Lecturer in Astronomy

Full Time
Grade AC2/AC3
3-year Fixed Term
Walton Hall, Milton Keynes

About the role
The post-holder will join enthusiastic teams in presenting and producing innovative learning resources across our astronomy curriculum, focusing on the development of replacements for our Stage 2 and Stage 3 distance-learning astronomy modules (equivalent to the second and third year of full-time undergraduate study), with a particular need for expertise relating to exoplanets or cosmology. The post-holder may also be asked to contribute to our physics, planetary and space science, interdisciplinary science or mathematics curriculum at a range of undergraduate or postgraduate levels.

In addition to contributing to teaching within the School of Physical Sciences, the post-holder will be expected to conduct independent research (appropriate for the level of appointment) and to contribute to the Open University’s submission to REF2021. They should undertake research that aligns with the School’s strategic research priorities in astronomy.

Key responsibilities

Teaching

- 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.
- To prepare learning materials and possibly contribute to developing OpenScience Observatories infrastructure suitable for the teaching and learning methodologies used by the Open University.
- To contribute to the presentation of Open University modules. This includes
  - the briefing, debriefing and training of part time teaching staff (Associate Lecturers).
  - the direction of teaching and assessment / examination by the University, monitoring of samples of marking by Associate Lecturers
  - membership of examination boards.
  - contributing to discussion forums enriching the student experience and liaising with the Student Support Team
- To contribute to the assurance and enhancement of the quality of teaching, learning and research within the School and in line with University standards.

Research

- To undertake a self-directed programme of world-class astronomy-related research and scholarship enhancing the existing strengths of the School.
- To generate grant income supporting the post-holder’s research.
- To produce high-impact publications suitable for inclusion in the REF2021.
• To attract and supervise postgraduate research students.

**Outreach and Public Engagement**

• To contribute to the STEM outreach activities of the Faculty.
• To participate in the national and international science community and learned societies.
• To enhance the reputation of the School, the Faculty and the University through scientific meetings and other activities

**Enterprise and Impact**

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

**Administration, Management and other duties**

• To engage with appropriate administrative tasks (e.g. workload planning, Career Development & Staff Appraisal).
• To contribute effectively to relevant academic or management fora.
• To undertake a programme of appropriate professional development
• To comply with the University’s Health and Safety and Equal Opportunities policies in the performance of their duties.
• To co-operate with the Open University in ensuring compliance with Statutory Requirements, Codes of Practice, University Policies, and School Health and Safety arrangements.

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**Person Specification below**

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Person Specification

Essential
- A PhD in astronomy or a closely related discipline.
- Some experience of teaching in a relevant subject area, and a demonstrable ability to produce astronomy teaching materials at different levels of the undergraduate curriculum.
- The ability to write clearly and concisely on topics in astronomy and conjunct fields, in an informed, inspiring and coherent manner.
- Enthusiasm for supporting distance learning by adults and for the application of new technologies to teaching and supporting students.
- A track record in research that complements existing astronomy research at the Open University, underpinned by a good publication record in major peer reviewed journals, commensurate with career stage.
- Evidence of applying for external funding, appropriate to career stage.
- Evidence of ability to develop new research collaborations.
- Ability to work collaboratively, collegially, adaptively and responsively with others in an interdisciplinary context for teaching or research.
- Excellent communication skills, both oral and written in a variety of contexts, including the ability to offer and receive constructive criticism.
- Ability to develop a leadership role in teaching and research, commensurate with stage of career.
- 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
- Experience of producing online and/or distance learning materials.
- Experience of supervising research students, managing post-doctoral workers and research budgets.
- Higher Education professional accreditation or equivalent qualification.
- Experience of working with and influencing policy makers, governmental and/or non-governmental institutions, industrial partners.
About the Unit

Faculty of Science, Technology, Engineering & Mathematics

The Faculty of Science, Technology, Engineering and Mathematics (STEM) is comprised:

- 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 2500 staff including 1,800 Associate Lecturers. The Faculty delivers over 185 modules across undergraduate and postgraduate curriculum, supporting nearly 19,000 students (full time equivalents) which is 29% of the OU total.

The Faculty generates more research income (circa £17M) 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 a named specialism in either physics or astronomy and planetary science. 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.

Research Areas in the School of Physical Sciences

Our research covers a wide range of subjects, broadly aligned with the research disciplines of:
• Astronomy
• Physics
• Planetary Sciences
• Space Instrumentation
• Physics Education

Our research strategy seeks to build upon our existing successes and capabilities to maximise the success and impact of the research we conduct. The research groupings in the School operate at different scales, and within external landscapes of varying scale and opportunity, and therefore from our existing positions in the various areas where we already have strong leadership we aim to:

Astronomy
Build on our internationally excellent astrophysics research in the areas of massive star lifecycles, exoplanets and planetary system formation, distant galaxies and the Time-Domain Universe; using our unique expertise, leadership and involvement in ground-breaking forthcoming facilities, laboratory astrochemistry, the explosion in under-exploited astronomical archival data, our own robotic telescopes and the application of data intensive methods and machine learning.
Physics
Deploy our unique capabilities in experimentation, modelling and analysis to explore and exploit the effects and techniques of quantum mechanics with a focus on advanced real-world applications with societal and economic impact to retain our international leadership and develop work of emerging priority in quantum applications.

Planetary Sciences
Be identified as the leading planetary science research grouping in the UK that can provide leadership and major involvement in planetary exploration and science on the international landscape, particularly in the areas of planetary surfaces and environments, origin and formation of the Solar System, and planetary evolution, through our unique analytical, simulation and modelling capabilities together with our involvement in on-going and future space missions.

Space Instrumentation
Use our research into the physics and design of detectors, spectrometers and volatile analyses to help lead the development of new instrumentation in space science and terrestrial applications, and to harness this expertise to provide leadership and exploit new opportunities (e.g. new space missions) and technology development (e.g. in situ resource utilisation in space). 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.

Physics Education Research
Be the leading research grouping in the UK that contributes internationally in areas of remote and virtual experimentation, concept inventories, interactive online assessment, and demographic differences in achievement.