or submitted by the time of appointment; or equivalent academic experience.	✓		A

Experience / Knowledge	Essential	Desirable	Assessed via*
A strong research record in a relevant area of Statistics evidenced by publications/submissions in international journals.	✓		A,I
A track record of giving presentations at major national or international meetings/conferences.	✓		A,I
Background in the following areas: <ul style="list-style-type: none"> <li>• Applied Bayesian statistical modelling</li> <li>• Established R skills</li> </ul>	✓		A,I
An interest in using statistics to help inform conservation management decisions.		✓	A,I

Skills / Abilities	Essential	Desirable	Assessed via*
Good written and communication skills	✓		A,I
Willingness to lead training workshops and events		✓	I

**\*Criterion to be assessed via:**

**A** = application form or CV/cover letter

**I** = interview questions

**T** = presentation at interview