Director of York Plasma Institute & Chair
York Plasma Institute/Department of Physics

Closing date: 6 May 2019
Interview date: 4 June 2019
Vacancy reference: 7527
INTRODUCTION

The York Plasma Institute (YPI) is seeking an experienced research leader in an area of plasma physics for appointment as a senior Professor at the University of York. The appointed person will fill the role of Director YPI with a remit to act as a strategic leader for plasma physics research and training at the University of York, and will also lead their own individual research programme in an area of plasma physics.

The YPI was opened by the then Government Chief Scientific Advisor Professor Sir John Beddington in 2012. Research in YPI currently centres on magnetic confinement fusion, laser-plasmas/inertial fusion and low temperature plasmas. The founding YPI Director, Professor Howard Wilson, has taken up a part-time role as a Director of UKAEA; this has created an opportunity to appoint a new Director YPI to bring a strategic input to the direction of plasma physics at the University of York. An internationally-recognised leader is sought who can directly expand the research interests and capabilities of YPI in an existing research area or develop a complementary research discipline.

Current academic staff numbers in YPI include seven working in magnetic confinement research, seven in laser-plasmas/inertial fusion and four in low temperature plasmas. While current research is focused on laboratory plasmas, both at York and at international facilities, there are strong synergies with space, solar and astrophysical plasma systems. The appointed Director will provide leadership and vision to this group of 18 academic staff, while bringing their own world-class research track record and respecting academic freedom of the individual.

Professor Kieran Gibson
Head of Department
At a glance

Salary: Commensurate with experience current minimum £63,837

Hours of work: 37 per week

Contract type: Open/Fixed Term (see further details below)

Based at: Heslington Campus

Main purpose of the role

Chairs at York are expected to advance their subject nationally and internationally and to contribute to maintaining the University as an international centre of excellence for the relevant subject area through research and publication, teaching, networking and consultancy.

The appointed person will take up the role of Director of the York Plasma Institute (YPI). The Director YPI will be required to undertake the following:

1. In partnership with academic staff, develop strategic directions for plasma physics research at the University of York.
2. Lead an individual research programme in an area of plasma physics that expands the research interests and capabilities of YPI, either in an existing research area or in a complementary plasma research discipline.
3. Provide leadership, working in partnership with academic staff to create an internationally outstanding research and training environment for the YPI.
4. Act to support the governance of the Department of Physics by representing YPI at Departmental Management and other meetings, thus providing strategic input to the direction of the department as a whole.
5. Support a strong training environment for postgraduate students within YPI. This will involve supporting post-graduate education for both PhD and taught MSc in Fusion Energy students, working with the Directors of the Fusion Centre for Doctoral Training and MSc in Fusion Energy.
6. Contribute to the teaching of undergraduates in the Department of Physics

Key responsibilities

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

To support the research activities of the Department

- To carry out internationally outstanding, high impact research and scholarship
- To disseminate this research through monographs, articles in journals of international standing, and other appropriate forms of dissemination, including national and international conference presentations
- To play a leading role in the Department in identifying and securing external funding through research grants and contracts, and in developing collaborative research income-generating activities
- To attract and supervise research students, and, as appropriate, post-doctoral researchers and other support staff
- To foster links between YPI and other international research organisations, including industry, to benefit the research environment for staff and maximise the impact of YPI research and its outputs
- To support, comply with, and contribute fully to research plans and policies of the Department and the University
- To support and mentor early career academic colleagues in order to promote quality of teaching and research and their career development

To support the teaching objectives of the Department

- To design and be responsible for delivery of modules and teaching programmes for undergraduate and graduate students
- To play a leading role in departmental and interdepartmental curriculum development and quality enhancement
- To coordinate team teaching, as required, including liaison with other staff and with postgraduates who teach
- To design and mark assessments, and give feedback
- To supervise undergraduate and graduate projects and dissertations
JOB DESCRIPTION

- To carry out teaching in Continuing Professional Development
- To undertake pastoral support of students, as a personal supervisor or in another designated role
- To support and promote fully the University and Department teaching quality assurance standards and procedures

To contribute to the efficient management and administration of the Department

- To make an important contribution to the leadership and management of the Department, including supporting early career staff and developing new collaborative initiatives
- To attend Departmental meetings, meetings of the Board of Studies, and other committees and working groups within the Department and University
- To carry out relevant professional duties, commensurate with the Professorial grade
- To undertake specific departmental roles and management functions as may be reasonably required by the Head of Department

Further Details

The Director YPI role is initially for a period of four years (then reverting back to the substantive academic role) and reviewed after the first year.

