Research Technician
Department of Biology

Closing date: 8 November 2017
Interview date: 14 December 2017
Vacancy reference: 6135
INTRODUCTION

The Mackinder Lab, Department of Biology, University of York, is looking to recruit a highly motivated and enthusiastic research technician to support current research projects.

Photosynthesis drives life on Earth. However, the passive diffusion of CO$_2$ from the surrounding environment to the active site of Rubisco can be limiting for photosynthesis. To overcome this nearly all algae have evolved CO$_2$ concentrating mechanisms (CCMs) to concentrate CO$_2$ in the proximity of Rubisco resulting in increased photosynthetic rates. The Mackinder lab focuses on the discovery and characterization of components of the CCM in the model green algae, *Chlamydomonas reinhardtii* (see Mackinder et al. 2017, *Cell* 171:133-147 and Freeman Rosenzweig et al. 2017, *Cell* 171:148-162). This data is being used to guide the engineering of a CCM in higher plants to improve photosynthetic performance and crop yields.

As a research technician in the lab you will play a key role in setting up and supporting research projects. You will support a funded BBSRC project that is using a holistic, systems biology approach to create a spatially defined, dynamically inferred, protein-protein interaction network of the *Chlamydomonas* CCM. In addition, you will be involved in the day to day running of the lab, procurement and supervision of undergraduate and postgraduate students. Opportunities to establish and conduct your own project within the labs research framework will be encouraged.
Main purpose of the role

To provide technical and scientific support to ongoing research projects. This will include planning and performing experiments, data analysis and data presentation. Experiments will include algal culturing, PCR, cloning, western blotting and protein-protein interaction analysis by affinity purification mass spectrometry. The role will also assist with and take responsibility for the organisation, housekeeping and operational management of the laboratory.

Key responsibilities

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

- Plan and perform experiments in accordance with the aims and objectives of the project and/or programme and use a range of scientific techniques, processes and procedures within the scope of the role
- Support University research staff in their research, through the independent application of specialist scientific techniques
- Write and maintain accurate records of the research being undertaken, using software packages such as Microsoft Word and Excel; maintain own laboratory records in accessible form
- Prepare written summaries of the research activities undertaken; communicate and make presentations within the research group, at meetings, and other recognised avenues as appropriate
- Provide technical advice, in relation to the research and the techniques used, to other staff members within the wider research team
- Be responsible for the maintenance, repair and operation of laboratory facilities/equipment, and contribute to the organisation, housekeeping and operational management of the laboratory; maintain stocks of consumables
- Provide laboratory inductions, ongoing training, supervision and technical support for undergraduate and postgraduate students, members of staff and visitors using the laboratory facilities and equipment
- Develop laboratory protocols, standard operating procedures and maintenance schedules for laboratory equipment, and be responsible for laboratory operational health and safety processes and procedures
- Responsible for keeping own knowledge and understanding up to date in the field of specialism; translating knowledge of advances in the subject area into research activity
- The post holder may be required to undertake others duties within the scope and grading of the post
# PERSON SPECIFICATION

