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>15811</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job title:</td>
<td>Lecturer in Planetary Science</td>
</tr>
<tr>
<td>Reports to:</td>
<td>Head of School</td>
</tr>
<tr>
<td>Salary:</td>
<td>£36,261 to £48,677 depending on qualifications and experience</td>
</tr>
<tr>
<td>Terms and conditions:</td>
<td>Academic</td>
</tr>
<tr>
<td>Grade</td>
<td>Academic AC2/Academic AC3</td>
</tr>
<tr>
<td>Duration of post:</td>
<td>Permanent</td>
</tr>
<tr>
<td>Working hours:</td>
<td>Full Time, 37 hours per week</td>
</tr>
<tr>
<td>Location:</td>
<td>Milton Keynes</td>
</tr>
<tr>
<td>Closing date:</td>
<td>12:00 noon, 23 April 2019</td>
</tr>
<tr>
<td>Type of application form accepted:</td>
<td>Application for Employment Form</td>
</tr>
<tr>
<td>Number of referees required:</td>
<td>Three</td>
</tr>
<tr>
<td>Unit recruitment contact:</td>
<td><a href="mailto:Resourcing-hub@open.ac.uk">Resourcing-hub@open.ac.uk</a></td>
</tr>
</tbody>
</table>
2. Summary of duties

The post-holder will join enthusiastic teams in presenting and producing innovative learning resources across our curriculum in physics, astronomy and planetary science, as well as the interdisciplinary science curriculum.

In addition to contributing to teaching within the School of Physical Sciences, the post-holder will be expected to secure external funding to support a programme of internationally competitive research (appropriate for the level of appointment) and contribute to overall sustainability of the School’s Research and Enterprise. They will also be expected to contribute to future REF submissions. They should undertake research in analytical laboratory-based planetary science that aligns with the School’s strategic research priorities in planetary and space science research (see below).

Main Duties
All academic staff are expected to undertake a combination of the following duties at a level appropriate for their career stage:

1. Teaching
   a. To contribute to the development, planning, delivery and updating of a high quality and successful curriculum at undergraduate and/or postgraduate levels, in physics, astronomy, planetary and interdisciplinary science.
   b. To prepare learning materials suitable for the teaching and learning methodologies used by the Open University.
   c. To contribute to the presentation of Open University modules. This includes
      i. the briefing, debriefing and training of part time teaching staff (Associate Lecturers).
      ii. the direction of teaching and assessment / examination by the University, monitoring of samples of marking by Associate Lecturers
      iii. membership of examination boards.
   d. To contribute to the assurance and enhancement of the quality of teaching, learning and research within the School and in line with University standards.

2. Research
   a. To undertake a self-directed programme of collaborative research and scholarship in a field that will contribute to the strengths of the School aligned to analytical laboratory-based planetary science research.
   b. To generate significant grant income as appropriate.
   c. To undertake research that is internationally excellent and leads to high-impact publications.
   d. To attract and supervise postgraduate research students.

3. Outreach and Public Engagement
   a. To contribute to the STEM outreach activities of the Faculty.
   b. To participate in the national and international science community and learned societies.
   c. To enhance the reputation of the School, the Faculty and the University through scientific meetings and other activities.

4. Enterprise and Impact
   a. To exploit their research and expertise and the existing laboratory capabilities to develop commercial-funded activities.
   b. To further Faculty interests by developing and maintaining a network of contacts and engagements with businesses and government bodies as appropriate.
   c. To initiate and sustain activities that enhance the impact of your research and scholarship.

5. Administration & Management
   a. To engage with appropriate administrative tasks (e.g. workload planning, Career Development & Staff Appraisal).
   b. To contribute effectively to relevant academic or management fora.

6. Other Responsibilities
a. To undertake a programme of appropriate professional development
b. To comply with the University’s Health and Safety and Equal Opportunities policies in the performance of their duties.
c. To co-operate with the Open University in ensuring as far as necessary, that Statutory Requirements, Codes of Practice, University Policies, and School Health and Safety arrangements are complied with.

3. Person specification

Requirements  (E = Essential/ D = Desirable)

Education, qualifications and training

- A PhD in a discipline relevant to the research and teaching undertaken in the School

Knowledge, work and other relevant experience

Essential:
- Some experience of teaching in a relevant subject area
- A track record in research that complements existing analytical laboratory-based planetary science research at the Open University.
- Evidence of applying for external funding, taking into account stage of career
- A good record of demonstrable research impact, commensurate with stage of career
- Ability to develop new research collaborations within the University and with external organisations
- A good publication record in mid to top-ranking peer reviewed journals, commensurate with stage of career

Desirable:
- Experience of producing online and/or distance learning materials
- Experience of supervising research students, managing post-doctoral workers and research budgets
- Experience of development of new research capabilities (e.g. new analytical tools, methodology), or approaches (e.g. new sample type or development of new analogues).
- Higher Education professional accreditation or equivalent qualification
- Experience of working with and influencing policy makers, governmental and/or non-governmental institutions, industrial partners

Personal abilities and qualities

Essential:
- Ability to work collaboratively with others in an interdisciplinary context for teaching or research
- Ability to develop a leadership role in teaching and research, commensurate with stage of career
- The ability to write on issues outside of immediate area of expertise but in a related topic, in an informed and coherent manner
- Enthusiasm for supporting distance learning by adults and for the application of new technologies to teaching and supporting students
• The ability to work adaptively and responsively with a variety of colleagues in multidisciplinary teams
• Excellent communication skills, both oral and written in a variety of contexts, including the ability to offer and receive constructive criticism
• Ability to plan and organise work to agreed deadlines
• Commitment to the aims, ethos and values of the Open University including the principles and practice of equality and diversity

Desirable:
• Ability to develop new collaborative partnerships within the University and with external organisations.

