

PhD Research Opportunity in Metamaterials

PhD studentship with the Centre for Photonic Metamaterials and the Optoelectronics Research Centre at the University of Southampton

The Engineering and Physical Sciences Research Council UK (EPSRC) has awarded the University of Southampton £6.3M to establish a centre for nanostructured photonic metamaterials.

Metamaterials are artificial electromagnetic media with unusual and useful functionalities achieved by structuring on a sub-wavelength scale. Driven by the dream of untapped material functionality, research in metamaterials is now one of the most rapidly developing fields in all of science. Metamaterials already show many fascinating properties, including negative refractive index, invisibility and cloaking. Lack of tunability is the remaining key challenge between metamaterials and a global technological revolution in photonics.

We are specifically looking to expand our research in the field of tunable metamaterials. By combining metamaterials with reconfigurable nanoscale support structures you will aim to tune, switch and modulate metamaterial optical properties using applied voltage, incident light and magnetic fields. This project will be based on nanofabrication and spectroscopy, but depending on your interests it can also involve numerical modelling.

This project is conceived as an interdisciplinary research programme at the intersection of spectroscopy, nonlinear optics, nanotechnology and cutting edge nanofabrication. It will take advantage of the state-of-the-art nanofabrication and metamaterial characterization facilities within the University's new cleanroom and laboratory complex.

We are seeking a bright and highly motivated postgraduate research student of outstanding calibre to develop and optimize novel reconfigurable nanostructures. As the work will cross normal boundaries between several science and engineering disciplines, we will consider students with backgrounds in Physics, Materials Science and related subjects. Applicants must have a first or upper second class degree (or equivalent) from a recognized university, and a solid grounding in Optics/Electromagnetism. The studentship is funded for 3.5 years, and includes a tax-free bursary of £13,590 per year, with all tuition fees also being paid by the University. At this stage we accept applications from EU citizens.

For more information please contact Prof. Nikolay Zheludev (niz@orc.soton.ac.uk) or Dr. Eric Plum (erp@orc.soton.ac.uk) or visit www.nanophotonics.org.uk.

To apply on line go to <http://www.soton.ac.uk/postgraduate/pgstudy/howdoiapplypg.html>