Research Associate in Biostatistics

Department: Biology
Hours of work: 37 hours per week
Contract type: Fixed term – 2.5 years
Salary: £32,817 - £40,322 a year
Introduction

Applications are invited for a Postdoctoral Research Associate to work on a BBSRC-funded study focussed on uncovering the genetic basis by which plants respond to changes in day length to produce synchronised flowering. It is led by Dr. Daphne Ezer, Lecturer in Computational Biology (Department of Biology, University of York), Dr. Marina Knight (Department of Mathematics, University of York) and Prof Seth Davis (Department of Biology, University of York).

You will develop and apply new statistical methods to identify genetic loci that are associated with the ability of a plant to quickly detect changes in day length. Ideally, you should have some familiarity with time series (or, even better, functional) data, Fourier analysis, and/or biostatistical methods (such as those used in quantitative trait loci mapping).

You will work in close collaboration with other group members on the project, and the position will include training in modern plant sciences and molecular-imaging techniques.

The long-term aim of the project is to develop more efficient breeding strategies to produce crop lines that have synchronised development, by screening plant seedlings for varieties that respond quickly to changes in day length (and therefore respond in a more uniform way to the change in seasons). It is important for plants to develop in a synchronised manner to reduce food waste, since farmers harvest whole fields at a time and throw away produce that does not meet food standards.

The Department of Biology is one of the largest and most successful departments at York and we are renowned internationally for our research. As a department, we strive to provide a working environment that allows all staff and students to contribute fully, to flourish, and to excel. We are proud of our Athena SWAN Gold Award.

Main purpose of the role

- To conduct research under the supervision of Dr Daphne Ezer, Dr. Marina Knight and Prof Seth Davis and to contribute to the production of research
- To assist in the identification and development of potential areas of research and the development of proposals for independent or collaborative research projects

Key responsibilities

(Role holders will be required to undertake some or all of the duties below)

- To conduct individual and collaborative research projects, duties to include: analysis and interpretation of research data; use of appropriate research techniques and methods; writing up of research results and dissemination through publications, seminar and conference presentations and public engagement and outreach activities; contributing to the identification of possible new areas of research
- To contribute to the preparation of research proposals and applications to external bodies
- To undertake appropriate organisational and administrative activities connected to the research project.
- To develop and initiate collaborative working internally and externally, duties to include: the building of internal contacts and participation in internal networks; collaboration with colleagues on joint projects as required; participation in and identification of external networks in order to share information and identify potential opportunities for collaboration and possible sources of funding; attendance at and contribution to relevant meetings
- To provide guidance to other staff and students, as required, as well as coordinating the work of small research teams
• To assist with undergraduate teaching in own area of expertise.
# Person specification

<table>
<thead>
<tr>
<th>Essential / Desirable</th>
<th>Qualifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Essential</td>
<td>First or second degree in [Maths, Statistics, Computer science, Physics or Biology]</td>
</tr>
<tr>
<td>Essential</td>
<td>PhD in [a mathematical or scientific area involving data analysis] or equivalent experience</td>
</tr>
</tbody>
</table>

## Knowledge

- Knowledge in [at least one of the following (i) functional data analysis or Fourier analysis (ii) time series analysis (iii) quantitative genetics, such as Quantitative Trait Locus (QTL) mapping].
- Knowledge of a range of research techniques and methodologies, including programming (R, Matlab or Python) and ability to develop new statistical methods or tools.
- Has research expertise or interest in plant biology or genetics

## Skills, abilities and competencies

- Highly developed communication skills to engage effectively with an interdisciplinary team, both orally and in writing.
- Ability to write up research work for publication in high profile journals
- Competency to make presentations at conferences or exhibit work in other appropriate events
- Competency to conduct individual and collaborative research projects
- Ability to identify sources of funding and contribute to the process of securing funds, with collaborators if required

## Experience

- Experience of carrying out both independent and collaborative research
- Experience of writing up research work for publication
- Ability to work as part of a team and also to work independently using own initiative

## Personal attributes

- Attention to detail and commitment to high quality
- Collaborative ethos
- Interest in and enthusiasm for the subject matter of the project(s)
<table>
<thead>
<tr>
<th>Positive attitude to colleagues and students</th>
<th>Essential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willingness to work proactively with colleagues in other work areas/institutions</td>
<td>Essential</td>
</tr>
<tr>
<td>Ability to plan and prioritise own work in order to meet deadlines, including using initiative to plan research programmes</td>
<td>Essential</td>
</tr>
<tr>
<td>Commitment to personal development and updating of knowledge and skills</td>
<td>Essential</td>
</tr>
</tbody>
</table>