University of Salford MANCHESTER

Job Description

Role Title:	Senior Research Fellow in Digital Twins and IoT for Sustainable Energy Systems
School:	Salford Business School
Reference:	MPF4188
Grade:	8
Full or Part time:	Full time
Hours:	1.0 FTE
Reports to:	Professor

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Overview

Salford Business School boasts a vibrant international community. We are pioneers in redefining education and its role in shaping the future and world around us. Industry collaborations, knowledge transfer partnerships, research partnerships, international exchanges, student opportunities, outreach activities - these are just some of the ways we connect and work together.

We are looking for a Senior Research Fellow to design and implement IoT and digital twin solutions that showcase real and simulated energy innovations. The role will bridge practical deployments and future market concepts. You will lead both hands-on IoT sensor installations and the development of simulated dashboards that model energy and mobility systems. As part of our team, you will develop advanced algorithms, tools, and solutions, applying them to pilot studies across the UK and EU. Additionally, you will represent the team in technical discussions and project meetings, ensuring effective collaboration and knowledge exchange.

Post duration: Start immediately up to 30th June 2027

Role Purpose

The postholder will lead the design, development, and demonstration of IoT-enabled digital twin solutions that support intelligent and sustainable energy management across buildings, mobility systems, and other energy and carbon related applications. Some of the key responsibilities planned for this role are as follows:

- Deploy IoT sensor solutions in selected real-world sites.
- Develop backend algorithms and dashboards for these real deployments, showing live optimizations.
- Design simulated dashboards for innovative concepts of the projects.
- Integrate these platforms with broader energy systems (e.g., building management or fleet operations).
- Contribute to novel algorithmic approaches that embed sustainability principles.
- Collaborate with the Project Lead to explore patent or commercialization potential from unique solutions.
- Shape and secure research and knowledge exchange bids (UKRI, Horizon Europe, Innovate UK), building strong collaborations with academic, industrial, policy, and civic partners.

- Liaise with other researchers, both internally and at partner institution to deliver project deliverables and create impact.

Principal Duties & Responsibilities

- Carry out high quality scientific research and knowledge exchange in line with the requirements of current funded projects;
- Liaise with other researchers, both internally and at partner institution to achieve project deliverables;
- Contribute to general scholarly activities such as promoting good practice to PhD students and other researchers;
- Liaise regularly with the project lead and report on progress towards research objectives;
- Disseminate research outcomes in collaboration with the project lead in academic journals and at conferences and exhibitions;
- Develop and maintain skills in relevant research methodologies;
- Maintain high standards of academic and commercial confidentiality;
- Comply with the personal health and safety responsibilities specified in the University Health and Safety policy;
- This role detail is a guide to the work you will initially be required to undertake. It may be changed from time to time to meet changing circumstances. It does not form part of your Contract of Employment.

Generic Duties

- Perform any other duties appropriate to the grade as may be required by the Head of School/Head of Division etc.
- Comply with the personal health and safety responsibilities specified in the University Health and Safety policy.
- To engage with the University's commitment to put our students first and deliver services which are customer orientated, represent value for money and contribute to the financial and environmental sustainability of the University when undertaking all duties and aspects of the role.
- Advance equality, support our work towards eliminating unlawful discrimination, foster an inclusive study and work environment for students, staff and visitors in accordance with our public sector equality duties and university policy.

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Person specification follows on next page

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Person Specification

The successful candidate should demonstrate the following, which are ‘Essential’ (E) or ‘Desirable’ (D).

Qualifications

1. Hold an academic degree in a related field (E)

Background and Experience

2. A proven track record of project in digital twin and IoT implementation (E)
3. A proven track record of research and knowledge exchange record in relevant areas to this position (E)
4. Experience of design and demonstration of IoT-enabled digital twin solutions (E)
5. Demonstrated ability to secure competitive research funding and deliver large-scale projects (D)
6. Experience of interdisciplinary research that integrates social, technical, and policy perspectives (D)
7. Excellent stakeholder engagement skills, with evidence of collaboration across academia, industry, and/or policy (D)
8. Commitment to equity, diversity, and inclusion in research and education (D)

Knowledge

9. Knowledge of IoT and digital twin (E)
10. Knowledge of challenges in energy and transport systems (D)
11. Knowledge of sustainability (D)
12. Knowledge of piloting and implementation in real-world environment (D)

Skills and Competencies

13. Good interpersonal and communication skills (E)
14. A high level of personal motivation (E)
15. Inquisitive, curious and critical mindset with a methodical approach to resolving novel problems and challenges (E)
16. The ability to work both within a team as well as individually (E)
17. Ability to work to deadlines (E)