Job Description

Lecturer in Optical Communications & Networks

2 positions available

Reference : 1857464

Department: Electronic & Electrical Engineering

Salary: Lecturer: Grade 8: £44,674 - £52,701

Salaries quoted are inclusive of London Allowance.

Context

The Department of Electronic & Electrical Engineering at UCL wishes to make two academic appointments in the area of optical communications & networks, within the Optical Networks Group (ONG). ONG is an internationally leading research group with a focus on next-generation, low-latency, high-capacity optical networks operating over a wide range of bandwidths, distances and timescales. Current research challenges include the design of adaptive optical networks in the nonlinear regime, extending the bandwidth for optical transmission, design of intelligent transceivers and application of artificial intelligence in optical network design and operation. It has a strong experimental focus, with a state-of-the art laboratory and the ability to carry out research from optical devices, high-speed transmission through to networks. Access to the EPSRC National Dark Fibre Infrastructure Service (NDFIS) is also available . It is anticipated that prospective applicants will strengthen and diversify current research, adding to both breadth and depth of the group’s research portfolio, and provide continuity for its research and teaching commitments.

ONG has an distinguished 25-year history of leading publications international research collaborations, prizes and awards, with a major focus on staff & student development. This post provide a unique and exciting opportunity to enhance and shape the future of optical communications & networks research at one of the leading and most prestigious Universities in the UK.

Applicants should have an excellent track record and experience of internationally-leading research in all aspects of future optical networks including but not limited to, digital & optical signal processing, artificial intelligence, quantum optical communications, experimental neural networks, physical & nonlinear optics, high-speed optical transmission systems. Applicants must have an outstanding publications record, and a demonstrated ability (or potential) for obtaining financial support necessary for research at the highest international level. Track record of international collaborations, IP generation and relevant industrial experience are all assets for these positions.

The ability to inspire students (both undergraduate and post graduate) and research staff to achieve their full potential is also of great importance to us.

These are full time, permanent positions and we would want the successful candidates to take up the positions by the 1st July 2020.
Main purpose of the job
The primary task of the persons appointed will be: to provide intellectual leadership and to conduct an internationally leading research programme in her/his area of research with relevance to the optical communications & networks. The post holder will also contribute to the teaching programme in the Department of EEE and perform the normal administrative duties expected of a member of academic staff as required by the Head of Department.

Duties and responsibilities
Research: The person appointed is expected to develop an independent research programme and attract funding to support it, through a variety of funding mechanisms, both national and international.

The post holder will:
- Conduct a rigorous, high-level personal research programme in the area of EEE;
- Generate external income to support this research programme;
- Supervise research students;
- Manage research funds and supervise research staff as appropriate;
- Submit publications regularly to high-profile refereed journals and participate in national and international conferences;
- Set up academic and industrial collaborations, which will benefit both research and teaching at UCL.
- Contribute to technology transfer activities through the development and protection of Intellectual Property (IP) and the pursuit of its exploitation through joint venture, licensing and spin-out routes as appropriate.

Teaching: Undergraduate and postgraduate teaching duties are assigned by the Head of EEE, on the recommendation of the relevant tutor. The duties will include
- Teaching students at undergraduate & postgraduate levels. This includes lecturing, tutoring, laboratory demonstration and project supervision
- Curriculum development, design and delivery of new courses.
- Examining and other related duties at undergraduate and post-graduate levels;

Administration:
- Undertake administrative tasks within the Department of EEE, and, as required, at faculty and/or institutional level within UCL;
- Assist with student & staff recruitment;
- Serve on Faculty, College and University committees as appropriate;
- Mentor EEE staff as appropriate and promote – both within and outside UCL – the work of EEE;
- Comply with UCL and departmental policies on safety, equal opportunities, and other matters.

Other Duties
- Actively participate in learned society activities within the profession.
- Attend courses and conferences and engage in other activities associated with professional development.
- Comply with College and Departmental policies.

