Job Related Information

This document includes information about the role for which you are applying and the information you will need to provide with your application.

1. Role Details

<table>
<thead>
<tr>
<th>Vacancy reference</th>
<th>14994</th>
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</thead>
<tbody>
<tr>
<td>Job title:</td>
<td>STFC-RCUK Innovation Fellow - Valve Exploitation</td>
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<tr>
<td>Reports to:</td>
<td>Research Fellow</td>
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<tr>
<td>Salary:</td>
<td>£40,792 to £48,677 per annum</td>
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<td>Terms and conditions:</td>
<td>Research Staff</td>
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<tr>
<td>Grade</td>
<td>AC3</td>
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<tr>
<td>Duration of post:</td>
<td>Temporary contract for 30 months</td>
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<tr>
<td>Working hours:</td>
<td>Full-time</td>
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<tr>
<td>Location:</td>
<td>Milton Keynes, Buckinghamshire</td>
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<td>Closing date:</td>
<td>Noon on 17 September 2018</td>
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<tr>
<td>Type of application form accepted:</td>
<td>Short</td>
</tr>
<tr>
<td>Number of referees required:</td>
<td>Three</td>
</tr>
<tr>
<td>Unit recruitment contact:</td>
<td>Fiona McGavin</td>
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</table>
2. Summary of duties

The School of Physical Sciences (SPS), in the STEM Faculty at The Open University has a track record of developing space instrumentation and is continuing to build on this heritage, designing instruments to search for water on the Moon (ProSPA and LUVMI), detect organics on Mars and transfer the technology for terrestrial applications.

Applications are invited for a STFC-RCUK funded Innovation Fellowship position within SPS. The Fellow will work within the Space Instrumentation Group to exploit a patented space valve technology for terrestrial markets. On a day-to-day basis the Fellow will work with the Principle Investigator (PI) and the Co-Investigator, but will also be guided by the other stakeholders in the Valve Exploitation Plan, STEM Knowledge Exchange Lead, and the Research and Enterprise (R&E) Office.

The Fellow will be joining a growing community within the STEM Faculty, the Space Strategic Research Area (SRA) and a University that is actively exploring the commercialisation of the university’s intellectual property. This will provide opportunities to be mentored by IP professionals in the R&E office including the ISCF lead, as well as commercially active academic staff and Business Development Managers in the School, SRA and Faculty.

The University has an active program of training courses in Knowledge Exchange and Commercialisation, supported by OU (HEIF) funding. Moreover, attendance at external training courses can also be discussed and supported on request. Members of the School have close ties with the Harwell and Daresbury Campuses and the ESA Business Incubation Centre (ESA BIC) and their Innovation UK training programmes.

Main Duties

The main roles of the post-holder will include:

- Supporting the PI in the ongoing research and development of the valve, building on the existing programme of innovation and translation.
- Through laboratory based research, gaining an in depth knowledge of the valve, its operational characteristics and its performance and feeding back on potential improvements.
- Disseminating the results by writing papers on the research and publishing them in peer-reviewed journals, and presenting findings at international conferences and workshops.
- Identifying the problems faced by industry and helping to develop academic ideas and lead interdisciplinary pilot projects to explore and develop new markets with industrial partners and end-user communities (e.g. NHS) that will then result in new products and services that will have a commercial return.
- Exploring opportunities with potential customers in applications where the valve might be used for terrestrial challenge and designing experimental studies that will test these hypotheses.
- Conducting and or gaining funding for market research and initiating discussions with commercial companies that may have an interest in the valve technology.
- Carrying out administrative tasks associated with the work, such as risk assessments.
- Undertaking any other duties, where required, as directed by the PI on the project.

Other Duties

All staff are expected to:

- Co-operate with the Open University in ensuring as far as is necessary, that Statutory Requirements, Codes of Practice, University Policies and Departmental Health and Safety arrangements are complied with.
- Comply with the University’s Health and Safety and Equal Opportunities policies in the performance of their duties.
- Take reasonable care of the Health and Safety of themselves and that of any other person who may be affected by their acts or omissions at work.
- Have a strong commitment to the principles and practice of equality and diversity.
- Attend appropriate staff development events.
Challenges and opportunities
This position offers:

- A chance to use state of the art technologies
- An opportunity to identify terrestrial challenges that can be addressed by the application of the valve technology
- An opportunity to identify new products and services that will have a commercial return.
- An opportunity to develop skills relating to instrument development for future lunar exploration
- An opportunity to develop a good portfolio in published research in lunar exploration and other fields

3. Person specification

Requirements  (E = Essential/ D = Desirable)

Education, qualifications and training

PhD in Physics or Engineering preferably with a commercial partner (completed or shortly obtained)

Knowledge, work and other relevant experience

Essential:

- Experience in using qualitative and/or quantitative research methods
- A demonstrated track record of research with a history of publishing in peer-reviewed journals, and presenting findings at international conferences and workshops
- Ability to communicate research results effectively
- Demonstrated history of working with commercial companies
- Experience of knowledge transfer between sectors
- Experience in working with interdisciplinary project teams
- Demonstrated history of leading small scale pilot projects.

