Department of Electronic and Electrical Engineering

Impact PhD Studentship: Accurate Modelling of Liquid Crystal Devices (UK/EU Students)

A 3-year fully-funded PhD studentship is available at the Department of Electronic and Electrical Engineering at University College London (UCL), in conjunction with Sharp Laboratories Europe, based in Oxford.

This Sharp-sponsored project will involve using and expanding the current liquid crystal and electromagnetic modelling facilities available in the group to design novel liquid crystal devices, for applications including displays.

The project will be concerned with the modelling of liquid crystal structures that can be reconfigured using different voltage patterns to form microlenses. The modelling will include the liquid crystal director pattern using existing software available at UCL but will also require extensions and optimisation of the model and the software. Of particular interest will be the study of defect formation in the liquid crystal. Modelling of the optical properties of the lenses will also be carried out in order to predict the performance of the devices and compare with experiments in collaboration with Sharp Laboratories of Europe. The project will also be concerned with the optimum design of electrode structures to obtain the best optical performance.

The student will be expected to visit Sharp's laboratories at least a few times a year to discuss the research and present results. Some limited experimental/measurement work can also be expected in the course of the project.

The studentship is already available but can be delayed, if necessary, until Sept./Oct. 2012. The award will cover tuition fees and a tax-free maintenance stipend (including London weighting) which is currently £ 15,590 per annum. Candidates should have received, or expected to receive, **at least a 2:1**, or equivalent, in their first degree in Electrical Engineering, Physics, Mathematics or similar and should be eligible for low fee status (**UK or EU nationals only**).

To apply, please send a CV with the contact details of at least two referees to Dr. F.A. Fernandez (a.fernandez@ee.ucl.ac.uk) who will also be happy to answer any questions about this project.

Closing date: Tuesday 31st July 2012.