Two Research Fellowships in Statistics (Fixed 3 Year Term)

University of Southampton and University of Glasgow

In the UK, air pollution is estimated to reduce average life expectancy by around 6 months, with corresponding equivalent health cost of £19 billion annually. Estimation of the effects of air pollution on human health is a complex task for a number of reasons: misalignment of health and air pollution data in both space and time; the existence of spatio-temporal correlation; and the presence of confounding factors. The Engineering and Physical Sciences Research Council is funding a large interdisciplinary project to develop statistical methodology to address these issues. The main goal of the project is to combine spatio-temporal models for pollution and health data into a single large hierarchical Bayesian model. Two Research Fellow (RF) positions in Statistics are available as part of this exciting collaborative project, which will involve air quality modellers, climate scientists, epidemiologists and statisticians at the Universities of Southampton and Glasgow, and at the Met Office. One RF position will be within the Southampton Statistical Sciences Research Institute (S3RI) and Mathematics at the University of Southampton and the second position will be in the School of Mathematics and Statistics at the University of Glasgow.

Applicants for the positions should have, or be about to obtain, a PhD in statistics, or have equivalent research experience. Preference will be given to applicants with a background in Bayesian statistical modelling, especially spatial/spatio-temporal modelling, and Markov chain Monte Carlo. The RF in Southampton will be supervised by Dr Sujit Sahu while the RF in Glasgow will be supervised by Dr Duncan Lee and Prof Richard Mitchell. Both fellows will work closely with each other and the project partners. In addition, they will benefit from advice from the Visiting Researcher on the project, Prof Alan Gelfand (Duke University, USA).

The main role of the Southampton RF will be to develop new statistical methodology for estimating uncertainty in the levels of major air pollutants, and in an aggregate index, under spatial and temporal misalignment of multivariate data and at multiple resolutions. Work with Glasgow will then develop a single integrated Bayesian framework for combining pollution and health models. Informal enquiries regarding this position may be made to Dr Sujit Sahu, telephone +44 (0) 23 8059 5123, email: S.K.Sahu@soton.ac.uk.

The main role of the Glasgow RF will be to develop new statistical methodology to capture the spatio-temporal correlation structure in areal-unit health data, utilising Gaussian Markov Random Field models and then to work with Southampton on the integrated model. Informal enquiries regarding this position may be made to Dr Duncan Lee, telephone +44 (0) 141 330 4047, email: Duncan.Lee@glasgow.ac.uk.

Both the positions are fixed-term for 3 years and will commence on 1st October 2012, or as soon as possible thereafter. The appointed salary will be determined by the relevant University, depending on the successful candidate's skills and experience.
The closing date for applications is 26th June, 2012 for the Southampton position, and 29th June 2012 for the Glasgow position. Interviews are likely to be held in the week beginning July 2, 2012. Candidates who wish to apply for both positions should

submit separate applications to each university with a clear statement of their preference, if any. To apply for the Southampton post, please visit www.jobs.soton.ac.uk or alternatively telephone 023 8059 2750 for an application form. Please quote vacancy reference number 119712WT on all correspondence. To apply for the Glasgow post please visit http://www.gla.ac.uk/about/jobs/ job reference number E20219.