Desirable:

- Demonstrated experience of project management tools e.g. Gant etc
- Demonstrated experience of working with multiple stakeholders to achieve a successful outcome
- Ability to organise and statistically analyse data sets
- Knowledge of instrumentation control techniques.

Personal abilities and qualities

Essential:

- **Solving problems**: Experience of analysing problems and working creatively to develop innovative and workable solutions
- **Communication skills**: Both oral and written in a variety of contexts including commercial, technical and academic, including the ability to offer and receive constructive criticism
- **Time management**: Ability to plan and organise own workload, within constraints of wider project demands
- **Fostering high performance**: Demonstrable ability of taking full responsibility and accountability for tasks while making effective use of available resources, information and feedback to improve efficiency, productivity and overall performance.

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4. Role specific requirements e.g. Shift working

5. About the unit/department

The newly formed Faculty of Science, Technology, Engineering and Mathematics (STEM) comprises:

- School of Computing & Communications
- School of Environment, Earth & Ecosystem Sciences
- School of Engineering & Innovation
- School of Life, Health & Chemical Sciences
- School of Mathematics & Statistics
- School of Physical Sciences
- Knowledge Media Institute
- Deanery including teams supporting Curriculum, Research and Enterprise, Laboratory Infrastructure and Faculty Administration

“We aspire to be world leaders in inclusive, innovative and high impact STEM teaching and research, equipping learners, employers and society with the capabilities to meet tomorrow’s challenges”

The Faculty of STEM consists of 700 staff and 1,800 Associate Lecturers. The Faculty delivers over 185 modules across undergraduate and postgraduate curriculum, supporting more than 20,000 students (full time equivalents) which is 29% of the OU total.

The Faculty generates more research income (circa £20M) than any other Faculty, supported by a comprehensive laboratory infrastructure.

We are proud of our distinctive values and capabilities underpinning our aspiration:

*We are inclusive:*
- We transform people’s lives, ensuring STEM education is openly accessible to many thousands of students from diverse backgrounds – our students express high satisfaction with their study experience
- We engage the public in exciting citizen science and engineering, including through free open educational resources, multi-platform broadcasting, outreach to inspire the next generation and with programmes to encourage more women into STEM

*We are highly innovative:*
- We are at the forefront of innovative developments in teaching practical science and engineering at a distance, through simulated and remote access laboratories and practical experimentation
- Our high quality teaching and curriculum are informed by world-leading research, strong links with professional bodies and communities of practitioners, as well as by scholarship focused on continuously improving our STEM pedagogy

*We deliver significant social and economic impact:*
We provide STEM higher education at a scale and reach unsurpassed in the UK, with a sizeable international reach and further growth potential

We inject transferable STEM skills and knowledge direct into the workplace for immediate employee and employer benefit, as students combine study while working

The employability value of our courses is underpinned by accreditation from leading STEM Professional Bodies and Learned Societies, as well as partnerships and sponsorship with leading employers

Our high quality, applied and academically relevant teaching and research addresses real-world issues, delivering impact for industry and society, including addressing pressing STEM skill-shortages across the UK

School of Physical Sciences

The School of Physical Sciences is a lively and innovative community of approximately 85 academic and research staff and 70 PhD students, mostly based in Milton Keynes. Our curriculum is supported by associate lecturer staff based all over the UK and Ireland whilst each year our physics, astronomy and planetary sciences and interdisciplinary science modules are studied by thousands of students all over the world.

Our research covers a wide range of subjects, broadly aligned with the research disciplines of

- Astronomy
- Physics
- Planetary and Space Sciences
- Space Instrumentation
- Physics Education

We have an extensive suite of world class facilities and laboratories, including advanced analytical instrumentation, experimental and simulation chambers and instrument development laboratories, complemented by regular use of large-scale facilities such as synchrotrons (e.g. Diamond) and a wide array of ground based and space-based telescopes (e.g. VLT, Hubble) as well as our own robotic telescopes in Tenerife.

We play a major role in many well-known space missions such as Rosetta and ExoMars. We also apply much of our spaceflight and laboratory expertise to a wide array of real world problems including medical and environmental applications.

School members also contribute to the Open University’s teaching on a large range of modules and we have been at the forefront of many innovations in distance education, including the OpenScience Lab and the OpenScience Observatories. We are members of SEPnet, the South East Physics Network. Our commitment to equality and diversity has been recognised by the award of “Juno Champion” status by the Institute of Physics and an Athena SWAN Silver Award.

