



## Candidate Information

<b>Position:</b>	Research Fellow - Sustainable Polymer Modelling
<b>School/Department:</b>	School of Mechanical and Aerospace Engineering
<b>Reference:</b>	23/110867
<b>Closing Date:</b>	Monday 29 May 2023
<b>Salary:</b>	£36,333 - £37,386 per annum
<b>Anticipated Interview Date:</b>	Tuesday 13 June 2023
<b>Duration:</b>	Fixed Term 12 months, to start from 1 July 2023 or as soon as possible thereafter

### JOB PURPOSE:

To be a motivated, creative and productive researcher on the EPSRC Project "Sustainable Manufacturing of Circular Economy Elastomer Products", concentrating on material modelling and process simulation.

The post is a critical role, and the post holder will be part of the research team for the above project. As such, successful applicants will have responsibilities in independent research, collaborative research, supervision of junior researchers, planning, reporting, industrial engagement, and development of future research proposals.

### MAJOR DUTIES:

1. Undertake research under supervision within the research project and work as part of the project research team.
2. Conduct computer simulation of the processing of novel biobased elastomers.
3. Develop rheological and viscoelastic models for representing the behaviours of the biobased elastomers.
4. Conduct computer simulation of the recycling of biobased elastomer products.
5. Carry out analyses, critical evaluations, and interpretations of simulation data and the literature using methodologies and software appropriate to the area of research.
6. Engage with academic and industrial collaborators to help deliver research impact.
7. Produce high quality research publications and where appropriate IP documentation, consistent with project aims.
8. Assist PI/Co-I in the supervision of junior researchers in the research team including PhD, MSc and undergraduate students.
9. Assist PI/Co-I in the preparation of funding proposals and applications to external bodies.
10. Undertake supplementary duties relevant to the success of the project including administrative duties and additional training and development activities as required.
11. Undertake other duties as appropriate to the post.

### ESSENTIAL CRITERIA:

1. Have or be about to obtain a PhD in Materials Science and Engineering, Mechanical Engineering, or another relevant Engineering discipline.
2. At least 3 years' research experience in product or process modelling related to polymers or composites.
3. Demonstrable experience of finite element (FE) and computational fluid dynamics (CFD) techniques.
4. Strong publication record in polymer engineering, commensurate with stage of career.
5. Knowledge of polymer materials and processing.
6. Skills in modelling the viscoelastic and rheological properties of polymers.
7. Excellent problem-solving and analytical skills.
8. Effective communication skills in oral and written format.
9. Ability to work under minimal supervision.
10. Willingness to learn new knowledge, research methods and skills as required.
11. Willingness to work as part of a team.
12. Willingness to travel in line with project requirements.

**DESIRABLE CRITERIA:**

1. Experience of polymer processing techniques.
2. Experience of polymer process simulation software such as Polyflow (Ansys) and Moldflow (Autodesk).