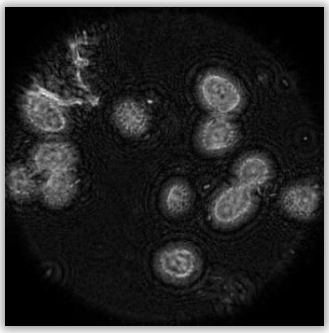
Fully funded EPSRC PhD studentship at University of Kent starting September 2024

Label-Free Endomicroscopy Technology for Minimally-Invasive Diagnostics and Surgical Guidance

Deadline: Sunday 24 March 2024, 23:59GMT **Supervisor:** Dr Mike Hughes (m.r.hughes@kent.ac.uk)



Endomicroscopy offers real-time, high-resolution imaging of tissue via an endoscopic fibre optic probe. Current clinical endomicroscopes are fluorescence-based, requiring administration of a topical or intravenous stain before imaging. You will be developing new technologies for stain-free endomicroscopy, building on our experience developing fibre-bundle probes. The initial focus will be on using oblique backplane illumination to provide phase-based contrast, aiming to provide a low-cost solution suitable for rapid clinical translation. We will later explore enhancements such as holographic imaging and numerical refocusing. You will learn how to prototype imaging systems in the lab, develop imaging software in Python, and work with potential end-users to evaluate efficacy.

This project would suit a student with a background in physics, engineering or similar, and an interest in applied, translation-focused research. You will be a member of the Applied Optics Group, a friendly team developing biomedical optics imaging technology, with regular journal club, seminars, social activities and a student-run optical society. Facilities include 8 well-equipped optics labs, clean air suite, and equipment for assembling fibre-based imaging systems. We have growing expertise in endoscopic imaging probes, with funded projects including fibre imaging for ENT and robotic retinal surgery.

The scholarships covers all tuition fees plus a tax-free stipend of £18,622 per year (2023/24 rate, 2024/25 to be announced) for 3.5 years.

- More information at: https://research.kent.ac.uk/applied-optics/hughes
- More details on the EPSRC scholarships are here (these are also available in physics): https://www.kent.ac.uk/scholarships/search/FNADEPSRCS02

How to Apply

Applicants are strongly encouraged to contact Dr Mike Hughes (m.r.hughes@kent.ac.uk) to discuss suitability before completing the application. To apply, go to the Physics PhD page (https://www.kent.ac.uk/courses/postgraduate/4958/physics) and click **'Apply Now'**. When asked for a project proposal, you need only provide the project title as above and supervisor (Dr Michael Hughes). It is **very important** that you complete the 'Reasons for Study' section in detail, fully explaining your motivation and suitability for a PhD in this area, your specific interest in this project, and your long-term goals. When asked for sources of funding, you should indicate that you wish to apply for the EPSRC scholarship. After submitting, you **MUST** email your Application ID number and your full name and state that you have applied for a PhD in Physics and wish to be considered for the EPSRC scholarship to kentgrc@kent.ac.uk, copying in m.r.hughes@kent.ac.uk.