



Assistant Professor in Sustainable Systems and Energy Engineering
School of Mechanical and Manufacturing Engineering
Faculty of Engineering and Computing
Fixed Term Five Year Contract

Introduction

Dublin City University (www.dcu.ie) is a research-intensive, globally-engaged, dynamic institution that is distinguished by both the quality and impact of its graduates and its focus on the translation of knowledge into societal and economic benefit. DCU prepares its students well for success in life, and in the workplace, by providing a high-quality, rounded education appropriate to the challenges and opportunities of the 21st century. As Ireland's University of Enterprise and Transformation, DCU is characterised by a focus on innovation and entrepreneurship and a track-record of effective engagement with the enterprise sector, including commercial, social and cultural enterprises. Excellence in its education and research activities has led to DCU's consistent position in the rankings of the world's top young universities. DCU has a strong track record in attracting both Irish and European Union funding under FP7, Horizon 2020, Marie Curie Actions and Erasmus. We offer a dynamic and internationally focused environment in which to advance your academic career.

Dublin City University's Strategic Plan places sustainability at the core of the University's strategic mission fostering education and research in line with the UN sustainable development goals and key themes. The Faculty of Engineering and Computing at Dublin City University is home to the Schools of Computing, Mechanical and Manufacturing Engineering and Electronic Engineering and hosts or participates in a number of large scale SFI research centres, including: INSIGHT (Data Analytics), ADAPT, and [I-Form](#) and BioDesign Europe. We offer programmes at Bachelors, Masters and PhD levels and our graduates are highly sought after by industry both nationally and internationally. Our teaching, learning and research activities are about transforming lives and societies.

School of Mechanical and Manufacturing Engineering

The School of Mechanical and Manufacturing Engineering has been at the forefront of Teaching, Learning, Research and Innovation in engineering since its establishment in 1987. Current programmes include Mechanical and Manufacturing Engineering, Biomedical Engineering and Mechatronics. The School is a research-intensive school that is home to key researchers affiliate to the research centres listed above and also to ESIPP, MEDeng and the Water Institute, and has particular strengths in Biomedical Engineering, Advanced Manufacturing and Sustainable Systems and Energy. At postgraduate levels the school offers taught Master's programmes with Majors in Biomedical Engineering, Simulation Driven Design and Sustainable Systems and Energy, each also with a pathway integrated with bachelor's degrees.

Role Profile

The School of Mechanical and Manufacturing Engineering is seeking to recruit a talented and passionate Assistant Professor in Sustainable Systems & Energy Engineering. The candidate should be motivated to direct and develop modules at both undergraduate and postgraduate level in the areas of Waste Water Management, Environmental and Hydraulic Engineering, Sustainable Systems and Process Design. We are particularly interested in applicants who have experience in teaching and established research in the area of Engineering system design and modelling for intelligent and sustainable water treatment, processing or distribution including energy recovery or conversion. The post holder will be expected to align research and knowledge transfer activities with DCU's Water Institute and the Sustainable Systems and Energy Research Group. This group's research activities include Renewable Energy, Hydrogen and Fuel Cells, Energy Auditing, Sustainable Water and Wastewater systems, Energy System Integration, Desalination, Sustainable Coatings, Heat Pumps and Life Cycle Analysis. The Water Institute is a university wide initiative focussed on water research and education with four pillars on Energy, Water and Health, Marine and Sustainable Agriculture. The role includes teaching, supervision of laboratory sessions, student mentoring and supervision of taught projects and research.

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

Teaching and Learning

The appointee will be expected to contribute directly to undergraduate and master's level programmes through research-led teaching, on-line delivery modes, supervision of laboratory sessions, student mentoring and supervision of capstones projects. Our Sustainability programmes prepare graduates with the knowledge and aptitude to meet the changing world of sustainability and

the growing global difficulty of transitioning to zero carbon through environmentally sound, reliable, affordable and sustainable energy systems.

Research and Scholarship

The appointee will be expected to have clearly articulated research interests and research profile development plans within the scope of the Sustainable Systems and Energy research that promotes the Faculty/University's strategic plan. They will be expected to sustain and conduct research, engage in scholarship of quality and substance, generate research income, supervise postgraduate students and publish to the highest international standard.

Service and Contribution to University and Society

Activities taken on the successful candidate's own initiative, or allocated by the Head of School, may include:

- Participating in school and university meetings,
- Representing the School in marketing and the recruitment of students,
- Developing relationships with stakeholders within and outside the University.

Duties and Responsibilities:

Specifically, the successful applicant will be required to (*inter alia*):

- Engage with and guide aspects of research and teaching in areas of Sustainable Systems and Energy
- Pursue an active research agenda in the area of Sustainable Systems and Energy with ongoing research publications in leading international academic journals, peer-reviewed conferences, and with high profile book publishers, both individually and, where appropriate, in collaboration with colleagues in DCU and elsewhere.
- Undertake professional development in research management.
- Deliver course content to students, including lectures, laboratories and tutorials at undergraduate and postgraduate levels in a manner consistent with DCU's high academic standards and in an environment which is a hybrid of campus and remote delivery.
 - Develop resources required to facilitate student learning both in-class and on-line
 - Set and assess examinations and continuous assessment materials.
 - Use a wide range of learning and teaching methodologies and assessments which foster a positive and encouraging learning environment for students.
- Work proactively in improving existing courses and programmes, and contribute to the design and development of new courses and programmes.

- Undertake professional development for teaching.
- Contribute to team effectiveness, leadership/management, and to strategic planning, quality reviews and improvement processes and external programme accreditation processes.
- Promote the internationalisation agenda of the Faculty and university, including undertaking international travel.
- Engage with the development of working relationships with industry, employers and professional bodies.
- Undertake such administration/outreach duties as will be defined by the Head of School and may include some of the following: degree programme coordination; participation in committees; visits to industry; student recruitment.

Qualifications & Experience

Applicants for the post must hold honours degree in a Mechanical Engineering, and be qualified to PhD level with a specialism in Sustainable Systems/ Energy or a closely related discipline. The successful candidate should also have a minimum of three year's relevant postdoctoral experience, with a record of high quality university level teaching.

In addition, the ideal candidate will:

- Have teaching experience to include experience of content generation, exam preparation and assessment, project supervision and the use of online teaching platforms and technology assisted learning
- Demonstrate an Internationally relevant research track record
- Be goal orientated, collaborative, use their initiative and show management potential
- Demonstrate excellent interpersonal and communication skills consistent with the highest quality of teaching and learning, with evidence of successful teamwork and a collegial approach
- Applications are specifically invited from those with strong relevant research credentials and publication record, particularly in the research areas of Waste Water Management, Environmental Engineering, Sustainable Systems and Process Design.

Mandatory Training

The appointee will be required to undertake the following mandatory compliance training: GDPR; Orientation, and Compliance. Other training may need to be undertaken when required.