



**Assistant Professor in Physics (Astronomy / Astrophysics)
School of Physical Sciences
Faculty of Science & Health
Permanent Post and Fixed Term Contract (3 years)**

Dublin City University

Dublin City University (DCU) is a leading innovative European University. It is proud to be one of the world's leading Young Universities and is among the world's top 2% globally. DCU is known as Ireland's University of Impact, with a mission to 'transform lives and societies' and focuses on addressing global challenges in collaboration with key national and international partners and stakeholders.

DCU has over 20,000 students in five faculties spread across three academic campuses in the Glasnevin-Drumcondra area of North Dublin. Thanks to its innovative approach to teaching and learning, the University offers a 'transformative student experience' that helps to develop highly sought-after graduates. DCU is currently No. 1 in Ireland for Graduate Employment Rate, and for graduate income (CSO).

DCU is a research-intensive University and is home to a number of SFI-funded Research Centres. The University participates in a range of European and international research partnerships. DCU is also the leading Irish university in the area of technology transfer as reflected by licensing of intellectual property.

As a 'People First' institution, DCU is committed to Equality, Diversity and Inclusion - a University that helps staff and students to thrive. The University is a leader in terms of its work to increase access to education, and is placed in the world's Top 10 for reducing inequalities in the Times Higher Education Impact Rankings.

School of Physical Sciences

The School of Physical Sciences www.dcu.ie/physics at Dublin City University has a high standing within Ireland and internationally, for both its teaching and research activities. There are more than fifty researchers within the school's research groups including postgraduate students, postdoctoral researchers, research officers, and administrators. Physics research at DCU covers **data analytics and modelling, astronomy/astrophysics, biomedical physics, physics education, plasma and laser-plasma physics, materials and nanotechnology** as its main priority areas. Researchers in the School lead and contribute to several research centres, including, four National Research Centres – National

Centre for Plasma Science and Technology (NCPST), National Centre for Sensor Research (NCSR), INSIGHT and ADAPT, and University Approved Centres - Centre for Astrophysics & Relativity (CfAR), Centre for Advancement of STEM Teaching and Learning (CASTeL), and the Water Institute. The School has been awarded substantial research funding and programme grants from national funding agencies, including Science Foundation Ireland, Irish Research Council, Enterprise Ireland, Sustainable Energy Authority of Ireland, Higher Education Authority PRTLI programme, and European Erasmus+ and Framework Programmes.

DCU School of Physical Sciences offers several undergraduate degree programmes, featuring unique blends of physics fundamentals with modern applications: BSc in Applied Physics, BSc in Physics with Biomedical Sciences, BSc in Physics with Data Analytics and BSc in Physics with Astronomy, all of which are entered via a Physics General Entry common first year. A hands-on approach to physics teaching is favoured with an emphasis on the development of experimental and data analytical skills as well as mathematical, computational, and reasoning skills. These programmes are delivered through novel and innovative curricula, in partnership with other Schools across the university and industry collaborators. In addition, the school makes important contributions to the curriculum and teaching of the BSc in Science Education programmes and the BSc in Environmental Science and Technology. At postgraduate level, the DCU School of Physical Sciences offers the Professional Diploma in Teaching Physics and the MSc in Astrophysics & Relativity (jointly with the School of Mathematical Sciences). In keeping with its Strategic Plan, the School is modernising our physics programmes available to students through a new innovative curriculum project in partnership with key industry collaborators and other Schools across the university.

Relationships

The positions will report to the Head of School and work closely with other colleagues, the Teaching Convenor/Research Convenor, Associate Dean of Teaching and Learning, research and industry partners. Building positive relationships with professional support staff, technical and pedagogy specialists and engagement with key stakeholders within and outside DCU is a key aspect of this role.

The Role

The School of Physical Sciences wishes to recruit an academic with a specialism in astronomy or astrophysics. The key roles attaching to these positions are:

- Lecturing to undergraduate and postgraduate students in a broad range of physics and astrophysics and astronomy topics.
- Leading and contributing to an active research programme in astronomy/astrophysics in DCU by attracting research funding and recruiting and supervising postgraduate research students.