The role reports into the Head of Department of Physics as line manager.
## PERSON SPECIFICATION

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<thead>
<tr>
<th>Qualifications</th>
<th>Essential / Desirable</th>
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<tbody>
<tr>
<td>PhD in relevant field</td>
<td>Essential</td>
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<td>High level membership of professional societies</td>
<td>Desirable</td>
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<td>International awards and recognition</td>
<td>Desirable</td>
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### Knowledge

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<th>Knowledge</th>
<th>Essential / Desirable</th>
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<tr>
<td>Outstanding and internationally recognised knowledge of a relevant subject area</td>
<td>Essential</td>
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<td>Knowledge of the international plasma physics community, and related opportunities</td>
<td>Essential</td>
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<td>Knowledge of funding organisations and opportunities</td>
<td>Essential</td>
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### Skills, abilities and competencies

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<tr>
<th>Skills, abilities and competencies</th>
<th>Essential / Desirable</th>
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<tr>
<td>Ability to define, lead, manage and attract funds for internationally excellent research</td>
<td>Essential</td>
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<td>Proven leadership and managerial skills</td>
<td>Essential</td>
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<td>Ability to manage and interact with staff and students at all levels and to contribute to broadening the strategic development of the Department</td>
<td>Essential</td>
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<td>Evidence of international collaboration</td>
<td>Essential</td>
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<td>Evidence of peer review activities</td>
<td>Desirable</td>
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<td>Ability to manage a large, complex research programme</td>
<td>Essential</td>
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<td>Ability to enthuse students through teaching at both undergraduate and postgraduate level</td>
<td>Essential</td>
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## PERSON SPECIFICATION

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<th>Experience</th>
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<tr>
<td>International leader in a major research field with evidence of leadership of a substantial research group</td>
<td>Essential</td>
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<td>Substantial, world-class publication record in leading peer-reviewed journals</td>
<td>Essential</td>
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<td>Attraction and effective supervision of postgraduate students</td>
<td>Desirable</td>
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<td>Significant and sustained success in accessing research grants and other external funding</td>
<td>Desirable</td>
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<td>Exceptional achievement in curriculum development, course design and teaching, learning and assessment methods at UG and PG levels and in encouraging student access and engagement</td>
<td>Desirable</td>
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<td>Invited presentations at major international conferences</td>
<td>Essential</td>
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<td>Effective and sustained involvement in major administrative tasks or positions of responsibility within a department or research unit</td>
<td>Essential</td>
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<td>Experience of leading a complex research programme</td>
<td>Essential</td>
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<td>Editorial duties with journals</td>
<td>Desirable</td>
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<td>Participation in national teaching initiatives or international equivalents</td>
<td>Essential</td>
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## Personal attributes

| Demonstrable capacity for strategic thinking, planning and delivering     | Essential           |
| Ability to take a lead in key administration functions within the department | Essential           |
| Self-motivated, pro-active and innovative                                 | Essential           |
| Ability to develop a vision and promote that vision to colleagues and peers | Essential           |
The York Plasma Institute (YPI) is one of four research groupings within the Department of Physics at the University of York. The YPI was opened by the then Government Chief Scientific Advisor Professor Sir John Beddington in 2012. Research in YPI currently centres on magnetic confinement fusion, laser-plasmas/inertial fusion and low temperature plasmas for technological and biomedical applications. Current academic staff numbers in YPI include seven working in magnetic confinement research, seven in laser-plasmas/inertial fusion and four in low temperature plasmas. These 18 academic staff in YPI along with approximately 40 PhD students and 14 post-doctoral research assistants are housed in a separate newly extended office building on the edge of the University of York Science Park. The University of York acts as lead university for an EPSRC Centre for Doctoral Training in the Science and Technology of Fusion Energy so that YPI also houses students from the partner universities for taught courses. YPI also operates a one-year taught MSc in Fusion Energy with a typical intake of 20 students. A newly constructed and recently extended laboratory building is near the YPI office building and contains several low temperature plasma laboratories exploring applications of plasmas in biology, medicine, the environment, surface science, space propulsion and other areas including semiconductor lithography. There is, in addition, an extreme ultra-violet capillary discharge laser for the study of laser ablation, a large linear magnetic device for exploring macroscopic plasma behaviour in magnetic fields and a laboratory space developing microwave probing of magnetised plasmas. Many staff undertake experiments at large external international-class tokamak or laser facilities. The YPI research on magnetic confinement is strongly linked to the UK’s national fusion research programme at the Culham Centre for Fusion Energy, while the laser-plasma research benefits from the Central Laser Facility and the Orion laser in the UK; both make extensive use of international facilities. There is a strong theory and simulation capability in YPI, for example, in the areas of laser interaction at ultra-high intensity, tokamak plasma simulation and low temperature plasmas. A fleet of workstations is maintained for the plasma research of YPI.

