

SFI PhD Scholarships

Applications are invited for two PhD scholarships at Stokes Laboratories, Bernal Institute, University of Limerick (UL) under the supervision of Dr Valeria Nico and Prof Jeff Punch.

The scholarships are **fully funded** by Science Foundation Ireland (SFI) and will cover annual registration fees, and an annual stipend of €18,500 for the PhD student for a period of up to four years. UL is the only Irish University to be awarded a 5-star rating in 2021 from QS Star rating system.

The **theme** of this project is vibrational energy harvesting: the conversion of kinetic energy present in ambient vibrations into useful electrical energy. Most wireless sensor nodes currently forming the Internet of Things (IoT) are battery powered, and battery replacement costs represent a significant barrier to the widespread adaptation of IoT applications. In recent years, mechanical vibrations have become an attractive alternative energy source for low-power electronics, because of their abundance in many environments. The **main objective** of the project is the investigation of a novel vibrational energy harvesters that can convert broadband ambient vibrations into electrical energy to sustainable power IoT sensors.

The successful candidate will join the SFI CONNECT Centre, and be based at the Stokes Laboratories, Bernal Institute, UL. CONNECT brings together world-class expertise from ten Irish academic institutions and over 40 companies including large multinationals, SMEs and start-ups, while the Bernal Institute hosts a multidisciplinary team of world-leading materials scientists and engineers whose mission is to develop disruptive technologies related to health, energy and environment.

The postgraduate scholarship is open to Irish, EU and international students that should have following:

- B.Sc, M.Sc or equivalent in Physics, Engineering (Mechanical, Aeronautical, Electronics), Mathematics or a related field
- Strong interests in applied Physics; prior research experience in energy harvesting is a plus
- Excellent academic results (first-class honours or equivalent)
- Strong motivation to tackle challenging research problems
- Very good level of spoken and written English.

For further information, please contact Dr Valeria Nico, email: valeria.nico@ul.ie. The positions will remain open until filled.