Joint Post: Principal Researcher in Statistical Genomics and Bioinformatics (BioSS, 65%) and Reader in Statistical Bioinformatics (University of Edinburgh, 35%)

Salary from £49,271 per annum
Permanent

Biomathematics & Statistics Scotland (BioSS) and the University of Edinburgh School of Mathematics (SoM) seek a scientist with a strong quantitative background to undertake methodological research in statistical genomics and bioinformatics in collaboration with biological scientists. The aim is to develop and apply computationally intensive modelling and analysis methods to exploit the potential of existing and emerging types of data in genomics and meta-genomics, proteomics and metabolomics.

This is a joint post between BioSS (65%) and the SoM (35%). We offer a stimulating working environment (located in adjacent accommodation within the James Clerk Maxwell Building at the King's Buildings campus with a shared common room and excellent facilities) and extensive opportunities to develop collaborations with scientists in both the research institute and university sectors.

Job purpose, principal duties and responsibilities:
- To pursue research of international standing and impact in statistical genomics and bioinformatics, motivated by science relevant to the portfolio of rural, biological and environmental work in research institutes funded by the Scottish Government.
- Lead research, including developing the BioSS Statistical Genomics and Bioinformatics Research Theme with 10 contributing staff.
- Initiate, apply for, and see through to completion, significant projects and grant proposals in collaboration with other statisticians and/or research scientists.
- Promote and lead knowledge transfer activities, including collaborations with scientists in Scottish Government funded research organisations, and Schools and Centres within the University of Edinburgh.
- Contribute to the development and delivery of teaching at all levels, including e-learning and online learning, support undergraduate and MSc students, supervise MSc dissertations and supervise graduate students.

The post will further involve undertaking appropriate levels of administrative and developmental activities within both organisations.

Biomathematics & Statistics Scotland
Biomathematics & Statistics Scotland (BioSS) has an international reputation for methodological development in statistics, mathematical modelling and bioinformatics. BioSS offers a stimulating working environment, with over 30 staff at four locations, collaborating on applications in plant science, animal health & welfare, ecology & environmental science, and nutrition & human health. Research recently undertaken within the Statistical Genomics and Bioinformatics research theme covers network and pathway biology, molecular phylogenetics, statistical genomics and computational biology including: sparse network methods for gene expression data; genetic linkage mapping using genotyping by sequencing data; automated Bayesian phylogenetic analysis of protein-coding DNA; bacterial meta-genomics and meta-transcriptomics; and Rapid typing of *E. coli* isolates using whole cell mass spectrometry.

BioSS anticipates continued growth in these areas and intends to advertise a postdoctoral research assistant level position to further strengthen capacity in Statistical Genomics and Bioinformatics. It is anticipated that recruitment for this post would be overseen by the newly appointed Principal Researcher, the Head of Research and the Director.

BioSS is one of the SEFARI, a collective of institutes to the Scottish Government's Rural and Environment Science and Analytical Services Division (RESAS) delivering a portfolio of research for the Scottish Government's Rural and Environment Science and Analytical Services Division (RESAS) in collaboration with scientists at the other SEFARI: the James Hutton Institute; the Moredun Research Institute; Scotland's Rural College; the Rowett Institute; and the Royal Botanic Garden Edinburgh. In addition, BioSS undertakes work for a wide variety of funders in the public and private sectors, either independently or in collaboration with scientists from other scientific organisations.

The University of Edinburgh School of Mathematics
The School of Mathematics is one of the leading centres for research and teaching in the Mathematical Sciences in Europe, with over 70 members of academic staff. Research in Statistics within the School is led by Professor Ruth King, holder of the Thomas Bayes' Chair of Statistics, named after Thomas Bayes, who was himself a student at the University of Edinburgh in the 18th century. Research in statistics in the School of Mathematics includes Bayesian inference, non-parametric models, computer-intensive methods, machine learning, spatial modelling, hidden process models, point processes, high dimensional statistics, statistical emulators, biostatistics, astrostatistics, inverse problems and extreme value theory with applications across a wide-spectrum of areas, including the physical, biological, medical and environmental sciences and finance.

Centre for Statistics
The statistics group is currently undergoing a period of substantial growth and has recently established a Centre for Statistics within the University of Edinburgh. BioSS has contributed significantly to initial activities and helps to formulate the strategic vision of the Centre via the Executive Group. The new Centre will act as a focus for statistical activity across the whole breadth of the University and associated institutes. It will promote the establishment of innovative inter-disciplinary statistical research programmes via a range of targeted activities

including the establishment of an Annual Centre for Statistics Conference and focused workshop activities. The Centre will also provide effective communication of statistical ideas to an academic and external audience and be at the forefront of training the next generation of statisticians, quantitative researchers and data scientists.

