Marie Curie Early Stage Researcher ETN OXYTRAIN

Department of Chemistry

Closing date: 15 March 2017

Interview date: 18 and 19 April 2017 (interviews to take place in Amsterdam)

Vacancy reference: 5576
Applications are invited to join the Department of Chemistry at the University of York, to work on a research project as part of the Marie Skłodowska-Curie Innovative Training Network (ITN) OXYTRAIN consortium. It is expected that the successful applicant will enroll on a PhD programme at the University of York. The post is available immediately.

The researcher will work on preparing and characterising small molecule copper complexes of metalloenzymes (lytic polysaccharide monooxygenases) to assess the ability of these complexes to oxidatively cleave polysaccharides. In particular, the project on which the researcher will be engaged aims to: (1) To obtain new insight into the mechanism of the copper-oxygen active site of LPMOs; (2) To develop a SERS assay for the rapid evaluation of LMPO activity and action on polysaccharides; (3) To develop new synthetic copper catalysts which mimic the oxidative action of LPMOs on polysaccharides. These so-called bioinspired catalysts can be used to augment biocatalyst action, especially in industrial conditions where pH and/or temperature may preclude the use of certain oxygenase enzymes within an enzyme cocktail. The expected results from the project are (i) characterisation of polysaccharide chemistry/structure following LPMO action; (ii) a wholly new SERS-assay for the screening and study of LPMO oxidative activity; (3) trial new copper catalysts for evaluation by industry as LPMO replacements.

The Department of Chemistry is one of the UK’s leading Chemistry departments and we are renowned internationally for our research. This is combined with a commitment to teaching and outstanding student satisfaction and we have been consistently recognised for our family-friendly policies and are proud of our Athena SWAN Gold Award.
Main purpose of the role

- To provide support to research project/s, undertaking research work within the overall programme and assisting with the day to day operation of the project/s
- To undertake a programme of learning and development, in the form of a PhD, as an integral part of the role

Key responsibilities

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

- To undertake work, which may be as part of a research team, investigating a designated area of subject knowledge to promote further understanding
- To contribute to the intellectual development of the project and plan own activities within the overall research effort
- With the guidance of the project supervisor, to undertake a combination of literature searches/scholarly reading, desk and/or lab-based research, subject interviews, questionnaires/sampling or other research activity. Using specialist knowledge, techniques and/or instrumentation as required.
- To document work appropriately and in accordance with research best practice.
- To work closely with the project supervisor to prepare work for dissemination, presenting preliminary findings at meetings within the research group as appropriate.
- Under the guidance of the project supervisor, to assist in writing articles, papers, reports or books as appropriate.
- To liaise and collaborate with students and researchers and relevant external contacts and organisations.
- To participate in the dissemination of research findings internally and externally at seminars, workshops and conferences.
- To consider the public engagement and impact of the project and take appropriate steps to maximise these with the support of the research leader
- To provide instruction to students as required
- To undertake appropriate organisational and administrative activities as delegated by the Research Supervisor. Examples may include: organising meetings, conferences and workshops; monitoring budgets and stock control; developing promotional or educational material, including website maintenance and development.
- To prioritise tasks within an agreed work schedule to ensure that the project(s) are delivered on time.
- To undertake a programme of development, in the form of a PhD, to further specialist understanding and expertise in the subject area.
**PERSON SPECIFICATION**

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<th>Qualifications</th>
<th>Essential / Desirable</th>
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<tr>
<td>Undergraduate degree in Chemistry or Biochemistry</td>
<td>Essential</td>
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<th>Knowledge</th>
<th>Essential / Desirable</th>
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<tr>
<td>Broad knowledge of chemistry</td>
<td>Essential</td>
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<td>Knowledge of spectroscopy (particularly EPR and/or Raman) and catalysis</td>
<td>Essential</td>
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<td>Understanding of relevant health &amp; safety practices</td>
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<th>Skills, abilities and competencies</th>
<th>Essential / Desirable</th>
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<td>Ability to undertake academic research. Examples may include preparing, setting up, conducting and recording the outcome of experiments.</td>
<td>Essential</td>
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<td>Ability to organise own research activities to agreed deadlines and quality standards</td>
<td>Essential</td>
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<td>Excellent IT skills including the use of Word and Excel</td>
<td>Essential</td>
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<td>Ability to provide support to staff and any students who may be assisting with the research</td>
<td>Desirable</td>
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<td>Excellent written communication in order to contribute effectively to the production of research reports and publications</td>
<td>Essential</td>
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<td>High level oral communication skills to enable the effective presentation of research progress and outcomes to key stakeholders</td>
<td>Essential</td>
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<td>Ability to communicate new and complex information effectively to a range of audiences</td>
<td>Essential</td>
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<td>Ability to develop internal and external contacts in order to enhance knowledge and understanding and form relationships for future collaboration</td>
<td>Desirable</td>
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<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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# PERSON SPECIFICATION

## Experience

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<th>Essential / Desirable</th>
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<tr>
<td>Experience of working in chemistry and undertaking a research project</td>
<td>Essential</td>
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<td>Experience of writing up a research project</td>
<td>Desirable</td>
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## Personal attributes

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<tr>
<td>Interest in and enthusiasm for the subject matter of the project</td>
<td>Essential</td>
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<td>Positive attitude to colleagues and students</td>
<td>Essential</td>
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<td>A passion for conducting high quality research with impact</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</td>
<td>Essential</td>
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<td>Commitment to personal development and updating of knowledge and skills</td>
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THE DEPARTMENT

Research Group Information

For more information on Professor Paul Walton’s research please use this link: https://www.york.ac.uk/chemistry/staff/academic/t-z/pwalton/

The Department of Chemistry

The Department of Chemistry is one of the largest and most successful academic departments at York. The Department was placed in the top ten UK universities for Research Power by the 2014 Research Excellence Framework exercise (REF). Amongst our academic staff we have five Fellows of the Royal Society and several national and international prize winners, contributing to a dynamic and thriving department. The excellence of Chemistry at York was recognised in the 2017 Complete University Guide, Times’ Good University Guide and Guardian League Table Guide where it achieved an outstanding 4th place in all three.

