We are seeking candidates to join a substantial team of BioSS statisticians and mathematical modellers to further develop our existing strengths in the area of statistical inference for stochastic processes.

BioSS has an international reputation for methodological development in statistics, mathematical modelling and bioinformatics. We offer a stimulating working environment, with over 40 staff and students at four locations, collaborating on applications in plant science, animal health & welfare, ecology & environmental science, and nutrition & human health.

Statistical inference for stochastic process models is a critical area for BioSS in terms of capacity, expertise and contribution to the scientific community. This is a distinct area of quantitative expertise which integrates knowledge across multiple domains bridging the gap between mathematical modelling and statistics. In recent years, with the development of inference methods that integrate epidemic processes with host and pathogen genetic data, it has expanded into bioinformatics and statistical genetics.

The post is required to meet BioSS commitments across the RESAS Strategic Research Portfolio, especially in the EPIC Centre of Expertise. This post is central to our contributions to EPIC, including: collaborating in development of methods to support policymakers in disease outbreak control; quantitative risk assessment to identify ‘at-risk’ farms during an outbreak; and analysis to learn lessons from historic outbreaks. Within the RESAS Strategic Research Programme, the post underpins work on developing methods for inference in stochastic process models for ecology and epidemiology. Current applications include estimation of on-farm disease transmission using operational data on bovine tuberculosis (bTB) from UK farms, African Swine Fever (ASF) which is currently having huge impact globally and represents a major threat to the EU, UK and Scotland.

The post will also play an important role in developing stronger links between BioSS and the Roslin institute by developing collaborative links e.g. in areas related to host and pathogen genetics and disease.
The post will be based at the BioSS Headquarters in Edinburgh. BioSS offers a stimulating working environment located in the James Clerk Maxwell Building at the University of Edinburgh, King’s Buildings campus and extensive opportunities to develop collaborations with scientists in both the research institute and university sectors.

**The purpose and responsibilities of this post are:**

- To develop and apply methodology including Bayesian approaches to inference for stochastic process models from real world data
- Ongoing engagement with the objectives, activities and scientists within the EPIC Centre of Expertise, leading to scientific collaborations and the delivery of novel quantitative methods applicable to EPIC
- Development of research under the RESAS Strategic Research Programme
- Development of collaborations with scientists in SEFARI and HEIs
- Development of a portfolio of personal research in methodology for inference for stochastic process models including Bayesian and computationally intensive methods
- Make or support applications for external e.g. UKRI funding and deliver resulting projects as appropriate
- Contribute to revenue generation through completion of existing projects and development of new projects

**Grade and starting salary**

This post will be offered at Hutton Grade D (statistician, salary range £31,365 - £38,250) or at Hutton Grade E (circa £38,250) for exceptional candidates demonstrating greater experience and who can clearly demonstrate their ability to make an immediate impact.

**Knowledge, Skills and Experience**

*Essential*

- PhD (or MSc with compensatory experience) in a quantitative discipline with substantial statistical and computational components.
- Experience of methodological development and scientific collaborations in statistical inference for stochastic processes.
- Evidence of ability to interact positively, effectively and confidently with collaborators in formal and informal situations.
- Ability to work independently.
- Good programming ability to handle large data sets and deploy computational and statistical bioinformatics techniques.
- Excellent written communicator.
• Willingness and ability to give verbal presentations presenting technical methods and results to non-quantitative audiences.

An appointment to Grade E would also require:
• Evidence of contribution to funding proposals.
• Track record of publications underpinned by quantitative methods.
• Evidence of engagement in the application of modern quantitative methods to address scientific problems

Desirable

• Broad understanding of data types and quantitative issues relevant to inference for stochastic process models.
• Experience of application of modern quantitative methods to areas relevant to SEFARI and the RESAS portfolio; experience in areas relevant to EPIC would be particularly desirable.

For Band D the following are also desirable
• Evidence of engagement in the application of modern quantitative methods to address scientific problems.
• Evidence of contribution to funding proposals.

Duration and location
• This is a permanent appointment.
• This position will be based within the BioSS group based The King’s Buildings campus of the University of Edinburgh.
• All individuals wishing to work within the UK must be entitled to do so before they can be employed.

How to apply for this post
Applications for this post (Ref: BioSS 04-19) should be made through the recruitment pages of BioSS’s parent organisation, the James Hutton Institute:
www.hutton.ac.uk/careers

The application process 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;
• a short explanation of why you consider yourself suitable for this post, including a description of your current and planned research activities.

The closing date for applications will be 5pm GMT Friday 10th January 2020; the interview date is to be confirmed but is likely to be in the week commencing 20th January 2020. Candidates selected for interview will be informed by Wednesday 15th January 2019.

Potential applicants may contact Professor Glenn Marion (glenn.marion@bioss.ac.uk, tel +44 (0) 131 650 4898) in confidence to discuss the post.
BioSS has been awarded IIP Gold Status and is formally part of The James Hutton Institute, a Scottish charity No. SC041796 and an equal opportunities employer.