

Research Role Profile

Job Title:	Research Fellow A in Mechanochemistry, Catalysis and Plastic Depolymerisation
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Responsible to:	Head of research group, or principal investigator
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Responsible for:	Not applicable
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Job Summary and Purpose:
To undertake research in accordance with the specified research project(s) under the supervision of the principal investigator.

Main Responsibilities/Activities
<p>To undertake a range of research activities within a specified research area, assuming responsibility for specific areas of projects and making use of new research techniques and methods, in consultation with the research award holder or supervisor. This may include fieldwork, interviews, laboratory experimentation, critical evaluation and interpretation, computer-based data analysis and evaluation or library research.</p> <p>Using initiative and creativity to identify areas for research develop new research methods and extend the research portfolio. Analysing and interpreting results of own research. Write up results and prepare papers for submission to appropriate journals and conferences, and other outputs as required and/or appropriate. Attend appropriate conferences for the purpose of disseminating research results of personal development. The post holder may also contribute to writing bids for research grants and will contribute to collaborative decision making with colleagues in areas of research.</p> <p>Continually to update knowledge and develop skills, and translate knowledge of advances in the area into research activity.</p> <p>To plan and manage own research activity in collaboration with others. To carry out administrative tasks associated with specified research funding, for example risk assessment of research activities, organisation of project meetings and documentation. Implementation of procedures required to ensure accurate and timely formal reporting and financial control.</p> <p>To contribute to teaching in the Faculty by carrying out student supervision and/or demonstrating within the post holder's area of expertise and under the direct guidance of a member of departmental academic staff, as appropriate.</p> <p>The post holder may occasionally be required to supervise more junior research staff.</p>

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Person Specification

The post holder must have:

A doctoral degree in a relevant discipline (although individuals who have almost completed a doctoral degree may be appointed). Consideration may also be given to individuals who do not hold a doctoral degree but have required skills based on a number of years experience in specified / relevant fields

The post holder will have authority over some aspects of project work and must be capable of providing academic judgement, offering original and creative thoughts and be able to interpret and analyse results.

Relationships and Contacts

Direct responsibility to the principal investigator or academic supervisor. The post holder may be asked to serve on a relevant Faculty committee. There may be additional reporting and liaison responsibilities to external funding bodies or sponsors. The post holder may work on original research tasks with colleagues in other institutions.

Special Requirements

To be available to participate in fieldwork as required by the specified research project

All staff are expected to:

- Positively support equality of opportunity and equity of treatment to colleagues and students in accordance with the University of Surrey Equal Opportunities policy.
- Help maintain a safe working environment by:
 - Attending training in Health and Safety requirements as necessary, both on appointment and as changes in duties and techniques demand
 - Following local codes of safe working practices and the University of Surrey Health and Safety Policy
- Undertake such other duties within the scope of the post as may be requested by your Manager.

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Addendum

This document provides additional information relating to both specific aspects of the post/faculty and any post specific person specification criteria. The information contained within this document should always be read in conjunction with the accompanying generic Job Purpose.

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Background Information/Relationships

Applications are invited for a Research Fellow position to work in the [Catalysis for Chemical Circularity Group](#) in School of Engineering, University of Surrey. The main role of the post holder will be to carry out experimental based research on PET depolymerisation into monomer chemicals using mechanochemistry, developing research expertise and portfolios in this emerging field towards a circular plastic economy. This interdisciplinary project is in close collaboration with academics in University of Birmingham, Imperial College London and Queen's University of Belfast, and companies in the waste management and plastic production sectors. By participating in the stakeholder engagement, the post holder will gain great insight in the plastic chemical recycling field, and development their professional network and career growth. The main project objectives are:

O1. Design efficient nanoscale catalysts and robust mechanochemical process to recycle PET into monomer feedstocks.

O2. Benchmark different mechanochemical reaction systems for kinetics and parameter translation.

O3. Understand the depolymerisation mechanism using advanced characterisation for further catalyst discovery and process engineering.

Person Specification

This section describes the sum total of knowledge, experience & competence required by the post holder that is necessary for standard acceptable performance in carrying out this role. This is in addition to the criteria contained within the accompanying generic Job Purpose.

Qualifications and Professional Memberships	Essential/ Desirable
Hold a PhD in Material Science, Chemistry or Chemical Engineering, or a closely related discipline.	E
Strong background in experimental catalyst design, characterisation and testing	E
Prior knowledge of mechanochemistry, polymer chemistry and physics, plastic chemical recycling	D
Practical experience within a research environment and/or publication in relevant and refereed journals	E

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Practical experience in a broad range of techniques in material and chemical characterisation	E
Ability to conduct a detailed review of recent literature	E
Ability to develop and apply new concepts	D
Creative approach to problem-solving	D
Excellent verbal communication skills and the ability to deal with a wide range of people	D
Excellent written communication skills and the ability to write clearly and succinctly for publication	E
Willingness to work as part of a team and to be open-minded and cooperative	D
Willingness to travel both within the United Kingdom and abroad to conduct research and attend conferences	E
Key Responsibilities This document is not designed to be a list of all tasks undertaken but an outline record of any faculty/post specific responsibilities. This should be read in conjunction with those contained within the accompanying generic Job Purpose.	
<ol style="list-style-type: none"> 1. To be able to commit at least 60% of the project time on experimental work. 2. To conduct data analysis and ensure the validity and reliability of data at all times 3. To maintain accurate and complete records of all findings 4. To work in a timely manner and be able to meet project deadlines. 5. To present the work to industrial collaborators, as advised by the supervisors 6. To report on a regular basis about the progress of the work at meetings with the academic leaders 7. To provide support to the PhD, MSc and project students within the academic leaders' research group 8. To contribute to the smooth running of the academic leaders' research laboratories and, facilities with other users and technicians within the laboratories. 9. To develop contacts within the university and the wider community 10. To take initiatives in the planning of research 11. To write reports for submission to research sponsors 12. To submit publications to refereed journals 13. To contribute to bids for research grants 14. To actively participate in the research programme of the Group 	
N.B. The above list is not exhaustive.	