

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:	<p>Faculty Specifics:</p> <ul style="list-style-type: none"> • 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	<p>Other Research Fellow roles:</p> <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none">• Develop and apply innovative and appropriate teaching techniques and material which create interest, understanding and enthusiasm amongst students
Special Circumstances:	

<p>Part 2A</p> <p>Qualifications / Experience / Knowledge and Expertise</p>	<p>Essential:</p> <p>Qualifications & Professional Memberships:</p> <ul style="list-style-type: none"> • Postgraduate qualification (normally doctorate) or equivalent in the area of robotics in manufacturing, manufacturing intelligence or other relevant area <p>Experience:</p> <ul style="list-style-type: none"> • Track record of developing peer-reviewed published work and peer-reviewed public exhibition and presentations. • At least five years of experience in one of the following areas of category A or B: <ul style="list-style-type: none"> A) Automation in manufacturing <ol style="list-style-type: none"> 1) Embedding intelligence in manufacturing systems 2) Sensors, control and Data analytics related to Industry 4.0 3) Robotics in manufacturing automation (Programming skills in automation scripting) B) Joining and assembly processes <ol style="list-style-type: none"> 1) Ultrasonic and friction stir welding 2) Machining 3) Adhesive bonding <p>Key Knowledge and Expertise (<i>generic</i>):</p> <ul style="list-style-type: none"> • 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.
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Desirable :

Qualifications & Professional Memberships:

- Membership of Institute of Mechanical Engineering
- Membership of Institute or EEE Robotics and Automation

Experience:

- Experience with automotive manufacturing industry
- Experience in both areas of A and B mentioned above

Key Knowledge and Expertise:

- Knowledge of programming and OOP basics
- Knowledge of Java and Net (C, VB) or Oracle PL/SQL/VBA/HTML
- Automation scripting

**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.

	<p>Pastoral Care and Welfare</p> <ul style="list-style-type: none"> • 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.
	<p>Planning and Organising Resources</p> <ul style="list-style-type: none"> • 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.
	<p>Team Development</p> <ul style="list-style-type: none"> • 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.
	<p>Teamwork and Motivation</p> <ul style="list-style-type: none"> • 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
<p>Date Completed:</p>	<p>January 2008</p>