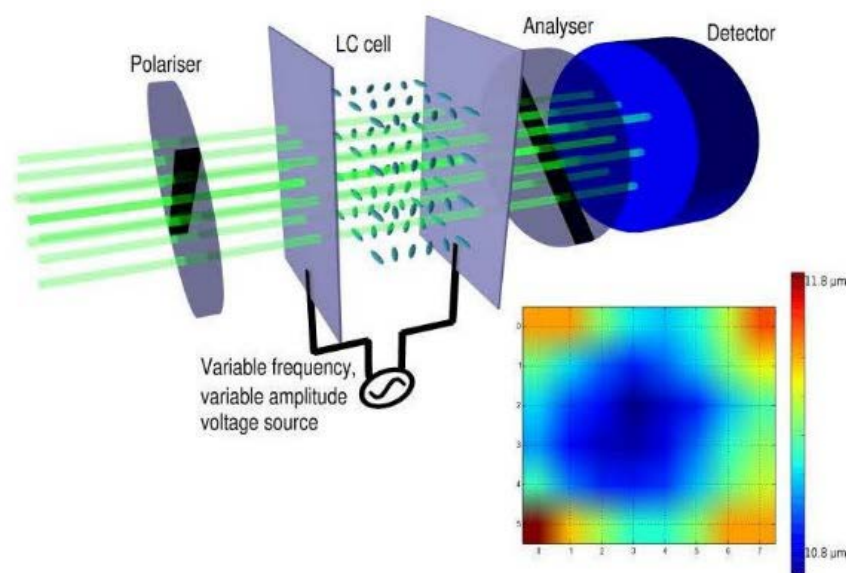


PhD project in the area of soft matter: Light-based diagnostic technique for liquid crystals and soft materials

Applications are invited for a PhD position in the Soft Photonics Systems group at the University of Southampton in the U.K, supervised by Prof. Malgosia Kaczmarek and Dr Giampaolo D'Alessandro.

We are looking for a highly motivated doctoral student to join our groups and pursue experimental research and numerical modelling of the optics of liquid crystals. Candidates should have a strong undergraduate background in physics or material science and mathematics.

The Soft Photonics System group works in the broad area of liquid crystals and organic thin films and has a specific interest in their use for light manipulation, exploring the subtle interaction of light with soft matter. The successful PhD candidate will explore how optical signals, passing through soft matter structures, acquire rich content about the constituent layers. Given the right choice of experimental parameters, and a powerful numerical model, this signal can be deconvolved, to provide their optical, electrical and physical properties. This technique is proving to be an effective tool not just for smart device characterisation, but also in exploring intriguing light-driven effects. We now want to apply it to promising and recently developed materials and structures, for example those incorporating photoactive and photovoltaic layers or complex liquid crystals. In order to do so, the PhD student will design new experimental and modelling characterisation procedures to understand the underlying physics of light-matter interaction and extract the material properties. This PhD project offers a good balance of fundamental and applied science, uniting the two in order to take forward our groups' successful research photonics and liquid crystal devices.



Multiple beam analysis of a liquid crystal cell to provide device-wide maps of material parameter

Applicants (UK/EU) interested in this fully funded project and position are encouraged to contact Prof. Kaczmarek prior to submitting a formal application. Please send a single PDF consisting of a cover letter (with the details of your degree and motivation) and a CV that includes contact information for your referees, by email to: mfk@soton.ac.uk

Application deadline: the position will be advertised until filled, but you are encouraged to apply as soon as possible.