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**RESOURCING/**

**JOB DESCRIPTION:**

**Research Associate in Statistics**

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| **Ref Number:** | **Recruitment to complete** |
| **Salary Scale:** | **Grade 7** |
| **Contract:** | **For a fixed term period of 36 months** |
| **School/Department:** | **CEMS, School of** |
| **Location:** | **University of Kent, Canterbury Campus** |
| **Responsible to:** | **Professor Jian Zhang (PI)** |
| **Responsible for:** | **Research** |
| **Closing Date for applications:** | **23/05/2023** |
| **Interviews are expected to be held on:** | **01/06/2023** |
| **Expected start date:** | **01/09/2023** |

**The Role**

We seek a talented and ambitious postdoctoral Research Associate to join the Statistics Group, School of Mathematics, Statistics and Actuarial Science at the University of Kent to conduct research on the 3-year project, funded by the Engineering and Physical Sciences Research Council and entitled: “From covariance regressions to nonparametric dynamic causal modelling “ (EP/X038297/1). This innovative project is multidisciplinary, with project partners the Innovision IP Ltd and the Computational Neuroscience Group at the University of Cambridge. The Research Associate will combine state-of-the-art multivariate time series analysis with rough path theory in stochastic analysis to develop a novel, flexible and mathematically rigorous nonparametric method for describing a brain condition with single-subject magnetoencephalography (MEG) imaging data. The work will focus on nonparametric neural differential equations with applications in diagnosis of brain injury.

The role will require a strong background in statistics/machine learning/computing or functional magnetic resonance (fMRI)-MEG neuroimaging, with a PhD in a relevant subject and will have experience in the analysis of neuroimaging data and strong computational skills in a MATLAB/Python/R/C++ environment.

You must have a problem solving approach to meeting the overall project deliverables, and will be expected to devise work leading to research publications of high quality and software for academic communities and industry.

**Key Accountabilities / Primary Responsibilities**

* To meet the objectives of the relevant project work packages according to the direction of the investigators.
* To support the research of other team members under the direction of the principal investigator. To enable the successful practical undertaking of research by others.
* To contribute internal research progress meetings with other investigators and researchers.
* To read literature and share appropriate articles with the investigator team. Regular literature reviews should be undertaken.

**Key Duties**

* To undertake autonomous research, according to the direction of the investigators. Research papers and software will be produced.
* To record and write up research in association with research colleagues and investigators. To prepare and submit manuscripts to journals and conferences.
* To help, teach and advise postgraduate students and undergraduate students with cognate research projects at the request of the principal investigator.
* To facilitate effective training and technical achievements.
* To prepare regular progress reports for presentation to the investigator team.
* To read papers, discuss with others and share papers for investigators and other researchers. Paper literature searches, and electronic sharing will result.

Such other duties, commensurate with the grading of the post that may be assigned by the Head of Department or their nominee.

**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:** The Principal Investigator in the School of Mathematics, Statistics and Actuarial Science (SMSAS). Other Research Associates, postgraduate, and undergraduate students in the Statistics Group of the SMSAS.

**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.

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| **Qualifications / Training** | **Essential** | **Desirable** | **Assessed via\*** |
| PhD in Statistics/Machine Learning, Computing, Neuroimaging or a related discipline (or near completion)  At least a BSc 2:1 in mathematics, statistics, or computing | **X** |  | **A** |

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| **Experience / Knowledge** | **Essential** | **Desirable** | **Assessed via\*** |
| Experience in multivariate time series analysis/high-dimensional statistics | **X** |  | **A,I** |
| Experience in Matlab/Python/R/C++ programming | **X** |  | **A,I** |
| Experience in statistical analysis of neuroimaging data |  | **X** | **A,I** |
| Experience in complex data analysis | **X** |  | **A,I** |
| Experience in using rough path theory |  | **X** | **A,I** |
| Experience in using neuroimaging software such as FSL, SPM, FieldTrip, and FreeSurfer |  | **X** | **A,I** |
| Experience of solving stochastic difference equations |  | **X** | **A,I** |
| Experience of determining research methodologies in association with a supervisor | **X** |  | **A,I** |
| Experience of academic publications | **X** |  |  |

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| **Skills / Abilities** | **Essential** | **Desirable** | **Assessed via\*** |
| Team working skills | **X** |  | **A,I** |
| Self-management and Organisational Skills | **X** |  | **A,I** |

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| Additional Attributes | **Essential** | **Desirable** | **Assessed via\*** |
| Be prepared to travel within the UK and abroad to conferences to present work |  | **X** | **I** |

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

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

**I = interview questions**

**T = test or presentation at interview**