4. Role specific requirements e.g. Shift working

5. About the unit/department

Faculty of Science, Technology, Engineering & Mathematics
The 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 in the University, 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 90 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; physics, astronomy and planetary sciences undergraduate modules are currently being studied by hundreds of students all over the world and we also contribute to introductory and interdisciplinary science modules which are studied by several thousand students each year.

School members 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 award winning OpenSTEM Labs that feature the OpenScience Laboratory and the OpenScience Observatories. 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 an astronomy and planetary science pathway. We are in the process of refreshing the curriculum, both at intermediate level and at Stage 3. We expect to offer a BSc in Physics in the near future and aspire to offer an integrated MPhys, including physics, astronomy, planetary and Space science. At postgraduate level we offer an MSc in Space Science and Technology.

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

Our extensive planetary science laboratory facilities are broadly sub-divided into those used to characterise the chemistry and isotopic composition of matter in the Solar System or the simulation of Earth and Planetary processes. Instruments include state-of-the-art commercially sourced (e.g. Nano-SIMS; FIB-SEM; laser Raman microprobe; stable isotope and noble gas mass spectrometers and GC-MS) as well as unique instruments developed in-house (e.g. ‘Finesse’ mass spectrometer; Mars atmosphere and surface simulation chambers; All-Angle Light Gas Gun). These are backed up by clean rooms and sample preparation facilities, instrument development laboratories and an extensive meteorite collection.

We have a long history of involvement in major Solar System exploration missions. We have been, and continue, to be involved in the analyses of samples returned by spacecraft (e.g. Stardust, Genesis, OSIRIS-REx) and have extensive experience in the acquisition and characterisation of new sample through the exploitation
of instruments developed at the OU, such as on Cassini Huygens, Rosetta and Exomars Trace Gas Orbiter, and through international collaborative teams. PSS members are active in the development of new mission proposals and studies with ESA, other space agencies and national programmes.

Research activity in Planetary and Space Sciences is funded mostly by the UK Science & Technology Funding Council (STFC), the European Space Agency and European Union, but also draws in support from other research councils, charities and industry.

Priority Research Areas in the School of Physical Sciences:

Planetary and Space Science

Solar System formation and evolution: Investigation of the key processes involved in the formation and chemical, physical and dynamical evolution of the Solar System and its constituent planets, satellites and minor bodies, through application of advanced analytical techniques, laboratory simulation, remote observation, in-situ measurements and modelling.

Planetary environments: Investigation of the geological and physical processes that shape planetary surfaces and atmospheres, including the search for habitable environments and the presence of life, using modelling, remote sensing and in-situ measurements, and the use of field analogues and simulation facilities on Earth.

Infrastructure and expertise: Exploitation of existing facilities and enhancement of our capabilities (e.g. in: the measurement of light-stable isotopes using conventional mass spectrometry; in-situ analysis of samples; hypervelocity impacts; Mars and cometary environment simulation) that are essential to ensure access to leading science team and instrument involvements in future planetary space missions and returned planetary samples.

Astronomy

The Compositional Universe: exploiting the spectroscopic discovery space from ALMA, JWST, SPICA, SOFIA and IRAM/NOEMA, E-ELT, VLT, SKA, JCMT, SALT, LOFAR, ELIPS, Herschel, SDSS-IV, Euclid strong lensing, 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.

Space Instrumentation
Imaging detectors and instruments: development of imaging sensors and instruments for space applications, with expertise in a range of wavelengths from ultra-violet to X-ray and the study of the effects of radiation damage, in order to secure involvement in future space missions.

Analytical instruments: 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.

In-situ resource utilisation (ISRU) and space habitat research: initially targeted at future developments for the proposed Deep Space Gateway and Lunar (and Martian) exploration.

Knowledge exchange and translational research: development of further links between the UK technology industry and OU academics, utilising our expertise in detectors and mass spectrometer system technology and techniques from our space research to provide commercial products and solutions for terrestrial applications.

**Physics Education Research**

Development of key areas where SPS staff have national or international leadership in Physics Education Research including remote and virtual experimentation, concept inventories, interactive online assessment, and 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 Professor Sally Jordan +44 (0)1908 332018 or email: [STEM-SPS-HOS@open.ac.uk](mailto:STEM-SPS-HOS@open.ac.uk).

If you have any questions regarding the application process please contact the Resourcing Assistant, email [Resourcing-hub@open.ac.uk](mailto:Resourcing-hub@open.ac.uk).

7. **The application process and where to send completed applications**

<table>
<thead>
<tr>
<th>Your application should contain:</th>
<th>1. A completed short application form</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. Covering letter</td>
</tr>
<tr>
<td></td>
<td>3. CV which includes details of academic qualifications, teaching, management, and research experience including grants received and publications.</td>
</tr>
</tbody>
</table>

Please ensure that your application reaches the University by: **12:00 noon, 23 April 2019**

E-mail your application to: [Resourcing-Hub@open.ac.uk](mailto:Resourcing-Hub@open.ac.uk)

8. **Selection process and date of interview**

<table>
<thead>
<tr>
<th>The interview panel will be chaired by:</th>
<th>Professor Sally Jordan, Head of School, STEM Physical Sciences.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The other members of the interview panel will be:</td>
<td>Dr Ian Franchi, Director of Research, STEM Physical Sciences.</td>
</tr>
<tr>
<td></td>
<td>Further panel members will be confirmed to candidates successful for interview.</td>
</tr>
</tbody>
</table>
**The interviews will take place on:** 3 June 2019

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

1. A short, specified teaching activity to be completed before the interview date;
2. A presentation of an aspect of your research to members of the School.

The teaching text and presentation will be discussed with you as part of the selection process.

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**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.**