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<tr>
<th>Qualifications</th>
<th>Essential / Desirable</th>
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<tr>
<td>A degree in a relevant science subject</td>
<td>Essential</td>
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<th>Knowledge</th>
<th>Essential / Desirable</th>
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<tr>
<td>Knowledge of a broad range of research techniques and methodologies</td>
<td>Essential</td>
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<td>Knowledge of cell biology</td>
<td>Essential</td>
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<td>Knowledge of lab safety regulations and procedures, COSHH</td>
<td>Essential</td>
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<td>Knowledge of algal biology</td>
<td>Desirable</td>
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<td>Knowledge of photosynthesis</td>
<td>Desirable</td>
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<th>Skills, abilities and competencies</th>
<th>Essential / Desirable</th>
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<tr>
<td>Competent at a wide range of molecular biology techniques. Including: polymerase chain reaction (PCR), cloning and protein work</td>
<td>Essential</td>
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<td>Competency in small- and large- scale data handling and management</td>
<td>Essential</td>
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<td>Ability to work both independently and as part of a small team</td>
<td>Essential</td>
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<td>Highly organised with excellent communication and documentation skills/accurate record keeping</td>
<td>Essential</td>
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<td>Ability to understand and interpret scientific literature and data</td>
<td>Essential</td>
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<td>Competency to design and conduct individual experiments</td>
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<td>Ability and willingness to undertake supervision of undergraduate and postgraduate students</td>
<td>Essential</td>
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<th>Experience</th>
<th>Essential / Desirable</th>
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<td>Keeping concise and accurate laboratory records</td>
<td>Essential</td>
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<td>At least one year of laboratory work</td>
<td>Essential</td>
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<td>Research experience in plant biology, algal biology or related field</td>
<td>Essential</td>
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<td>Operating modern analytical equipment</td>
<td>Desirable</td>
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<td>Carrying out risk assessments</td>
<td>Desirable</td>
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<th>Personal attributes</th>
<th>Essential / Desirable</th>
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<tr>
<td>Responsible, reliable, and highly motivated</td>
<td>Essential</td>
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<td>Willingness to learn new techniques and keep up to date with developments in own field of expertise</td>
<td>Essential</td>
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<td>Enthusiastic and hardworking with a passion for biology.</td>
<td>Essential</td>
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<td>Willingness to, on occasion and as required by experiments, work flexible hours</td>
<td>Desirable</td>
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Following the 2014 REF the Department of Biology at York has again been placed in the Top 10 in the UK. It is 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.

In terms of teaching, Biology at York ranks consistently in the top 5 across the major UK University league tables, with - for example - fourth place in the Complete University Guide in both 2015 and 2016.

The Department of Biology covers the spectrum of contemporary biological sciences with no internal barriers, and collaboration within the Department is strongly encouraged. Our Department comprises approximately 69 academic staff, 99 research associates, 172 support (technical, professional and administrative) staff, 180 graduate students, and approximately 863 undergraduates. Several senior positions are funded by charities or industry. The Department has successfully continued to establish new laboratory space and refurbish our existing space. A new £6M teaching wing opened in 2014 and a £16M phase two expansion has opened for the academic year in 2016.

The Mackinder Lab started at the University of York in October 2016 and uses systems and high-throughput biology to research carbon fixation in algae. One of our main focuses is the understanding of how eukaryotic algae are so efficient at taking up and fixing CO2 from their surrounding environment.

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 in operation in the Department. We provide support and advice for staff taking maternity, paternity, adoption and parental leave, and the University has a nursery and a Child Care voucher scheme.

The Department strives to address gender inequalities and ensure that there is a culture that supports equality and encourages better representation throughout the department. Support for women at all stages of their career is recognised as being extremely important.

For further information please refer to our information on Athena Swan.

Further information about the department is available at: http://www.york.ac.uk/biology/
Founded on principles of excellence, equality and opportunity for all, the University of York opened in 1963 with just 230 students. In 2017 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 one of just six post-war universities which appear in the world top 100 (2013-14) and 15th in the Times & Sunday Times league table (2016). 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 aims to offer a nurturing and supportive environment as an employer. Flexible working hours, nursery facilities, childcare vouchers, cycle to work scheme, generous holidays and an attractive pension scheme all make the University of York one of the region’s leading employers.

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 6135
- Complete the online application form

You will need to submit your completed application by midnight (local UK time) on 8 November 2017

What will I need?

We will ask you for details of:

- your employment history
- relevant qualifications
- two referees

You need to be ready to show us how you meet the requirements of the job, either in a written statement and/or by answering questions.

Help and assistance

Informal enquiries should be addressed to Luke Mackinder (telephone +44 (0) 1904 328984, luke.mackinder@york.ac.uk). Further information about the Mackinder Lab is available at: www.mackinderlab.com

For an alternative contact, please email biol-dimhub@york.ac.uk

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

recruitment@york.ac.uk

+44 (0)1904 324835