



PhD Studentship: Microscopy and spectroscopy using terahertz waves

Department: Electronic & Electrical Engineering

Supervisor: Professor Oleg Mitrofanov

Starting date: September 2020

Duration of study: Full Time - up to four years fixed term

Application deadline: 17th July 2020 (or until filled)

The studentship will cover Home/EU tuition fees and an annual stipend (tax free) of no less than £17,432 *, increasing annually with inflation. The studentship is funded for up to 4 years on a full-time basis.

*These are the predicted 20/21 rates and will not be confirmed until later June 2020.

Microscopy and spectroscopy using terahertz waves

The UCL Department of Electronic and Electrical Engineering is offering an up 4-year PhD studentship, which aims to apply and explore unique capabilities of terahertz (THz) spectroscopic analysis on the sub-wavelength scale at cryogenic temperatures. This project will be focused on studying physical processes in nano-scale solid-state systems, such as semiconductor quantum dots and topological insulators. We are looking for a highly motivated student interested in development and exploration of novel applications of THz time-domain spectroscopy in solid-state physics.

Additional information

This exciting project is closely aligned with a broader researcher programme on development of THz spectroscopy and microscopy techniques and applications, a collaboration between UCL, Cambridge University and University of Leeds, funded by the EPSRC under the HyperTerahertz programme grant (HyperTerahertz — High Precision Terahertz Spectroscopy and Microscopy, <http://www.hyperterahertz.org>).

We are looking for a candidate with undergraduate degrees (1st or strong 2:1, or equivalent) in physics or electronic engineering, interested in hands-on experimental studies, with background knowledge and interest in solid-state (semiconductor) physics and photonics, and aptitude and enthusiasm for research.

Eligibility

Applicants must meet the EPSRC eligibility conditions to be eligible for the award. Applicants must have no restrictions on their right to live in the UK permanently and have been resident in the UK for three years immediately prior to the studentship commencing. EU Citizens who have not been residing in the UK for the past 3 years may be eligible. Please see EPSRC's website for further details:

<https://www.epsrc.ac.uk/skills/students/help/eligibility/>

Applicant should have, or expect to achieve, a degree (1st or 2:1) in Physics, Electronic Engineering, or similar.

How to Apply

This studentship is available to start from September 2020. Applications should be made using the UCL postgraduate study application form and marked to the attention of Prof Oleg Mitrofanov, Department of Electronic and Electrical Engineering. For further information, interested candidates may contact Prof Oleg Mitrofanov (o.mitrofanov@ucl.ac.uk) with a covering letter and a CV (including marks/grades achieved on current courses).

Closing date: 17 July 2020 (or until filled).

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/

Information about the departments may be found at:

www.ucl.ac.uk/eee