Postdoctoral Research Associate
Department of Biology

Closing date: 15 July 2018
Interview date: To be confirmed
Vacancy reference: 6755
INTRODUCTION

Formation of antibiotic-resistant staphylococcal biofilms on medical devices causes significant morbidity and mortality. *Staphylococcus aureus* and *Staphylococcus epidermidis* are two commonly isolated organisms from device infections. This British Heart Foundation-funded project is investigating both the structure and function of proteins involved in staphylococcal biofilm formation. The work will involve recombinant expression and purification of regions of the bacterial proteins, structure determination using X-ray crystallography and analysis of molecular interactions using a range of biophysical techniques. Hypotheses regarding key functional residues will then be assessed using site-directed mutagenesis. This is an excellent opportunity for applicants interested in the structural biology of microbial proteins and with experience of the relevant techniques. A wide range of equipment is available for the work and the successful applicant will also gain experience of interdisciplinary collaborative working.

Relevant publications from the lab:


Main purpose of the role

- To conduct research under the supervision of senior colleagues 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: acquisition, 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 supervision, organisational and administrative activities connected to the research project, including supervision of project students, various duties required for smooth running of a research laboratory and contributing to laboratory databases and website if appropriate

- 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>Qualifications</th>
<th>Essential/Desirable</th>
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<tbody>
<tr>
<td>First degree in biochemistry or a related subject</td>
<td>Essential</td>
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<tr>
<td>PhD in Biochemistry, Biophysics or equivalent experience</td>
<td>Essential</td>
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<thead>
<tr>
<th>Knowledge</th>
<th>Essential/Desirable</th>
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<tr>
<td>Knowledge in protein structural biology to engage in high quality research</td>
<td>Essential</td>
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<tr>
<td>Knowledge of the relevant areas of protein biochemistry and biophysics</td>
<td>Essential</td>
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<td>Knowledge of approaches in, and relevance of, interdisciplinary research</td>
<td>Essential</td>
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<td>Knowledge of appropriate and safe working practices in relevant laboratory-based research</td>
<td>Essential</td>
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<tr>
<th>Skills, abilities and competencies</th>
<th>Essential/Desirable</th>
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<tr>
<td>Experience of a range of relevant research techniques and methodologies including cloning, recombinant protein expression and purification, x-ray crystallography and biophysical characterisation of proteins and their interactions.</td>
<td>Essential</td>
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<tr>
<td>Highly developed communication skills to engage effectively with a wide audience, both orally and in writing, using a range of media</td>
<td>Essential</td>
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<tr>
<td>Track record of writing up research work for publication in high profile journals</td>
<td>Essential</td>
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<td>Ability to develop research objectives, projects and proposals for own and joint research, with the assistance of a mentor if required</td>
<td>Essential</td>
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<tr>
<td>Competency to conduct individual and collaborative research projects</td>
<td>Essential</td>
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<td>Ability to identify sources of funding and contribute to the process of securing funds, with collaborators if required</td>
<td>Essential</td>
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<tr>
<td>Ability to train other scientists, including undergraduate students in area of expertise including technical skills</td>
<td>Essential</td>
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<td>Competency in data handling and relevant IT skills</td>
<td>Essential</td>
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<tr>
<td>High quality research including attention to detail and accurate record keeping</td>
<td>Essential</td>
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## PERSON SPECIFICATION

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<tr>
<th>Skills, abilities and competencies continued</th>
<th>Essential / Desirable</th>
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<tbody>
<tr>
<td>Excellent and safe experimental (wet lab) skills and competencies in biochemistry and structural biology</td>
<td>Essential</td>
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<tr>
<td>Ability to work independently, yet in close collaboration with other scientists</td>
<td>Essential</td>
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<td>Ability to plan, prioritise and use initiative to meet deadlines</td>
<td>Essential</td>
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### Experience

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<th>Essential / Desirable</th>
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<tr>
<td>Experience of carrying out both independent and collaborative research</td>
<td>Essential</td>
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<tr>
<td>Experience of writing up research work for publication</td>
<td>Essential</td>
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<tr>
<td>Ability to work as part of a team and also to work independently using own initiative</td>
<td>Essential</td>
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<tr>
<td>Experience with interdisciplinary work</td>
<td>Desirable</td>
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<td>Experience of supervising undergraduates/junior members of a team</td>
<td>Desirable</td>
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<td>Experience of contributing to general lab duties</td>
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### Personal attributes

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<tr>
<td>Attention to detail and commitment to high quality</td>
<td>Essential</td>
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<td>Collaborative ethos</td>
<td>Essential</td>
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<tr>
<td>Interest in and enthusiasm for structural biology of bacterial proteins involved in infection</td>
<td>Essential</td>
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<td>Positive attitude to colleagues and students</td>
<td>Essential</td>
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<td>Willingness to work proactively with colleagues in other work areas/institutions</td>
<td>Essential</td>
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<td>Ability to plan and prioritise own work in order to meet deadlines, including using initiative to plan research programmes</td>
<td>Essential</td>
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<tr>
<td>Commitment to personal development and updating of knowledge and skills</td>
<td>Essential</td>
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Our department welcomes staff and students from around the world. We celebrate excellence, breadth and diversity across the spectrum of modern biology.

