Research Officer, Physics of Life Group

**Department:** School of Physics, Engineering and Technology

**Hours of work:** Full time/ 37 hours per week

**Contract type:** Open

**Salary:** Grade 7/ £40,927 - £50,296 per year
Introduction

The University of York has established the School of Physics, Engineering and Technology that will formally launch in August 2022. The School will bring together existing strengths in the departments of Electronic Engineering and Physics and allow expansion into new areas.

The departments of Electronic Engineering and Physics are both in periods of rapid, transformational evolution. The Department of Electronic Engineering has an increasing emphasis on engineering research and teaching, with new capabilities in robotics and medical engineering. The successful start of the exciting new Engineering and Electrical Engineering undergraduate programmes accelerates this transition.

At the same time the Department of Physics has been transitioning its research from an historic emphasis on mainly fundamental science to include more applied research - for example, nuclear physics research now involves collaboration with industrial partners and medics, the materials research has found a new focus in energy related areas, the previous focus on fundamental quantum physics now includes industrially relevant experimental research.

As a School, equality, diversity, and inclusion are central to our working environment and we strive to provide a working environment which allows all staff and students to contribute fully, to flourish, and to excel. We aim to ensure that there is a supportive and egalitarian culture at all levels and across all staff groups and offer a range of family friendly, inclusive employment policies, flexible working arrangements, staff engagement forums, campus facilities and services to support staff from different backgrounds. Physics is proud to hold Juno Champion, and Athena Swan silver awards. Electronic Engineering is similarly proud of their Athena Swan bronze award. These awards recognise our commitment to creating a fully inclusive and supportive environment in which staff and students can thrive. We aim to inspire young people to engage with science and engineering through our outreach work.

The York Physics of Life (PoL) Group in the School of Physics, Engineering and Technology (PET) at the University of York comprises approximately 50 researchers who combine both biophysics/biological physics experiment and theory, whose research activities span multiple length scales from quantum biology and individual molecules through to single-cell physics and the biophysics of cell populations and complex tissues. PoL is one of PET's major discovery research groupings. Since PoL's inception in 2018 there have been significant emergent activities that align either directly with addressing biological questions using physical sciences techniques and analysis, or with developing new physics ideas inspired by the life sciences, including the use of biological or bio-inspired devices and materials.

Main purpose of the role

The primary role of the PoL Research Officer is to help co-ordinate and support research activities within PoL for 80% of their time, whilst developing their own independent research activities for the remaining 20%. They will support both experimental and theoretical activities across the PoL research portfolio. They will manage the provision and access to experimental theoretical/computational equipment used across PoL, directing the research support needed within the PoL groups and liaising with collaborating researchers. They will act as a key point of contact with other research support staff both within PET, and across other departments and research
centres in the University and externally, to best facilitate the support of the activities of PoL researchers.

- To contribute to and/or lead on the production of research outputs and research outcomes.
- To participate actively in the planning and management of research projects, including supervising the work of others and providing expert advice and guidance.
- To contribute to and/or lead the obtaining of external research funding.
- To contribute to the public understanding of research and scholarship.

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

- To participate actively in the planning and advancement of research programmes, duties to include: the management of small research projects or identified parts of a large project; the management of other research staff, support staff and research students to ensure that the project is successfully completed and that the researchers working on the project are supported in their personal and professional development; the management of research resources, ensuring that effective use is made of them.
- Take the lead in an experimental and a theoretical/computational specialism using refined skills and knowledge to interpret and implement specialist requirements across a number of units or areas, to agreed timeframes providing appropriate interpretation to PoL researchers.
- Collaborate with PoL senior management and academics in all matters relating to experimental and theoretical/computational research support.
- Manage the working spaces occupied by PoL researchers ensuring they are deployed to maximum effect and lead the review and implementation of procedures to maximise the efficient running of these work areas.
- Understand, promote, and oversee writing health and safety protocols for specialist equipment used by PoL researchers, in conjunction with other appropriate research support staff. Oversee ensuring that users of the equipment are given safety training and advice. Oversee ensuring that legislative and regulatory safety testing of the specialist equipment is carried out and documentation is completed.
- To apply experience for the procurement of complex scientific equipment and associated service contracts, in conjunction with other appropriate research support staff. Oversee supplies for optimum stock levels within budget accountabilities.
- Manage and monitor budgets to ensure maximum efficiency is achieved. Contribute data to influence budget setting.
- To dedicate 20% of your time to develop your own independent research, with appropriate mentorship and support from the PoL coordinator and other PoL academics as appropriate.
- To write or contribute to publications or disseminate research findings, including public engagement to non-research specialist organisations using other appropriate media.
- Undertake peer review of draft research publications and grant proposals produced by PoL researchers, and actively contribute to the Research Excellence Framework (REF).
- To make presentations at conferences and/or exhibit work in other appropriate events.
- To develop ideas and necessary collaborations for application of research outcomes.
- To decide on research programmes and methodologies, often in collaboration with colleagues.
- To develop ideas for generating income and promoting the research area, including contributing to the process of securing external funding.
• Extend, transform and apply knowledge acquired from scholarship to research and appropriate external activities.