The Department has nearly 60 academic staff (including teaching only staff), more than 600 undergraduate students, approximately 160 graduate students (mainly studying for PhDs) and over 80 research associates and fellows. The Department has a group of recently extended and modernised laboratories, which provide an excellent environment for both teaching and research; £35M has been spent on new buildings and equipment in the last seven years.

Staff in the Department of Chemistry undertake research in a wide range of fields and there are particular strengths in analytical science, atmospheric chemistry, chemical and structural biology, green chemistry, materials chemistry, metalloproteins, organometallic and catalytic chemistry, synthetic organic chemistry and time-resolved spectroscopy.

We have nearly 30 administrative staff (including those funded externally), as well as over 50 technical staff who provide assistance in the teaching and research laboratories and maintain the workshops supporting these activities.

The undergraduate courses, which typically attract over 1200 applications for the ca 180 places, have a flexible modular structure with opportunities for specialisation in environmental, green and medicinal chemistry. There are three-year (BSc) and four-year (MChem) courses with opportunities for students to spend a year at one of a number of overseas universities or in industry. Students rated the Department with an overall satisfaction rating of 97% in the National Student Survey 2016.

The Gold award from Athena SWAN for promoting women in science was won by the Department of Chemistry in 2007 and renewed in 2010 and 2015. This was the first Gold award
THE DEPARTMENT

made in this scheme. The Athena SWAN Charter recognises and celebrates good employment practice for women working in science, engineering and technology (SET) in higher education and research.

The case studies on our Equality and Diversity website illustrate the variety of working arrangements of staff which are supported by the Department.

The Department of Chemistry operates a set of family-friendly practices. Staff working patterns are flexible and a formal Flexitime system is also in operation. The Department has developed a maternity and paternity leave procedure to help provide support for staff and the University has a nursery and a Child Care voucher scheme.

The Department provides support for all categories of staff in their applications for promotion, role reviews, awards, prizes and rewarding excellence nominations. Staff are encouraged to attend training events and take up opportunities for professional development including those offered by the award-winning University Learning and Development Team.

The Department strives to address diversity inequalities to ensure that there is a culture that supports equality and encourages better representation throughout the Department. Support for all staff at all stages of their career is recognised as being extremely important; individuals will be allocated a specific mentor to help support them in future career development. Social events are also held regularly for members of staff.

Opportunities for employment for partners exist across the University, Science City York or within the City of York. The Department recognises that employment for partners can be an issue for new employees and will be understanding if you raise this and will do its best to help.

The Department is committed to establishing a culture of environmental good practice and all staff are asked to go about their duties in a resource efficient way and minimise impacts to the environment wherever possible.

The University has recently invested heavily in Chemistry including a new research building, the Dorothy Hodgkin Building, which houses Analytical and Synthetic Chemistry, an NMR Centre, and the Centre of Excellence in Mass Spectrometry which opened in 2009. NMR facilities are housed in a purpose-built facility (2006) while construction of a building to house a new Centre for Hyperpolarisation in Magnetic Resonance was completed in October 2012. The second phase of the Dorothy Hodgkin building for materials, synthetic, catalytic and mechanistic chemistry was completed in summer 2012 and the Wolfson Atmospheric Chemistry Laboratories were opened in 2013 and will be extended in 2017. Most recently, construction of a two-storey building housing new teaching and research laboratories (to house Green Chemistry) and offices was completed in March 2014.
THE UNIVERSITY

Founded on principles of excellence, equality and opportunity for all, the University of York opened in 1963 with just 230 students. In 2016 it is the centre for almost 16,000 students across more than 30 academic departments and research centres. In over 50 years we have become one of the world’s leading universities and a member of the prestigious Russell Group.

The University has consistently been recognised as one of the leading Higher Education Institutes and is 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.

We are proud of our association with Athena SWAN, holding ten awards in support of women in science, with gold awards for Chemistry and Biology as well as 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 on 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. With a compact and easy to get around design, York enjoys a safe, friendly atmosphere. The campus offers a wealth of facilities, which includes 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 space, 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 all 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 Rewards Extra.
THE CITY AND THE REGION

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 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 5576
- Complete the online application form

You will need to submit your completed application by midnight (GMT) on 15 March 2017

Unfortunately applications from citizens from non-EU countries, who would require a visa to undertake the post, are not eligible for consideration for this role. An application must also be submitted via the OXYTRAIN website: http://www.oxytrain.eu/phd-vacancies/

**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 3 referees.

Help and assistance

Direct any informal queries to paul.walton@york.ac.uk

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

recruitment@york.ac.uk
+44 (0)1904 324835