The successful candidate will be a highly motivated individual with the potential to grow into a top tier academic with a well-balanced teaching and research profile and preferably with the desire and capability to collaborate effectively with other DCU colleagues engaged in astronomy/astrophysics research. They will have a demonstrable and verifiable track record of high-quality research in astronomy/astrophysics as evidenced by regular publication in high-impact astronomy/astrophysics journals, a significant citation rate, presentations at cognate conferences, etc.

Applicants for the lectureship post must hold a primary degree in physics, astrophysics or astronomy, and will ideally hold a PhD in astronomy or astrophysics. Experience in observational astronomy is

desirable.

Applications from candidates with three years or more postdoctoral experience showing evidence of both originality in the course of their research and the ability to attract funding appropriate to their career stage would be particularly welcome. Applicants should have excellent interpersonal and communications skills and be capable of relating well to students and working within a highly collaborative teaching and research environment.

The role will encompass activities across the three domains, as follows:

- **Teaching and Learning**

The appointee will be expected to contribute directly to undergraduate and postgraduate degree programmes and to prepare, deliver and assess a range of core subjects in a manner consistent with DCU's high academic standards and in a hybrid environment which involves both campus, and elements of remote delivery. The appointee would also be expected to undertake various administrative duties and support school outreach and engagement activities. The total teaching hours and responsibilities will be defined by the Head of School in line with the School's normal workload allocation.

Typical activities include:

- Teaching of physics/astronomy/astrophysics lecture modules (including at advanced undergraduate and postgraduate level).
- Coordination of undergraduate physics laboratories, and contribution to the development of undergraduate physics laboratory activities.
- Contributing to the design and development of new programmes/modules.
- Designing and assessing examinations and other types of coursework.
- Using a wide range of teaching and assessment methodologies which foster a deep approach to learning and equips students with the skills and attributes needed to be lifelong learners, e.g., challenge-based learning and immersive learning experiences.
- Supervising laboratory sessions and student mentoring.
- Project supervision at both undergraduate (including final year) and postgraduate levels.
- Proactive engagement with the renewal of existing courses and programmes.
- Engagement with professional development for teaching and learning.

- **Research and Scholarship**

The appointee will be expected to engage strongly with research activities and have the desire and capability to collaborate effectively with other DCU, national and international colleagues. The appointee will contribute to an active and vibrant programme of research activities in astronomy/astrophysics currently existing in DCU. The appointee will be expected to attract associated research funding including recruiting and supervising postgraduate research students. We are seeking a -individual with a genuinely broad vision who will develop new and complementary research directions in line with existing expertise in DCU, underpinning modules and projects associated with the BSc in Physics with Astronomy and MSc in Astrophysics & Relativity.

- **Contribution to the School, Faculty, University and Profession**

Examples include:

- Engagement and recruitment activities to promote the school's undergraduate and postgraduate programmes.
- Engagement with planning, quality review and improvement processes, and external programme accreditations.
- Involvement with appropriate professional bodies and associated initiatives.
- Development and delivery of the international activities of the School including international travel to do so.
- Adoption of some administrative functions related to the activities of the School, the Faculty, and the wider University. Such duties will be defined by the Head of School and may include some of the following: degree programme coordination; participation in committees; supporting undergraduate student placements; student recruitment.

Qualifications and Experience

- Applicants must hold an honours degree in physics, astrophysics or astronomy, and hold a PhD in astronomy/astrophysics or a closely related area.
- Individuals with proven experience in observational astronomy are preferred, but applications from all areas of astronomy/astrophysics are welcome.
- Applicants would ideally have a minimum of three years' relevant Postdoctoral experience and a demonstrable track record of high quality and original research, as evidenced by regular publication in high impact astronomy/astrophysics journals, a significant citation rate, presentations at top international conferences and the ability to attract research funding.
- Applicants must have demonstrated teaching experience in the delivery of undergraduate lectures, projects and/or laboratory physics.
- Applications are specifically invited from those with strong research credentials and publication record.
- Applicants must demonstrate excellent communication and interpersonal skills consistent with the highest quality of teaching and learning, as well as evidence of successful teamwork and a collegial approach.

Essential Training

The postholder will be required to undertake the following mandatory compliance training: Orientation, Health & Safety and Data Protection (GDPR). Other training may need to be undertaken when required.