Two PhD opportunities in Wavefront Sensing – Applied Optics

School of Natural Sciences

Expressions of Interest are invited from suitably qualified candidates for two full-time PhD scholarships starting in October 2022 affiliated to the School of Natural Sciences at the National University of Ireland, Galway.

The successful candidates will undertake training and research in the following:

Postgraduate Researcher 1 will demonstrate the use of a Holographic Wavefront Sensor on an Active Optics Testbench and will carry out the optimization of Active Optics Control algorithms incorporating modal measurements. The performance will be compared with a ‘standard’ Shack-Hartmann wavefront sensor.

Postgraduate Researcher 2 will determine the feasibility of using a holographic thin diffuser Wavefront Sensor in adaptive optics systems for optical communication and adaptive/active optics systems for astronomy. The researcher will demonstrate the operation of a holographic thin diffuser WFS in open and closed loop AO system.

Space-PHORM is a Science Foundation Ireland funded, applied research project consisting of two partners (Applied Optics Group at the National University of Ireland, Galway and the Centre for Industrial and Engineering Optics at TU Dublin). Its purpose is to develop breakthrough materials and technologies that aim to revolutionize the capabilities of space-based optical systems. The project will be a close collaboration between the NUI Galway and TU Dublin – with several joint workshops and meetings, and the possibility for PhD students to spend time at the partner labs, thereby broadening their training and experience.

Stipend: €18,500 per annum plus fees

Start date: October 2022

Entry Requirements:

- Example: BSc Degree (2.1 or equivalent)
- Example: High level of Spoken and written English

Host Institution:

Located in the vibrant cultural city of Galway in the west of Ireland, with over 18,000 students and more than 2,400 staff, the National University of Ireland, Galway has a distinguished reputation for teaching and research excellence.

To Apply:

Expressions of interest comprising submission of a covering letter, CV, statement of personal research interests, evidence of performance at BSc and MSc or equivalent and the contact details of two referees, to be submitted via e-mail to Nicholas.devaney@nuigalway.ie, Alexander.Goncharov@nuigalway.ie by the 15th September 2022.

Further information on PhD programmes, entry requirements, etc. can be found here Research Postgraduate programmes.