THE POST

College:	**College of Engineering, Mathematics and Physical Sciences**
Post:	**Research Fellow**
Reference No:	**P53739**
Grade:	**F**
Reporting To:	**Dr Jacopo Bertolotti**

The above full-time post is available from 03 December 2018 for 13 months in the College of Engineering, Mathematics and Physical Sciences.

Job Description

Main purpose of the job:

The project will exploit wavefront shaping techniques for developing analogue computation using light. The project sits at the interface between optics and number theory, but is in fact very applied, and will focus on realizing a working prototype.

The post will include the use of a Digital Micromirror Device (DMD) to implement a classical version of Shor's algorithm, the design and alignment of the measurement apparatus (es), and the data analysis of the results.

Main duties and accountabilities:

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. 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

Competency	Essential	Desirable
Attainments / Qualifications	PhD or equivalent degree in Physics or in a related field of study.	
Skills and Understanding	Evidence of research activity and publication in ISI journals. Good knowledge of the English language.	
Prior Experience	Experience in experimental optics, photonics, AMO, or related field. Experience in designing and aligning experimental set-ups.	Experience in imaging techniques. Experience in wave multiple scattering. Experience in wavefront shaping. Experience in statistical optics. Experience of teaching at undergraduate level. Experience of managing research projects and research teams. 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 range of groups. 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.	

Informal Enquiries
Before submitting an application you may wish to discuss the post further by contacting Dr. Jacopo Bertolotti, telephone (+44 (0)1392 725695) and email j.bertolotti@exeter.ac.uk.

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.