



## THE POST

<b>College:</b>	<a href="#"><u>College of Engineering, Mathematics and Physical Sciences</u></a>
<b>Post:</b>	<b>Postdoctoral Research Fellow</b>
<b>Reference No:</b>	<b>P69299</b>
<b>Grade:</b>	<b>F</b>
<b>HERA:</b>	<b>ARF/RFEL</b>
<b>Reporting To:</b>	<b>Prof. Julian Moger</b>

The above post is available from 01 October 2019 for 24 months in the College of Engineering, Mathematics and Physical Sciences.

### **Job Description**

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

The main purpose of this role is to develop and apply coherent Raman Scattering microscopy (CRS) techniques to visualise the uptake of agrochemicals into plant cells.

As well as using existing CRS facilities at the University of Exeter, the project will include the development of a new broadband CARS microscope and algorithms to perform spectroscopic data analysis.

A suitable candidate will be a PhD graduate (or near completion) in Physics or Chemistry, ideally with laser spectroscopy / imaging / microscopy experience. Experience in the development of instrument control and computational analysis would be desirable.

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 project involves close collaboration with an industrial partner. The postdoctoral research fellow will benefit from working in this environment, advanced training and gain an insight into industrial R&D.

The successful applicant will be an internationally recognised authority in coherent Raman scattering (CRS) microscopy and possess sufficient specialist knowledge in development of biomedical research programmes and methodologies.

The successful applicant will be able to develop research objectives, projects and proposals; identify sources of research funding and contribute to the process of securing funds and make presentations at international conferences and other events.

#### **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 ensuring 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.

### **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	Possess sufficient specialist knowledge in the discipline to develop/follow research programmes and methodologies.  Record of research output in high quality publications.	
Prior Experience	Experience of working on research projects and within research teams.	
Behavioural Characteristics	Excellent written and verbal communication skills.  Able to communicate complex and conceptual ideas to a range of groups.  Evidence of the ability to collaborate actively within the Institution and externally	Able to identify sources of funding, generate income, obtain consultancy projects, or build relationships for future activities.

	<p>to complete research projects and advance thinking.</p> <p>Able to participate in and develop external networks.</p> <p>Able to balance the pressures of research, administrative demands and competing deadlines.</p>	
<p>Circumstances or Additional Competencies/Experience</p>	<p>Experience with Raman scattering, non-linear optics, microscopy and ultrafast laser setups.</p>	<p>Experience in coherent Raman scattering.</p> <p>Experience in computational analysis using MatLab.</p>

**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.