

Job Description & Person Specification

Academic and Research roles

JOB DESCRIPTION

Job title	Postdoctoral Research Fellow: 3G Sports turf: Integrated Life Cycle Assessment, Life Cycle Costing, and Asset Management Modelling
Faculty	Faculty of Computing, Sciences & Engineering
Division	Department of Sport & Sciences (SAS)
Programme (if applicable)	NA
Location	Lanarkshire Campus
Reporting to	Principal Investigator and Professor
UWS grade	AC2
FTE	1.0

UWS values

At University of the West of Scotland, we live by our core values of Integrity, Respect, Inclusivity and Accountability, as set out in our Working with Others Framework. This framework provides clear behavioural expectations that guide how we collaborate, make decisions and engage with colleagues, students and stakeholders. It fosters a culture of collaboration, shared ownership, mutual respect, and inclusive practice, and is embedded within our performance and development processes. By aligning our actions with these values, colleagues contribute meaningfully to our shared purpose and the delivery of the University's strategic objectives.

INTEGRITY – We uphold integrity through transparency, adherence to values, and sound decision making, even in challenging times.

RESPECT – We treat everyone with dignity, act with awareness, collaborate effectively, and respect our environment.

INCLUSIVITY – We promote inclusivity by celebrating diversity, amplifying voices, and empowering communities through shared knowledge and skills.

ACCOUNTABILITY – We foster accountability, take pride in our work, trust each other, and own our actions to achieve shared goals.

At UWS, our values guide how we work together and deliver for our communities. All colleagues are expected to demonstrate behaviours aligned with these values. Additional expectations apply, depending on the role level.

Job summary

This position will support the aims of the interdisciplinary UKRI-funded project, 'ReSurface: Solving the UK's Polymeric Waste Crisis from Synthetic Sports Turf Fields'.

The successful experienced candidate will develop integrated Life Cycle Assessment (LCA) and Life Cycle Costing (LCC) asset management models to optimise recycling processes and support the development of a UK-wide end-of-life (EoL) sports surface recycling infrastructure. Working closely with academic and industry partners, the researcher will collect and analyse primary data from recycling facilities, including material flows, mass balances, environmental impacts, and process performance.

The role will also involve validating and refining the LCA and LCC models using real-world operational data, contributing to research on material recovery, waste stream characterisation, separation efficiencies, and market opportunities for recycled products. The postholder will update the models to incorporate emerging recycling technologies and market developments, ensuring their applicability across different geographic regions and recycling scenarios. The models will be developed using ISO-compliant software to support evidence-based decision-making and sector-wide adoption of sustainable recycling practices.

People & finance responsibilities

People	There are no line management responsibilities associated with this role.
Finance	There are no budget responsibilities associated with this role.

Key activities

- Develop integrated Life Cycle Assessment (LCA), Life Cycle Costing (LCC) and Asset Management Models for end-of-life sports surface recycling.
- Develop and maintain the models using ISO-compliant LCA software and methodologies.
- Optimise recycling infrastructure to support the development of a UK-wide end-of-life (EoL) sports surface recycling.
- Collaborate with industry partners to collect and analyse primary operational data from recycling facilities.
- Liaise with PDRAs, multidisciplinary researchers, and external stakeholders to gather and evaluate data on material flows, mass balances, environmental impacts, and recycling performance.
- Support knowledge exchange and project delivery through effective collaboration.
- Update and enhance the models to incorporate emerging recycling technologies and market developments, ensuring their applicability across diverse UK geographic regions and recycling scenarios.
- Analyse and interpret environmental and economic data to produce technical reports, research outputs, and recommendations that inform asset management and circular economy strategies for academic, industry, and stakeholder audiences.

Job scope

Planning and organising	• Work closely with the research teams at UWS and Loughborough University and commercial partners across the project. • Work on own initiative, prioritising workload to ensure achievement of research activities and project deadlines. • Coordinate workload with members of the project team within UWS as well as PDRAs and Researchers at Loughborough University to avoid duplication of workload and conflict.
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	• Undertake and/or coordinate data collection, data analysis, writing up of findings and dissemination of findings.
Decision making	• Deal with problems which may affect the delivery of, or the achievement of research objectives and deadlines. • Contribute to decisions affecting the work of the team. • Work with the greater research team and commercial partners to determine the best LCA/LCC software to use. • Analyse and interpret the results of research and contribute to the generation of original ideas based on outcomes, and to decisions relating to exploration activities.
Working relationships – <i>Liaison and Networking</i>	• Work closely with and be supported by both the project PI and Co-Is at UWS and external partner at Loughborough University. • Liaise with colleagues and support staff within the Faculty at UWS on-research matters.
Working relationships – <i>Communication</i>	• Collaborate with practitioners, researchers and commercial partners inside and outside of the University.
Working relationships – <i>Teamwork</i>	• Actively participate as a research team member. • As appropriate attend and contribute to project team meetings, scientific workshops and other relevant meetings. • Demonstrate awareness of ethical issues pertaining to the research process and consideration to others.
Working relationships – <i>Pastoral Care</i>	• There are no pastoral duties associated with this role.
Working relationships – <i>Managing People</i>	• There are no management duties associated with this role

PERSON SPECIFICATION

Qualifications

				Evidence A = Application I = Interview
Essential	QE1	PhD in Environmental Engineering, Sustainability, Waste Management, Environmental Science, Materials Science, Industrial Ecology, or a closely related discipline.		A
Desirable	QD1	Additional professional training or certification in Life Cycle assessment (LCA) and/or Life Cycle Assessment (LCC), Circular Economy, Asset Management, or Sustainability Assessment.		A

Experience

				Evidence A = Application I = Interview
Essential	EE1	Demonstrable research experience in Life Cycle Costing (LCC) and Life Cycle Assessment (LCA). Experience of analysing environmental and economic performance of engineering systems.		A
	EE2	- A familiarity with software such as openLCA, SimaPro, Python, PowerBI and Excel with VBA/Power Query (where needed) - Experience working collaboratively with external stakeholders, industry partners or multidisciplinary research teams		A/I A
Desirable	ED1	Research experience relating to polymer recycling, plastics, sports surfaces, construction materials, or waste resource management.		A & I
	ED2	Experience working on UKRI, Innovate UK or similar collaborative research projects.		A & I

Skills

			Evidence A = Application I = Interview
Essential	SE1	Strong quantitative analytical and problem-solving skills.	A
	SE2	Ability to interpret environmental and economic datasets and translate findings into meaningful recommendations.	A/I
	SE3	Excellent computing skills	A/I
	SE4	Ability to work on own initiative.	I
	SE5	Good communication and interpersonal skills	I
	SE6	Has a driving licence	A
	SE7	- Good project management and communication skills. - Must be willing to travel and visit other external partners at times	I A/I
Desirable	SD1	Experience of techno-economic assessment, sensitivity analysis, uncertainty analysis, scenario modelling, GIS or spatial modelling for infrastructure planning.	A/I
	SD2	Excellent scientific writing, publication, and presentation skills.	A/I
	SD3	Attention to fine detail, ability to problem solve and work on own initiative and as part of a team.	I

Knowledge

			Evidence A = Application I = Interview
Essential	KE1	Good understanding of Life Cycle Assessment, Life Cycle Costing and Assessment methodology, resource efficiency and sustainability principles.	A
	KE2	Knowledge of quantitative data analysis and environmental performance indicators.	A/I

Desirable	KD1	Knowledge of polymer recycling technologies, waste stream characterisation, material recovery processes, separation technologies, circular economy strategies, UK waste policy, Extended Producer Responsibility (EPR), and recycling markets.	I
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