



## Job Description

**Research Fellow in Photonics**

**Reference : 1792301**

**Department: Electronic & Electrical Engineering**

**Grade: 7 £35,328 - £42,701 per annum inclusive of London Allowance.**

**Location: London**

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### Reports to

Dr Katarzyna Balakier, Dr Martyn Fice, Professor Cyril Renaud

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### Context

**Working relationships:** The post-holder will be expected to work closely with experimentalists and theoreticians within the Department of Electronic and Electrical Engineering and with other researchers performing experiments on similar topics at other institutions.

**Funding:** The post is supported by Dr Balakier's UKRI Innovation Fellowship, Dr Fice's EPSRC COALESCE project and the European commission H2020 programme TERAPOD (Prof Renaud) and is available immediately. The post is funded until the end June 2021 in the first instance, further funding to support the post may be available.

**Contact with others:** Daily interactions with other researchers working on the projects and within the group will be required in order to exchange results and discuss ideas, as well as regular formal project meetings.

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### Main purpose of the job

Due to the nature of the programmes the job function will cover multiple aspects and the person appointed would be expected to perform the majority of them. The different job functions are as follows:

- Design and test photonic integrated circuits (PICs) as well as electronic and RF circuits
- Communicate with multi-project wafer (MPW) platform providers.
- Design and test high data rate wireless transmission systems to investigate their use in future data centres, and in converged optical and wireless networks.
- Develop photonic-based microwave frequency generation sub-systems for space applications
- Perform experimental work at either photonics/RF components or system level
- Develop software solutions for data processing
- Communicate effectively with the rest of the research team, including staff at collaborating institutions.
- Report to the projects on work progress
- Write deliverable reports
- Publish in peer reviewed journals and international conferences.

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## **Duties and responsibilities**

Main duties include:

- Performing cutting-edge research, including both design and demonstration of advanced photonic systems and devices (approximately 55%);
- Carrying out photonic and/or microwave characterisation of systems and devices (approximately 25%);
- Disseminating the results of this work by the writing of papers in international journals and by other means (approximately 15%);
- Attending project meetings with other members of the team (approximately 5%);
- Being aware of, and observing, relevant regulations relating to Fire and to Health and Safety.

Occasional duties may include

- Attending research conferences;
- Attending staff meetings and training courses as required.

The post-holder may also be required to carry out any other duties that are within the scope, spirit and purpose of the job, the title of the post and its grading as requested by the line manager or the Head of the Department of Electronic and Electrical Engineering.

## Person Specification

Criteria	Essential or Desirable
<b>Qualifications, experience and knowledge</b>	
Possess a PhD degree (or about to be awarded) in a relevant branch of science or engineering (Physics, Materials Science, Electrical or Electronic Engineering);	Essential
A good working knowledge of photonics;	Essential
Experience in Photonic systems and in particular Photonic Integrated Circuits design, electronic-photonic co-design and testing	Essential
Be familiar with optical and microwave measurement techniques;	Essential
Excellent knowledge of computational software for data processing and analysing experimental data such as Origin, MATLAB or MATHEMATICA	Essential
Be able to demonstrate a track record of scientific excellence and the ability to deliver high quality work in timely fashion as part of a team;	Essential
Experience of optical and/or wireless communications systems and networks	Desirable
Experience in designing electronic and RF circuits	Desirable
Experience in working in a diverse team	Desirable
Experience of collaborative projects with external partners.	Desirable
<b>Skills and abilities</b>	
A strong recent track record in publishing high impact research, especially as a leading author	Essential
Fluency and clarity in spoken and written English.	Essential
Have the ability to collaborate proactively with experimentalists and theorists and to communicate ideas clearly.	Essential

If the successful candidate has not yet been awarded their PhD, appointment will be made as a Research Assistant (Grade 6B)\*. Payment at Grade 7 will be backdated to the date of final submission of the PhD thesis including corrections, once the PhD has been awarded.

\* Research Assistant (Grade 6B): point 24-26. Salary range £30,922 to £32,607 (inc.of London Allowance)

## About UCL and the Department of Electronic and Electrical Engineering

University College London (UCL) was founded in 1826 as the third university in England, after Oxford and Cambridge. UCL is the first university in England to admit students of any race, class or religion, and the first to welcome women on equal terms with men. UCL is organized into 11 constituent faculties, within which there are over 100 departments, institutes and research centres. UCL has 983 professors and more than 7000 academic staffs who are dedicated to research and teaching of the highest standards. Its student community is almost 36,000, the largest in the UK. There are 29 Nobel Prize winners and three Fields medalists amongst UCL's alumni and current and former staff. UCL is the top rated university in the UK for research excellence (REF2014). It has a strong tradition and large knowledge base in medical research with a dedicated institute on Healthcare Engineering and 10+ hospitals. UCL has world-class support for researchers and has been voted the best place for postdoctoral researchers to work for consecutive years by The Scientist magazine. The main campus of UCL is located in central London, close to British Museum, West-End and Thames River.

The Department of Electronic and Electrical Engineering at UCL was established by Professor Sir Ambrose Fleming in 1885 and has a very strong research culture, state-of-the-art research equipment and facilities, and a very rich history of many fundamental research achievements in electronic and electrical engineering. The department has received top ratings in every UK research evaluation carried out to date.

Further information regarding UCL may be found at:  
[www.ucl.ac.uk/](http://www.ucl.ac.uk/)

Information about the departments may be found at:  
[www.ucl.ac.uk/eee](http://www.ucl.ac.uk/eee)

## How to Apply

Interested applicants are encouraged to make Informal enquiries about the post to Prof. Cyril Renaud (c.renaud@ucl.ac.uk), Dr Martyn Fice (m.fice@ucl.ac.uk) and Dr Kasia Balakier (k.balakier@ucl.ac.uk)

All applications should be submitted via UCL online recruitment system at the following link:

<http://www.ucl.ac.uk/hr/jobs/>

Job Reference: **1792301**

If you have any queries regarding the application process please contact Vicky Coombes at [v.coombes@ucl.ac.uk](mailto:v.coombes@ucl.ac.uk) quoting reference **1792301**

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