• To supervise PoL postgraduate research students and undergraduate project students, and mentor PoL researchers with less experience and visitors to the PoL group; advising on their personal development where appropriate and supporting them in developing their research techniques.

• To attend departmental meetings as required and undertake appropriate managerial and administrative tasks in connection with the research activity.

• To develop and initiate collaborative working internally and externally, and the fostering of internal and external networks in order to advance research and exploit opportunities for collaboration and funding sources.
Person specification

<table>
<thead>
<tr>
<th>Qualifications</th>
<th>Essential</th>
</tr>
</thead>
<tbody>
<tr>
<td>PhD in an area which includes substantive biophysics components</td>
<td>Essential</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Essential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge / understanding of experimental and theoretical/computational biophysical methods to engage in high-quality research</td>
<td>Essential</td>
</tr>
<tr>
<td>In-depth specialist knowledge in at least one experimental and one theoretical/computational biophysics research technique and methodology</td>
<td>Essential</td>
</tr>
<tr>
<td>Has research expertise in areas that will complement and enhance PoL’s research strategy and goals</td>
<td>Essential</td>
</tr>
<tr>
<td>Advanced and specialist IT knowledge</td>
<td>Essential</td>
</tr>
<tr>
<td>Broad understanding and in-depth knowledge of the relevant safety legislation &amp; regulations relevant to PoL</td>
<td>Desirable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skills, abilities and competencies</th>
<th>Essential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly developed communication skills to engage effectively with a wide ranging audience, both orally and in writing, using a range of media</td>
<td>Essential</td>
</tr>
<tr>
<td>Ability to lead and/or take responsibility for a small research project or identified parts of a large project</td>
<td>Essential</td>
</tr>
<tr>
<td>Proven ability to supervise the work of others, for example in research teams or projects</td>
<td>Essential</td>
</tr>
<tr>
<td>Ability to write up research work for publication and onward dissemination</td>
<td>Essential</td>
</tr>
<tr>
<td>Ability to persuade and influence project stakeholders</td>
<td>Essential</td>
</tr>
<tr>
<td>Ability to develop research objectives, projects and proposals for own and joint research</td>
<td>Essential</td>
</tr>
<tr>
<td>Competency to conduct individual and collaborative research projects</td>
<td>Essential</td>
</tr>
<tr>
<td>Ability to identify sources of funding and contribute to the process of securing funds, with collaborators if required</td>
<td>Essential</td>
</tr>
<tr>
<td>Ability to extend, transform and apply knowledge acquired from scholarship to research and appropriate external activities</td>
<td>Essential</td>
</tr>
<tr>
<td>Competency to make presentations at internationally recognised conferences or exhibit work in other appropriate events</td>
<td>Essential</td>
</tr>
</tbody>
</table>
Well-developed analytical skills | Essential
---|---
Ability to contribute to specification documentation for the procurement and service of the complex equipment and to provide scientific data in written format for management | Desirable
Ability to manage budgets, write financial reports and produce statistical information | Desirable

**Experience**

Experience of undertaking publicly evidenced high quality research in an interdisciplinary environment | Essential
Evidenced active participation in the planning and advancement of research projects | Essential
Demonstrable in-depth postdoctoral experience in biophysics research | Essential
Proven ability to attract and obtain external research funding | Essential
Successful management of research projects including supervision of the work of others and providing expert advice and guidance to teams | Essential
Evidence of dissemination of scholarly work which may include: the presentation of papers at conferences and workshops; participation in public engagement events to disseminate research; the publishing of chapters in text books, articles or reviews in academic journals or elsewhere in which you have made a major/lead contribution; the development of websites | Essential

**Personal attributes**

Attention to detail and commitment to high quality | Essential
Collaborative ethos | Essential
Commitment to promoting the public understanding of research and scholarship | Essential
Positive attitude to colleagues and students | Essential
Willingness to work proactively with colleagues in other work areas/institutions | Essential
Ability to plan and prioritise own work in order to meet deadlines | Essential
Commitment to personal development and updating of knowledge and skills both for themselves and the personal development of those they supervise | Essential
A strong desire to establish bridges between physical and life sciences | Essential