

## **Project 18/21 - EO SPINtern**

### **Unplanned urban growth and its contribution to the impacts of a disaster, A Case Study – Using satellite and geospatial enabled services to better understand risk**

#### **Project Description**

Rapid, unplanned, and under monitored urban growth is a problem faced by poor developing cities across the world. In regions where the occurrences of natural disasters, such as earthquakes and landslides are commonplace it is important to understand the risks and impacts of such haphazard urban growth. Major developing cities from Mexico City to Kathmandu have experience devastating earthquakes in the last few years. Safe zones and open spaces (as a response to flooding, landslides, earthquakes) identified a decade ago do not exist anymore. Natural vegetation, nature's protection against landslides have been stripped and replaced by parking lots and roads. Satellite enabled solutions in tandem with geospatial data can greatly improve our understanding of how a city has changed through time and how the risks faced by a city have evolved. Using satellite data and geospatial data to understand things like mass movement, subsidence, and weak infrastructure can help identify both safe zones and vulnerable zones and help to provide a better understanding of the impact of rapid urban growth that is not planned.

#### **Applicant Specification**

An interest in sustainable development and how technology (particular SAT/EO/GEO) can help in understanding sustainable development better.

An interest in disaster risk resilience and natural hazards

An interest in big data, and geospatial data and satellite data

#### **Minimum Requirements**

Data analytics experience

GIS experiences

EO knowledge preferable

Geography/geology/environmental science background

#### **Further Details**

It would be great to bring in an intern that can bring together all the types of EO solutions from interferometry (subsidence and movement), change detection (built up areas + vegetation), open space identification, route planning.. etc and marry that with geospatial data to begin to build a framework of how we can understand how developing urban cities grow and how it impacts and exacerbates the risk posed by disasters. The intern could propose a case study for a city (for example.. Kathmandu, Mexico City..) and come up with a visualisation of his/her findings.

#### **Closing Date**

Monday 14 May

**Interviews**

Week commencing 21 May

**More Information**

8 weeks fixed term contract to be agreed with successful candidate but nominally with a start date around 18 June which is also the SPIN Induction day at Harwell. Salary is £1,500 per calendar month.

Apply on the website: <https://sa.catapult.org.uk/people/space-placements-industry-spin/>