The Bayes Centre

The Bayes Centre is a newly opened £40M hub for data-driven innovation within and beyond the University of Edinburgh. It represents a new programme of activity, capitalising on existing strengths across the University and opened in September 2018. The vision for the centre is for a data-driven ecosystem where the development and application of technology attracts the best talent and catalyses interdisciplinary collaboration to tackle hard problems and unleash new value for society and industry. The Mathematical Sciences are at the heart of the Bayes Centre: the International Centre for Mathematical Sciences is based there, as are first year PhD students from both Edinburgh and Heriot-Watt Universities.

Contractual arrangements

The post-holder will have separate, but mutually dependent, contracts with each employing organisation.

The post will be funded 65% through BioSS and 35% through SoM, comprising:

- *Matters unique to BioSS*
  20%, including leadership of BioSS research undertaken within its Statistical Methodology research theme;
- *Matters unique to the SoM*
  15%, principally full delivery of one lecture course and one MSc consultancy style research project; or their equivalent;
- *Matters in common*
  65%, including research into statistical genomics and bioinformatics, collaboration with scientists, and securing, managing and undertaking externally funded contracts with a major quantitative component.

The BioSS post will be graded at Hutton F (Principal) level with starting salary in the interval £31,200-£39,650 (corresponding to a 100% FTE figure of £48,000-£61,000).

The UoE post will be graded at UE09 level with starting salary in the interval £18,071-£20,331 (corresponding to a 100% FTE figure of £51,630-£58,089).

Qualifications & Experience

The ideal candidate for this post will have:

- a research track record of international standing and impact, including a substantial publication record, with evidence of methodological development to solve important problems arising in scientific research;
- evidence of research leadership, including project initiation, a track record in securing funding for research and achievement of stated milestones and deliverables;
- enthusiasm for collaborating with biological scientists;
- good computing skills and an ability to develop methods in computationally intensive settings;

- evidence of ability to plan, prepare and deliver excellent University teaching at all levels, including through the supervision of graduate students;
- excellent communication and interpersonal skills.

Knowledge, Skills and Experience

Essential
- PhD in a quantitative discipline with substantial quantitative and computational components.
- Experience of the development of quantitative methodology to help address important scientific issues.
- Project initiation and leadership.
- Demonstrable record of methodological research in a relevant area.
- Good programming ability, both with specialist bioinformatics software and ideally with source code.
- Broad understanding of data types and quantitative issues relevant to research in the Scottish Government's main research providers: also, evidence of engagement in the application of modern quantitative methods to address scientific problems.
- Excellent verbal and written communication skills.
- A research track record of international standing, including dissemination of research results through high quality publications and presentations at workshops and conferences.
- Evidence of research leadership, including a track record in securing funding for research.
- Commitment to excellence in teaching.
- Evidence of excellence in undergraduate and postgraduate (MSc) teaching.
- Evidence of ability to provide high quality supervision for PhD students and for MSc projects.
- Evidence of leadership and innovation in teaching, and of the ability to participate in e-learning and online learning activities.
- Demonstrable commitment to participating fully in organisational/academic affairs, including collaborative working.

Desirable
- Experience of analysing similar data types to those encountered by the SEFARI.
- Evidence of substantial collaborations with scientists from relevant research communities.

How to apply for this post
Applications for this post should be made here through the recruitment pages of BioSS's parent organisation, the James Hutton Institute.

This involves creating an account and uploading personal details along with:
- a CV, including as a minimum your education and employment history plus your relevant scientific achievements;
- names and addresses of three referees, one of whom must be your current employer;
- a short explanation of why you consider yourself suitable for this post, including a description of your current and planned research and teaching activities.

The closing date for applications will be 17.00 GMT Friday 30th November 2018; the interview date is currently scheduled for Wednesday 19th December. Candidates selected for interview will be informed by Thursday 6th December.

Potential applicants may contact Professor Glenn Marion (glenn.marion@bioss.ac.uk, tel +44 (0) 131 650 4898) and Professor Ruth King (ruth.king@ed.ac.uk, tel +44 (0) 131 650 5947) in confidence to discuss the post.

Duration and location
- This is a permanent appointment.
- This position will be based within the BioSS Group based at the University of Edinburgh.
- All individuals wishing to work within the UK must be entitled to do so before they can be employed.

BioSS has been awarded IIP Silver Status and is formally part of The James Hutton Institute, a Scottish charity No. SC041796 and an equal opportunities employer.

INVESTORS IN PEOPLE | Silver