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## THE POST

<b>College:</b>	<a href="#">College of Engineering, Mathematics and Physical Sciences</a>
<b>Post:</b>	Postdoctoral Research Associate / Postdoctoral Research Fellow
<b>Reference No:</b>	P65663
<b>Grade:</b>	E/F
<b>HERA:</b>	ARF/RF
<b>Reporting To:</b>	Dr Xiaoyu Yan

### Job Description

#### **Main purpose of the job:**

The post will contribute to ExeMPLaR, a new EPSRC funded project under the call “Creative Circular Economy Approaches to Eliminate Plastic Waste” and [NEXT-AG](#), an ongoing project funded by NERC (UK) and CONICYT (Chile). “Exeter Multidisciplinary Plastics Research hub: ExeMPLaR” aim to develop regional circular plastics systems which optimise circular flows of plastics for the highest value and greatest potential for value creation and significant reduction of negative externalities. “NEXus Thinking for sustainable AGRicultural development in Andean countries (NEXT-AG)” aims to deliver new theoretical and conceptual understanding of the impacts of agricultural expansion in the context of the Water-Energy-Food-Environment (WEFE) nexus in Andean countries. It will provide the evidence base for policy makers in these countries to develop new holistic strategies to sustainably meet the increasing national and global food demand.

Within ExeMPLaR, the post will develop the first stage of a novel Life Cycle Assessment (LCA) based tool, drawing from different disciplines, to model and evaluate system oriented innovations designed to reduce, re-use, eliminate or substitute fossil plastic use and waste. Within NEXT-AG, the post will develop an LCA based integrated WEFE nexus modelling tool and model how agricultural expansion will affect all WEFE components including energy generation and consumption, local water resources and the environment. The successful applicant will be able to present information on research progress and outcomes, communicate complex information, orally, in writing and electronically and prepare proposals and applications to external bodies. The post will be expected to collaborate closely with a diverse group of researchers within the ExeMPLaR and NEXT-AG consortiums to develop the LCA tools.

#### **Main duties and accountabilities (Postdoctoral Research Associate):**

1. To undertake research as appropriate to the field of study including:
  - Writing up research work for publication;
  - Developing research objectives and proposals for own or joint research;
  - Making presentations at project meetings, national and international conferences and similar events;
  - Dealing with problems which may affect the achievement of research objectives and deadlines;
  - Analysing and interpreting the results of own research and generating original ideas based on outcomes;
  - Using new research techniques and methods;
  - Using initiative and creativity to identify areas for research, developing new research methods and extending the research portfolio;
  - Using creativity to analyse and interpret research data and draw conclusions on the outcomes.

2. To contribute to teaching and to be involved in the assessment of student knowledge including assisting in the supervision of student projects and in the development of student research skills.
3. To work in collaboration with colleagues as appropriate to the field of study including:
  - Contributing to collaborative decision making within the research group;
  - Contributing to the production of collaborative research reports and publications.
  - Preparing papers and presenting information on research progress and outcomes to bodies supervising research, e.g. steering groups.
4. To communicate complex information, orally, in writing and electronically.
5. To prepare proposals and applications to external bodies, e.g. for funding and contractual purposes
6. To contribute to the planning of research projects.
7. To use research resources, laboratories and workshops as appropriate and to take responsibility for reducing hazards and for the health and safety of others. Where appropriate, will also be responsible for conducting risk assessments.
8. To monitor research budgets as appropriate.
9. To engage in continuous professional development and to be responsible for continually updating knowledge and understanding in field of study or specialism and for developing skills.

This job description summarises the main duties and accountabilities of the post and is not comprehensive: the post-holder may be required to undertake other duties of similar level and responsibility. Please visit the Human Resources website to view the Research Associate role profiles.

**Person Specification (Postdoctoral Research Associate):**

<b>Competency</b>	<b>Essential</b>	<b>Desirable</b>
Attainments/Qualifications	PhD (or be nearing completion) or equivalent qualification/experience in a related field of study.	Be a nationally recognised authority in Life Cycle Assessment (LCA).
Skills and Understanding	Skilled in LCA research. Good knowledge in LCA software tools and databases.	Experience in LCA of energy, water, food and environment (WEFE) systems and plastics. Knowledge in the WEFE nexus and Circular Economy.  Record of relevant research output in high quality publications.
Prior Experience	Understanding of health and safety legislation.	Experience of undergraduate teaching.
Behavioural Characteristics	Excellent written and verbal communication skills.  Able to communicate material of a specialist or highly technical nature.  Able to manage research and administrative activities and to balance the competing pressures of research and administrative demands and deadlines.  Able to liaise with colleagues and students.  Able to build contacts and participate in internal and external networks for the	

