



THE POST

College:	Engineering, Mathematics and Physical Sciences http://emps.exeter.ac.uk/
Post:	Research Fellow – Surface scatter optimisation for electromagnetic control, Industry based
Reference No:	P62284
Grade:	F
Reporting To:	Dr Jacqueline Christmas

The above full time post is available immediately for 3 years with the College of Engineering, Mathematics and Physical Sciences.

Job Description

Main purpose of the job:

The College of Engineering, Mathematics and Physical Sciences wishes to recruit a Postdoctoral Research Fellow to undertake research into the design and characterisation of novel materials for use in the infrared and optical regimes, with a particular focus on the control of scatter effects. The aim is two-fold: to provide validation and calibration of new modelling codes being developed at Exeter (by Dr Jacqueline Christmas): and to develop materials solutions to solve customer problems relating to the control of transparency, glint and glare. This role will be based at QinetiQ's laboratories at Farnborough, providing access to a wide range of specialised equipment not normally accessible to Universities, including some UK-unique apparatus.

The role holder will be employed and mentored by the University of Exeter, whilst based at QinetiQ an industry leading company of scientists and engineers, at their headquarters in Farnborough.

Working closely with Researchers based at the University of Exeter, the role holder will be undertaking a mix of fundamental research and customer problem-solving, providing them with valuable insight into the both the execution and exploitation of research. They will be trained in the use of a wide variety of experimentation and modelling techniques relating to infrared and optical performance, and be given opportunities to experience a wider range of industrial research activities, such as product field trials, outdoor imagery, product design and direct customer interactions. The publication of high-quality scientific papers will be a key metric in this project.

Here the role holder will ideally have a background in optical and/or infra-red materials and their characterisation, with knowledge of the optical phenomena such as scatter, diffraction and transmission being particularly advantageous.

POSTDOCTORAL RESEARCH FELLOW

Main duties and accountabilities:

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 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 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.
 3. To communicate complex information, orally, in writing and electronically.
 4. To prepare proposals and applications to external bodies, e.g. for funding and contractual purposes
 5. To contribute to the planning of research projects.
 6. 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.
 7. To monitor project budgets as appropriate.
 8. 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 Fellow role profiles.

Person Specification

Competency	Essential	Desirable
Attainments/Qualifications	PhD (or nearing completion) or equivalent qualification/experience in a related field of study.	A background knowledge in electromagnetic theory, in particular a good understanding of optical phenomena such as scatter, diffraction and multilayer interference.

Skills and Understanding	Sufficient knowledge in the discipline and of research methods and techniques to work within established research programmes.	Evidence of research activity and published research.
Behavioural Characteristics	<p>Excellent written and verbal communication skills.</p> <p>Able to communicate material of a specialist or highly technical nature.</p> <p>Able to manage research and administrative activities and to balance the competing pressures of research and administrative demands and deadlines.</p> <p>Able to liaise with colleagues and students.</p> <p>Able to build contacts and participate in internal and external networks for the 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.	

Due to the nature of the work that QinetiQ is involved with, applicants will need to obtain a security clearance (to be arranged by QinetiQ). For this reason, we have limited our applications to UK nationals who have resided in the UK for at least the past 5 years. We apologise if this means you are no longer eligible to apply; however, access to QinetiQ's facilities requires UK nationality and we are unable to make exceptions.

Informal Enquiries

Before submitting an application, you may wish to discuss the post further by contacting Dr Jacopo Bertolotti by email: J.T.Christmas@exeter.ac.uk or by telephone: 01392 723039.

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.