We currently offer undergraduate qualifications in Natural Sciences (with a physics route and an astronomy and planetary science route), with a strand which carries Institute of Physics accreditation, and in Mathematics and Physics. We also offer an MSc in Space Science and Technology. We are in the process of refreshing the curriculum at Stage 3, and are drawing up plans for adding an integrated MPhys to our portfolio, including topics in physics, astronomy, planetary and space science.

Priority Research Areas in the School of Physical Sciences

Astronomy

- The Compositional Universe: exploiting the spectroscopic discovery space from major facilities and projects including ALMA, JWST, SPICA, SOFIA and IRAM/NOEMA, E-ELT, VLT, SKA, JCMT, SALT, LOFAR, ELIPS, Herschel, SDSS-IV, Euclid etc., to study galactic star formation, evaporating exoplanets, and the physics of galaxies in the distant universe. We will further develop our laboratory/observational astrochemistry research to focus on the development of molecular compositional diagnostics.

- The Time-Domain Universe: exploiting the discovery space of new and future telescopes e.g. Gaia, LIGO, PLATO 2.0, TWINKLE, VLT and LSST, in studies such as galactic and extragalactic stellar populations using leading follow-up facilities such as SALT, or (as part of a wider follow-up network) our robotic telescopes, with a focus on key processes such as stellar binarity.
Physics

- Biomedical physics: to understand physical phenomena involved in conditions such as cancer and cardiovascular diseases and their treatment through experimental and theoretical investigations of a range of approaches such as electron-driven processes in radiation treatment and imaging, use of nanoparticles for cancer therapy and plasma sources for biomedical purposes.

- Quantum correlated systems: theoretical and experimental study of quantum correlations in atomic, molecular and condensed matter systems, and the development of practical applications such as quantum enhanced devices and the functionalisation of materials, as well as the development of multi-purpose software to treat electronic continua.

- Engineering physics: applied plasma research aimed at developing novel functional materials, understanding electron induced processes in nanofabrication and the development of plasma-driven techniques for advanced materials applications.

Planetary and Space Science

- Application of advanced analytical techniques, laboratory simulation, remote observation and modelling to investigate the key processes involved in the formation and evolution of the Solar System and the planetary bodies it contains, including the search for habitable environments and the presence of life.

- Maintain and build high scientific credibility for our analytical expertise by exploiting the performance of existing instruments and updating the analytical infrastructure in order to ensure leading involvement in upcoming sample-return missions, and maintain access to the most important planetary samples. Particular strengths are in the measurement of light-stable isotopes using conventional mass spectrometry and in-situ analysis of samples.

- Development and expansion of our expertise in planetary environments using modelling, remote sensing and the use of field analogues and simulation facilities on Earth, and secure further leading science team involvements in future planetary space missions.

Space Instrumentation

- Development of imaging sensors and instruments for space applications, with expertise in a range of wavelengths from IR to X-ray and the study of the effects of radiation damage, in order to secure involvement in future space missions.

- Development of miniaturized analytical instrument systems for planetary exploration missions, particularly for the measurement of volatiles, organic materials and their light stable isotope composition, and securing leading involvement in future planetary exploration missions.

- Knowledge exchange between the UK technology industry and academia, utilising the technologies and expertise in detectors and mass spectrometer systems to provide commercial products and solutions.

Physics Education Research

- Remote and virtual experimentation
- Concept inventories
- Interactive online assessment
- Demographic differences in achievement

6 How to obtain more information about the role or application process

If you would like to discuss the particulars of this role before making an application please contact Dr Simon Sheridan at simon.sheridan@open.ac.uk.

If you have any questions regarding the application process please contact Fiona McGavin on +44 (0) 1908 858110 or email: STEM-Recruitment@open.ac.uk.
7. The application process and where to send completed applications

| Your application should contain: | 1. A completed short application form  
| | 2. Covering letter  
| | 3. CV which includes details of academic qualifications, teaching, management, and research experience including grants received and publications. |

| Please ensure that your application reaches the University by: | Noon on 17 September 2018 |

| E-mail your application to: | STEM-Recruitment@open.ac.uk |

| Or post it to Name/Job title: | Fiona McGavin, Staffing Adviser |

| Department/Unit: | Deanery, Faculty of Science, Technology, Engineering & Mathematics |

| Address: | The Open University, Walton Hall, Milton Keynes, MK7 6AA |

8. Selection process and date of interview

| The interview panel will be chaired by: | Dr Simon Sheridan |

| The other members of the interview panel will be: | TBC |

| The interviews will take place on: | TBC |

| For shortlisted candidates, the selection process for this post will include | TBC |

We will let you know as soon as possible after the closing date whether you have been shortlisted for interview. Further details on the selection process will also be sent to shortlisted candidates.

Applications received after the closing date will not be accepted.