	<p>exchange of information and collaboration.</p> <p>Able to identify potential sources of funding.</p> <p>Actively participate as a member of a research team.</p> <p>Engage in continuous professional development.</p> <p>Understand equal opportunity issues as they may impact on areas of research content.</p> <p>Where appropriate to the role, willingness to undergo training in order to conduct risk assessments.</p>	
Circumstances	Willing to work flexibly to achieve project demands	Experience of completing professional quality deliverables to schedule.
Additional Competencies/Experience		Knowledge and/or experience in spatial analysis using GIS and/or Material Flow Analysis (MFA).

**Main duties and accountabilities (Postdoctoral Research Fellow):**

1. To undertake research as appropriate to the field of study including:
  - Acting as principal investigator on research projects;
  - Developing research objectives, projects and proposals;
  - Conducting individual or collaborative research projects;
  - Identifying sources of funding and contributing to the process of securing funds;
  - Extending, transforming and applying knowledge acquired from scholarship to research and appropriate external activities;
  - Writing or contributing to publications or disseminating research findings using media appropriate to the discipline;
  - Making presentations at conferences or exhibiting work in other appropriate events;
  - Assessing, interpreting and evaluating outcomes of research;
  - Developing new concepts and ideas to extend intellectual understanding;
  - Resolving problems of meeting research objectives and deadlines;
  - Developing ideas for generating income and promoting research area;
  - Developing ideas for application of research outcomes;
  - Deciding on research programmes and methodologies, often in collaboration with colleagues and sometimes subject to the approval of the head of the research programme on fundamental issues.
2. To contribute to teaching and learning programmes in the School and to supervise postgraduate research students.
3. To act as research team leader including:
  - Mentoring colleagues with less experience and advising on their professional development;
  - Coaching and supporting colleagues in developing their research techniques;
  - Supervising the work of others, for example in research teams or projects;
  - Developing productive working relationships with other members of staff;
  - Co-ordinating the work of colleagues to ensure equitable access to resources and facilities;
  - Dealing with standard problems and help colleagues to resolve their concerns about progress in research.

4. To routinely communicate complex and conceptual ideas to those with limited knowledge as well as to peers using high level skills and a range of media and to present the results of scientific research to sponsors and at conferences.
5. As determined by the nature of the project and at the direction of the PI, to plan, co-ordinate and implement research programmes including:
  - Managing the use of research resources and ensure that effective use is made of them;
  - Managing research budgets;
  - Helping to plan and implement commercial and consultancy activities;
  - Planning and managing own consultancy assignments.

This job description summarises the main duties and accountabilities of the post and is not comprehensive: the post-holder may be required to undertake other duties of similar level and responsibility. Please visit the Human Resources website to view the Research Fellow role profiles.

### **Person Specification**

<b>Competency</b>	<b>Essential</b>	<b>Desirable</b>
Attainments/Qualifications	PhD or equivalent in a related field of study.  Be a nationally recognised authority in Life Cycle Assessment (LCA).	
Skills and Understanding	Possess strong specialist skills in LCA of energy, water, food and plastics systems and technologies.  Knowledge in the WEFE nexus and Circular Economy.  Record of relevant research output in high quality publications.	
Prior Experience	Experience of managing research projects and/or teams.	Experience of teaching at undergraduate level.  Successful in obtaining grant funding.  Experience of postgraduate teaching and supervision.  Experience of acting as principal investigator on research projects.
Behavioural Characteristics	Excellent written and verbal communication skills.  Able to communicate complex and conceptual ideas to a wide range of audiences.  Evidence of the ability to collaborate actively within the institution and externally to complete research projects and advance thinking.  Able to participate in and develop external networks.  Able to identify sources of funding, generate income, obtain consultancy projects, or build relationships for future activities.	

	Able to balance the pressures of research, administrative demands and competing deadlines.	
Circumstances	Willing to work flexibly to achieve project demands. Experience of completing professional quality deliverables to schedule.	
Additional Competencies/Experience	Rich experience in LCA software tools such as GaBi and SimaPro.	Knowledge and/or experience in spatial analysis using GIS and/or Material Flow Analysis (MFA).

**Terms & Conditions**

Our Terms and Conditions of Employment can be viewed [here](#).

**Further Information**

Please see our [website](#) for further information on working at the University of Exeter.