
OSIAN: 4 year DSTL-funded PhD

Optomechanical Sensing for Inertial, Accelerometry, and Navigation

October 2023 – September 2027

RESEARCH

Levitated optomechanics uses light to control and measure motion of nano-scale particles held in vacuum. This field has seen rapid growth since demonstration of sub-Kelvin feedback cooling in 2012, with recent experiments achieving quantum-limited control. These promise impressive sensing abilities, but there are significant challenges to bring demonstrations from the laboratory to practical devices. This DSTL-funded project will explore technologies to enable practical devices for inertial sensing and gravimetry based on levitated optomechanics.

HOST & LOCATION

The Department of Physics, Faculty of Science & Engineering, Swansea University is a research-led independent University with a diverse community of 20k students across Singleton and Bay Campuses, on the edge of Gower Peninsular in South Wales. Experimental research includes the new CISM Semiconductor facility, CERN ALPHA antimatter collaboration, and ultrafast imaging.



PLACEMENTS : DSTL & AUSTRALIA

DSTL is part of the UK Ministry of Defence (MOD) providing world class expertise and delivering cutting-edge science and technology for the benefit of the nation and allies.



The position includes a total of three months' placement at DSTL Porton Down, Salisbury, in the Quantum Sensing and Timing Team. You will be invited to join other DSTL students at skills enrichment and knowledge building workshops and technical showcasing events.

DST Group and DSTL have signed a Memorandum of Understanding (MOU) for reciprocal access to each other's science facilities and equipment. As part of this studentship there is the opportunity for a one month placement at a partner Australian research laboratory.

DETAILS & APPLY

The student is subject to security checks and must be a UK national.

Project to start October 2023 and end September 2027.

Applicants must have a relevant undergraduate degree.

For further information, see <https://levitation.wales/osian>

or contact j.e.bateman@swansea.ac.uk.

