

Resilient PNT through complex systems of systems

Applications are invited for a PhD studentship funded by an EPSRC Industrial Doctoral Landscape Award in collaboration with Ordnance Survey. The successful candidate will be based in the Department of Civil and Environmental Engineering, supervised by [Professor Washington Yotto Ochieng](#).

Project:

This studentship presents an excellent opportunity for world-leading research training in the development of a high resilience Positioning, Navigation and Timing (PNT) system for a wide variety of applications including supporting our Critical National Infrastructure (CNI). This project presents a great opportunity for the student to contribute to the UK PNT Office's development and implementation of its framework for resilient PNT.

Following systems engineering principles and in collaboration with the UK PNT Office, the Ordnance Survey and Quantum Enabled PNT (QEPNT) Hub, this project will capture current and future PNT applications and services (including those of the Ordnance Survey - OS) and their requirements, derive system requirements, and design and test optimal high resilience system-of-systems functional and physical architectures, explicitly defining the roles of the OS (benefits and contributions) and, technologies including GNSS, eLORAN, independent time sources and Quantum.

Industrial partner:

This project is supported by Ordnance Survey, operator of a national network that defines Great Britain's coordinate reference system (CRS) and enables high performance augmentation services, with a critical reliance on GNSS to meet its requirements for PNT.

Requirements:

- A First Class Degree (or international equivalent) in engineering, mathematics, or physics.
- A Masters level degree qualification
- A genuine enthusiasm and ability for working in a highly collaborative and multidisciplinary research environment.
- Excellent English communication skills, including strong writing abilities and excellent presentation skills.

How to apply:

Applicants are recommended to contact Professor Washington Yotto Ochieng (w.ochieng@imperial.ac.uk) for further details, informal discussions and information about the project.

Applicants wishing to be considered for this opportunity should send the following application documents to Professor Ochieng:

1. Current CV including details of their academic record, and if possible, class ranking (2 pages maximum)
2. Covering letter explaining their motivation, suitability, skills and/or experiences (1 page maximum)
3. Contact details of two academic referees

Application via the Imperial College Registry is not necessary at this stage. Applications will be regularly reviewed until the position is filled.

Administrative questions should be emailed to civilphdadmin@imperial.ac.uk.

Funding:

The studentship will provide funding for 4 years from the start date of the PhD (1 October 2025). The funding includes tuition fees at the UKRI rate (for 2024/25 this is £4,786/year) and a tax-free stipend at the standard UKRI London rate (for 2024/25 this is £21,237/year). It may be possible to use this funding to partly support an international student.