Our research is focused around fundamental science research foci, which are Cell and Developmental Biology, Molecular and Cellular Medicine, Bioinformatics and Mathematical Biology, Infection and Immunity, Ecology and Evolution, Microbiology, Biochemistry and Biophysics and Plant Biology. The Department has successfully continued to establish state-of-the-art laboratory space and maximise our existing space and a new teaching building opened in Autumn 2016. In the 2014 Research Excellence Framework (REF) exercise, the Department of Biology was again placed in the top 10 in the UK. We are ranked 1st for impact outside academia - our research has had major influence on environmental policy, industry and health. This demonstrates our strengths across the biological sciences: from ecology to biochemistry, biotechnology and biomedical sciences. The Department of Biology covers the spectrum of contemporary biological sciences with no internal barriers, and collaboration internally and externally is strongly encouraged. Our Department comprises >70 academic and teaching staff, >100 research associates, >140 professional support staff (technical and administrative), 180 graduate students, and approximately 860 undergraduates. Several senior positions are funded by charities or industry.

Although we are a research-intensive department, our teaching is equally important, and the University holds a Silver Teaching Excellence Framework (TEF) award. Our teaching in the department consistently ranks highly which is reflected in our achievements in the National Student Survey (NSS). We are preparing for departmental TEF awards in 2020. Our aim is to maintain a collegiate atmosphere where academic practice encompasses equitably distributed research, teaching and administrative duties throughout the staff group. Our staff are enthusiastic about interacting with students and have a commitment to delivering high-quality teaching and developing and applying innovative and appropriate teaching techniques using material which creates interest, understanding and enthusiasm amongst students. Staff carry out on-going curriculum review, the review of module content and materials and contribute to the development of teaching and learning strategies.

We currently offer the following degrees within the Department:

- BSc/MBiol Biology
- BSc/MBiol Ecology
THE DEPARTMENT

- BSc/MBiol Genetics
- MSc Biodiversity, Ecology and Ecosystems
- BSc/MBiochem Biochemistry
- BSc/MBiol Molecular Cell Biology
- BSc/MBiol Biotechnology and Microbiology
- MSc Industrial Biotechnology
- BSc/MBiomedSci Biomedical Science
- MSc Molecular Medicine
- MSc By Research
- MPhil
- PhD

In addition we run a prestigious BBSRC funded Doctoral Training Partnership (DTP) which brings together the very best molecular, chemical and cellular bioscience research across the White Rose Consortium of Universities (Leeds, Sheffield and York), which maps on to the research themes of the BBSRC. Students benefit from a regional PhD training programme that has interdisciplinary collaboration at its core. This enables students to develop a range of research skills in biological and biochemical areas as well as equip them with core mathematical, data analysis and generic professional skills that are necessary for bioscience research in the coming decades.

As befits a department of our size, we have extensive professional support services which underpin our teaching and research. This includes teams in operational services; horticulture; stores and logistics and teaching laboratory technicians. We provide excellent biological services facilities and mechanical and electronic workshops. We also have administration teams which cover; Health and Safety; Research support to assist with external funding proposals for research activities; a Student and Academic Services team in place to support academic staff and students; a core Department Management Team Hub who support a broad range of administrative processes in order to facilitate the smooth running of departmental activity.

We also have our Bioscience Technology Facility which is a unique resource providing a purpose-built facility for our world-class scientists and technologists working across six bioscience research capabilities. Collectively it brings together a unique range of expertise and equipment, and is recognised as a leading example of how to provide research support in the 21st Century. The focus is on six core areas:

- BSc/MBiol Genetics
- MSc Biodiversity, Ecology and Ecosystems
- BSc/MBiochem Biochemistry
- BSc/MBiol Molecular Cell Biology
- BSc/MBiol Biotechnology and Microbiology
- MSc Industrial Biotechnology
- BSc/MBiomedSci Biomedical Science
- MSc Molecular Medicine
- MSc By Research
- MPhil
- PhD
THE DEPARTMENT

Bioinformatics, Genomics, Imaging & Cytometry, Molecular Interactions, Protein Production, and Proteomics. The Department has a dedicated bioinformatics support team within the Technology Facility who can provide help and assistance with a wide range of bioinformatics software.