The Department of Physics
The Department of Physics: [http://www.york.ac.uk/physics](http://www.york.ac.uk/physics) is a department at the forefront of pioneering global research and technological advancement in our world class research centres, focused around biophysics, condensed matter physics, nuclear physics, and plasma physics and fusion energy at the York Plasma Institute. The Department of Physics has expanded to 58 academic staff with many recent appointments. Several appointments at senior Professorial...
level have been made so that research has expanded into the physics of life and quantum technologies, while also being significantly augmented in photonics and theoretical nuclear physics. Undergraduate recruitment to the Department of Physics is strong with typically 160 new entrants per year.

The Department has a lively and expanding research programme, and the research interests span a wide range, within both physics and the interactions of physics with other disciplines. We have benefited from substantial investment in these research groups, to help them play a leading role on the national and international stage, collaborating with major research institutions and industries. The research groups have international recognition, and each group regularly publishes papers in major journals and presents papers at international conferences.

The Department has many collaborations with other research groups in the UK and abroad, and contacts with industrial researchers. The Department also leads several inter-departmental ventures, including the Biological Physical Sciences Institute (BPSI), the York Quantum Technologies Centre (YQTC) and the EPSRC Quantum Communications Hub. There has been significant major investment in laboratories and facilities including the York-JEOL Nanocentre and the York Plasma Institute, and we have excellent mechanical, computing and electronic workshop facilities, which support our research and teaching activities.

We have developed a range of undergraduate and postgraduate programmes that provide all our students with the skills to succeed in careers across a broad range of scientific, technological, and related disciplines, and provide opportunities for students to spend a year at one of a number of overseas universities or in industry as an integral part of their degree programme. The Department offers both three year BSc and four year MPhys degree programmes in Physics, Theoretical Physics and Physics with Astrophysics; and joint degree programmes in Maths and Physics, Physics with Philosophy and Natural Sciences. For postgraduates it offers a taught MSc in Fusion Energy, an MSc by Research and PhD degrees, including leading the EPSRC Centre for Doctoral Training in the Science and Technology of Fusion Energy.

The Department has 58 academic staff members (including teaching-only staff) and amongst our academic staff we have Fellows of the Royal Society and the Institute of Physics, many national and international prize winners, contributing to a dynamic, influential and thriving department. We have over 40 research staff, an increasing number of visiting researchers, and 40 support staff (technical and administrative). The student population comprises around 450 undergraduates and 120 postgraduates (mostly PhD).

The Department of Physics operates a set of family-friendly policies and welcomes applications that are made on a part-time and job share basis, and 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. 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 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: https://www.york.ac.uk/admin/hr/browse/learning-and-development. 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 Department strives to address diversity inequalities to ensure that there is a culture that supports equality and encourages better representation throughout the Department. The Department of Physics fully endorses and adheres to the University’s policies on equality of opportunity, and support for staff at all stages of their career is recognised as being extremely important. In recognition of our commitment to equality the Department has been awarded both Athena Swan Silver (the Athena SWAN Charter recognises and celebrates good employment practice for women working in science, engineering and technology (SET) in higher education and research) and Champion status within the Institute of Physics’ Juno programme (the intention of which is to recognise and reward departments that can demonstrate they have taken action to address the under-representation of women in university physics and to encourage better practice for both women and men). We have a well-established Equality Committee in the department which regularly reviews working practices and policies.

Further information about the department is available at: http://www.york.ac.uk/physics
THE UNIVERSITY

Founded on principles of excellence, equality and opportunity for all, the University of York opened in 1963 with just 230 students. In 2019 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 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 7527
- Complete the online application form

You will need to submit your completed application by midnight (local UK time) on 6 May 2019

What will I need?

We will ask you for details of:

- Your CV
- A letter describing how you meet the requirements of the job
- A statement of your research and teaching intentions

You will also need details of three academic referees (one International) and one Employment referee.

Help and assistance

Informal enquiries may be directed to the Head of Department, Professor Kieran Gibson (kieran.gibson@york.ac.uk), +44 (0)1904 322210).

Candidates are encouraged to make contact with the department prior to application. Shortlisted candidates will be invited to visit the department prior to formal interview.

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

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