Draft Role Profile – Part 1

Job Title:	Research Fellow
Reference No:	
Reports to:	Principle Investigator (PI): Professor Elaheh Ghassemieh
Grade:	F
Working Hours:	37 hours per week for nominal purposes
Faculty:	Engineering and Advanced Manufacturing
Location:	Faculty of Engineering and Centre for Advanced Manufacturing as required
Main Purpose of the Role:	To perform research in the area of advanced manufacturing on multi projects
Key Tasks and Responsibilities:	**Faculty Specifics:** • Plan, design and carry out experimental and simulation work in the areas of the defined projects • Analyse and report the results on regular basis to the PI and all the external parties involved in the project • Investigate the latest state of the art related to the projects in hand and align the direction of the project accordingly • Contribute to identification of sources of funding and writing proposals in the area of advanced manufacturing they are specifically recruited for
Part 1B	**Other Research Fellow roles:** • Develop and implement a personal research plan and where appropriate related reach-out plan and develop, often in collaboration with others, proposals for research projects and initiatives. • Carry out independent research. • Conduct individual or collaborative research projects often as project leader. • Contribute to the development of research and related reach-out strategies. • Identify sources of funding, lead / contribute to the process of securing funds and subsequently plan and deliver projects that are funded. • Extend, transform and apply knowledge acquired from scholarship to research and appropriate external activities. • Act as an academic referee and contribute to peer assessment of research projects or publications. • Disseminate and exploit the outcomes of research and reach-out through peer-reviewed publication and through presentations at conferences or exhibit work in other appropriate events and initiate such events. • Maintain knowledge and understanding at the forefront of the academic discipline and, if appropriate, also at the forefront of the relevant area of professional practice. • Provide expert advice through subject area knowledge, understanding and know-how to students, researchers and other academic colleagues • Contribute to the teaching and learning Supervise postgraduate research students as

	approved and decided by the PI. • Develop and apply innovative and appropriate teaching techniques and material which create interest, understanding and enthusiasm amongst students
Special Circumstances:	

Draft Role Profile – Part 2

<table>
<tr><td rowspan="2">Part 2A

Qualifications / Experience
/
Knowledge and Expertise</td><td>Essential:

Qualifications & Professional Memberships:

• Postgraduate qualification (normally doctorate) or equivalent in the area of mechanical / manufacturing / materials engineering

Experience:

• Track record of developing peer-reviewed published work and peer-reviewed public exhibition and presentations.
• At least five years of experience in the following areas:

1)Additive manufacturing processes (3D printing, Laser sintering, Laser texturing, Ultrasonic fabrication)
2) Processing and developing lightweight materials, sustainable materials and processes
3) Material Characterisation techniques
4) Visualisation techniques for quality control

Key Knowledge and Expertise (generic):

• Required to be an externally recognised authority in the subject area.
• Possess sufficient breadth or depth of specialist knowledge in the discipline to develop research programmes and methodologies.
• Use a range of delivery techniques to enthuse and engage students.
• High level critical evaluative and analytical skills.</td></tr>
<tr><td>Desirable:

Qualifications & Professional Memberships:

• Membership of Institute of Mechanical Engineering

Experience:

• Thermomechanical simulation using ANSYS / ABAQUS

Key Knowledge and Expertise:

• CAD/CAM and FEA software</td></tr>
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Part 2B **Generic Competencies:**	**Analysis and Research** • Gathers data rigorously and conducts robust analysis, questioning assumptions and existing knowledge. • Develops hypotheses and concepts to explain data, events and phenomena. • Reports findings to wider community and is able to withstand challenge by relying on evidence gathered and processes used for analysis.
	Communication **Oral** • Summarises and interprets complex, conceptual and special matters to aid others' understanding and aimed at their needs. • Uses appropriate styles and arguments to influence and negotiate satisfactory outcomes. • Monitors understanding of others, develops approach and takes corrective action if required. **Written** • Conveys information of a complex, conceptual and specialist nature using a range of styles and media selected to meet the needs of others. • Presents complex information in formats appropriate to non-specialists without comprising meaning. • Monitors the reactions of others and takes appropriate steps to remedy any miscommunications.
	Decision Making **Independent decisions** • Considers wider impact of decisions, assesses possible outcomes and their likelihood. • Uses judgement to make decisions with limited or ambiguous data and takes account of multiple factors. • Distinguishes between the need to make a decision, when to defer and when not to take a decision. **Collaborative decisions** • Helps others to explore options that initially appear to be inappropriate or unfeasible and recognise when a decision is or is not needed. • Enables others to contribute to decisions. • Ensures that options are weighed, outcomes identified and chances of success considered. • Challenges decisions, appropriately to ensure consideration and processes are robust. **Contribute to the decision making of others** • Anticipates and highlights issues that need to be taken into account. • Outlines possible impacting factors, assessing their degree of influence on the choice of options. • Ensures previous learning is included.
	Initiative and Problem Solving • Initiates processes and procedures to resolve new problems. • Anticipates possible implementation difficulties and identifies practical ways of overcoming or preventing them. • Takes account of others and the broader context when generating options.

	Pastoral Care and Welfare • Calms and reassures those in distress. • Deals with difficult situations or confidential matters, according to policy and procedures. • Involves others or refers elsewhere for assistance if the situation becomes more complex and if additional help or information is required.
	Planning and Organising Resources • Actively seeks information to support planning and prioritisation of work. • Ensures that time and resources are used effectively to their maximum efficiency. • Checks and reports on progress and achievement against plans to key parties. • Develops plans to take account of problems, delays and new priorities.
	Team Development • Plans and generates training and development opportunities to meet team members current and future learning needs. • Enables team members to apply their learning. • Evaluates learning and development activities with those involved.
	Teamwork and Motivation • Ensures appropriate resources and support are available so that the team and individual members are able achieve their objectives • Monitors progress and takes appropriate action to deal with difficulties or slippage • Deals with conflict within the team • Finds ways for individuals to achieve their objectives and development plans without compromising the teams priorities
Date Completed:	January 2008