

## THE POST

<b>College:</b>	<b>College of Engineering, Mathematics and Physical Sciences</b> <a href="http://emps.exeter.ac.uk/">http://emps.exeter.ac.uk/</a>
<b>Post:</b>	<b>Postdoctoral Research Fellow</b>
<b>Reference No:</b>	<b>R52056</b>
<b>Grade:</b>	<b>F</b>
<b>HERA:</b>	<b>RFEL</b>
<b>Reporting To:</b>	<b>Prof Alastair Hibbins</b>

The above full-time post is available immediately for up to 42 months in the College of Engineering, Mathematics and Physical Sciences.

### **Job Description**

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

The post holder will work on the prestigious new EPSRC Grand Challenge project “SYnthesizing 3D METAmaterials for RF, Microwave and THz Applications (SYMETA)” together with our collaborators at the Universities of Loughborough, Oxford, Sheffield and Queen Mary London.

The role will include experimental, numerical and analytical work, working alongside PhDs students aligned to this project in Exeter, and other postdoctoral researchers across the consortium. The project’s grand vision is to deliver a palette of novel, multi-functional 3D metamaterials using emerging additive manufacturing (AM), with the potential to support a single 'design-build' process. The post holder will work at the fundamental end of this process: developing new designs of meta-atoms based on analytical and numerical methods, and experimentally characterising their electromagnetic response, while liaising with colleagues in the engineering groups to work within practical limitations.

#### **Main duties and accountabilities:**

1. To undertake research as appropriate to the field of study. The responsibilities may include all or some of the following:
  - 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 / following 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 programme activity including:
    - Managing the use of research resources and ensure that effective use is made of them;
    - Monitoring and reporting on the use of research budgets;
    - Helping to plan and implement commercial and consultancy activities;
    - Where appropriate, to plan and manage 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 qualification/experience in a related field of study.	Be a nationally recognised authority in the subject area.
Skills and Understanding	<p>Possess sufficient specialist knowledge in the discipline to develop/follow research programmes and methodologies.</p> <p>Demonstrate sufficient knowledge of research methods and techniques such as FEM modelling.</p> <p>Record of research output in high quality publications.</p>	<p>Evidence of successful track record in experimental, numerical and analytical research.</p> <p>Specialist knowledge and research experience in microwaves, photonics and/or metamaterials.</p>
Prior Experience	Experience of managing research projects and research teams.	<p>Experience of undergraduate /postgraduate teaching and supervision.</p> <p>Successful in obtaining grant funding.</p> <p>Experience of acting as principal investigator on research projects.</p>
Behavioural Characteristics	<p>Excellent written and verbal communication skills.</p> <p>Able to communicate complex and conceptual ideas to a range of groups.</p> <p>Evidence of the ability to collaborate actively within the Institution and externally to complete research projects and advance thinking.</p> <p>Able to participate in and develop external networks.</p> <p>Able to identify sources of funding, generate income, obtain consultancy projects, or build relationships for future activities.</p> <p>Able to balance the pressures of research, administrative demands and competing deadlines.</p>	Able to identify sources of funding, generate income, obtain consultancy projects, or build relationships for future activities.
Circumstances or Additional Competencies/Experience	Ability to travel to conferences and partner organisations to present research progress and outcomes.	

### 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.