The post-holder should carry out any other duties as are within the scope, spirit and purpose of a UCL academic post, as requested by the Head of Department. The post holder is expected to take responsibility for their work, duties and results. Please note that, within reason, the duties and role of the post-holder may be changed after appropriate consultation in response to changing organisational requirements. The post-holder is required to follow actively all UCL policies including Equal Opportunities policies.
## Person Specification

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Essential or Desirable</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Qualifications and training</strong></td>
<td></td>
</tr>
<tr>
<td>The person appointed should have:</td>
<td></td>
</tr>
<tr>
<td>A PhD or equivalent qualification in a discipline relevant to EEE and optical communications</td>
<td>Essential</td>
</tr>
<tr>
<td>Carried out at least one period of successful postdoctoral research in a leading academic or industrial group or and/or have been awarded an independent research fellowship</td>
<td>Essential</td>
</tr>
<tr>
<td>Demonstrated a clear track record of international research excellence in optical communications or in any of the other mentioned research areas with relevance to optical communications &amp; networks</td>
<td>Essential</td>
</tr>
<tr>
<td>Excellent publications in leading, international peer reviewed journals &amp; conferences</td>
<td>Essential</td>
</tr>
<tr>
<td>Strong record (or clear vision to achieve it) for attracting funding to support their research programme at the highest international level, together with experience of industrial/academic collaborations</td>
<td>Essential</td>
</tr>
<tr>
<td>Clear understanding and experience of current and emerging optical technologies, both in terms of the physics of their operation and applications in optical networks</td>
<td>Desirable</td>
</tr>
<tr>
<td>Clear understanding and research experience with two or more of: numerical and analytic simulations of optical transmission, propagation in nonlinear fibres, digital signal processing, ASIC design and nonlinear channel modelling for optical network design, artificial intelligence for optical network design, and the ability to work closely with experimentalists in these areas</td>
<td>Desirable</td>
</tr>
<tr>
<td>A record of successful supervision and management of researcher/research students</td>
<td>Desirable</td>
</tr>
<tr>
<td><strong>Other requirements</strong></td>
<td></td>
</tr>
<tr>
<td>Experience of working within the EEE industry</td>
<td>Desirable</td>
</tr>
<tr>
<td>A demonstrated record in the generation, protection and exploitation of Intellectual Property (IP)</td>
<td>Desirable</td>
</tr>
<tr>
<td>Experience of working in international, collaborative research projects</td>
<td>Desirable</td>
</tr>
<tr>
<td>The ability to interact with industry and academic partners (UK and internationally)</td>
<td>Desirable</td>
</tr>
<tr>
<td>The ability to inspire students and research staff to achieve their full potential.</td>
<td>Desirable</td>
</tr>
</tbody>
</table>
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 (EEE) at UCL was established by Professor Sir Ambrose Fleming, inventor of the thermionic valve and hence the founder of the discipline of electronics, in 1885 as the first department of electrical technology in England. That same pioneering tradition of innovation and excellence continues to underpin our work. We push in new directions across research, education and entrepreneurship, building on our long-established links with industry and benefitting from our loyal and supportive alumni community. We are committed to develop individuals and careers, across staff and students, developing and supporting our subject discipline. The Department of Electronic and Electrical Engineering at UCL is recognized as one of the leading departments for research in its subject area, worldwide. Current research areas in the Department include Information and Communication Engineering; Electronic Materials and Devices (including Nanotechnology); Optical Communications & Networks; Photonics and Sensors, Systems and Circuits. The Department is part of the world-leading London Centre for Nanotechnology. The Department has an extensive teaching programme, both at undergraduate (BEng and MEng) and Masters levels. Further information about the Department can be found at www.ucl.ac.uk/eee.

Further information regarding UCL may be found at:
www.ucl.ac.uk/

Information about the departments may be found at:
www.ucl.ac.uk/eee

How to Apply

Interested applicants are encouraged to make Informal enquiries about the post to Professor Sarah Spurgeon s.spurgeon@ucl.ac.uk

All applications should be submitted via UCL online recruitment system at the following link:
http://www.ucl.ac.uk/hr/jobs/

You can upload 2 documents with your application.

Please ensure these documents include

- CV with a full list of publications
- List of major achievements to date
- Starred list of top 5 publications to date with a short description (100 words max) of their significance.
- 2 page (maximum) description of the research plan you propose to pursue at UCL, including how the proposed research would contribute to the Optical Networks Group and the Department’s research profile, its resource requirements and how these would be met, and the likely outcomes and timescales
- Names and contact details of three referees who may be contacted prior to interview

Job Reference: 1857464

If you have any queries regarding the application process please contact Vicky Coombes at v.coombes@ucl.ac.uk quoting reference 1857464

UCL Taking Action for Equality