The Department of Biology operates a set of family-friendly policies and welcomes applications that are made on a part-time and job share basis. We will do our best to accommodate such requests where possible. Staff working patterns are flexible and a formal flexitime system is also in operation and the University has a nursery on site. We are proud to foster a supportive culture that helps staff and students reach their full potential and we embrace equality, diversity and inclusion as well as the values of the Athena SWAN Charter in all our departmental activities. Our philosophy is that poor working practices discriminate disproportionately against women whereas good practices support all. We have a Gold Athena SWAN award in recognition of our culture, ethos and activity.
THE UNIVERSITY

Founded on principles of excellence, equality and opportunity for all, the University of York opened in 1963 with just 230 students. In 2018 it is the home of more than 17,000 students across more than 30 academic departments and research centres. Since opening over fifty years ago, we have become one of the world’s leading universities and a member of the prestigious Russell Group.

We are consistently recognised as one of the leading Higher Education Institutes and are ranked 16th in the Times & Sunday Times league table (2017). The University of York has won six Times Higher Education (THE) Awards and five Queen’s Anniversary Prizes.

The University is proud of its association with Athena SWAN, holding 12 awards in support of gender equality, representation and success for all, with gold awards for Chemistry and Biology and a University-wide bronze award.

Of 154 universities that took part in the Research Excellence Framework (REF) in 2014, The University of York ranked 14th overall and 10th for the impact of our research. The University is consistently in the top ten UK research universities and attracts over £60m a year of funding from research alone.

Our vision is to make the University of York a world leader in the creation of knowledge through fundamental and applied research, the sharing of knowledge by teaching students from varied backgrounds and the application of knowledge for the health, prosperity and well-being of people and society.
Attractive workplace

Centred around the picturesque village of Heslington on the edge of the city of York, our colleges are set in an attractive landscaped campus. York enjoys a safe, friendly atmosphere with facilities including bars, shops, theatres and concert halls all within easy walking distance.

The University has undergone an unprecedented period of expansion and renewal since 2000. We have invested in twenty new buildings on the original campus and have completed the first and second phases of a £750m campus expansion. Our investment in new colleges, teaching and learning spaces, laboratories, research facilities and a new sports village mean there has never been a better time to join us.

During this period of change we’ve worked hard to retain our friendly, informal and collegiate atmosphere, which is important to our core values of inclusivity and interdisciplinarity.

We have a thriving international community and are committed to providing staff moving to York with as much support as possible through our Relocation Package and Welcome Officers.

The University is committed to promoting a diverse and inclusive community - a place where we can all be ourselves and succeed on merit. We 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.

For further information please visit our employee benefit pages.
The City of York

Internationally acclaimed for its rich heritage and historic architecture, York’s bustling streets are filled with visitors from all over the world. Within its medieval walls you will find the iconic gothic Minster, Clifford’s Tower and the Shambles - just a few of the many attractions.

But York isn’t just a great place to visit - it's also a great place to live and work. While nourishing a vibrant cosmopolitan atmosphere, York still maintains the friendly sense of community unique to a small city.

Visit [www.visityork.org](http://www.visityork.org) for more information on the city of York.

Shopping, culture and entertainment

York boasts specialist and unique boutiques but also all the high street stores on its busy shopping streets. Alongside them you will find cinemas, theatres, an opera house, art galleries, a vast range of restaurants, live music venues and clubs. York is particularly renowned for its multitude of pubs and bars, from the modern to the medieval.

Housing and schools

Whether you choose to live close to the city, in one of the surrounding villages or further afield, you will find a wide range of housing within comfortable distance of York and the University. For families, the area has a range of excellent schools both in the state and independent sector.

Great location

York is one of Britain’s best-connected cities. Halfway between London and Edinburgh on the East Coast mainline, on intercity trains you can reach London King’s Cross in less than two hours and Edinburgh in two and a half hours. York is also well served by road links, and it is easily accessible from the A1, M1 and the M62.

For those travelling from overseas, Manchester Airport is two hours away and Heathrow Airport just three and a half. Flights from nearby Leeds Bradford Airport provide easy access to mainland Europe. By Eurostar from London St Pancras, Paris is just over six hours away.

Yorkshire

The Lonely Planet guide recently declared Yorkshire the third best region in the world to visit. There is something to cater to every taste, whether it be the rugged landscapes of the Moors or the Dales, the picturesque seaside towns of Scarborough and Robin Hoods Bay, the gothic architecture of Whitby or the vibrancy of cosmopolitan Leeds.
Apply online

- Go to https://jobs.york.ac.uk
- Find this job using reference 6755
- Complete the online application form

You will need to submit your completed application by midnight (local UK time) on 15 July 2018.

What will I need?

You will need to upload:

- your CV
- a letter describing how you meet the requirements of the job

You will also need details of 2 referees.

Help and assistance

Please direct any informal queries to Professor Jennifer Potts
jennifer.potts@york.ac.uk For an alternative contact, please email biol-dmthub@york.ac.uk

If you have any questions about your application, contact the HR Services team:

recruitment@york.ac.uk

+44 (0)1904 324835