

Earth observation applications for flood and water management

Code: 21/52

Company: HR Wallingford

Location: Remote working

Company Description:

HR Wallingford is an independent consultancy and research organisation. We deliver smart solutions wherever water interacts with people, infrastructure and the environment.

As a not-for-profit organisation, we reinvest our profits into strategic research. This allows us to tackle pressing problems; create next-generation tools and technology; and create state-of-the-art facilities.

HR Wallingford was created in 1947 and has a long history of partnership with academia with many placement students subsequently joining the company more permanently. By combining our engineering and hydraulics expertise with the latest Earth Observation and data science we bridge the gap between new technologies and practical, operational applications. Our recent Earth Observation track record includes developing tools for flood and land cover mapping, water resources, dam monitoring, health and climate change solutions.

In 2020 our D-MOSS (Dengue Model forecasting Satellite-based System) project won a British Expertise International award and a GEO Sustainable Development Goals Award, as well as appearing on the front cover of GeoConnexions magazine.

Project Description:

The placement will be within the Data Science team. We are a team of earth observation scientists, data scientists and statisticians. We work closely with software development and GIS staff, and with HR Wallingford's world leading specialists in disciplines such as hydraulic modelling, dam engineering, water availability and flooding as appropriate.

You will be working on expanding our set of automated earth observation-based tools for flood and water management applications. Your role will involve quality assessment of optical and SAR satellite data sources, image processing, improving and testing the processing algorithms, and validation of the results.

You will be given a specific project of your own to lead and will also do small pieces of work on other projects which will give you exposure to various different areas of the company. Depending on your skills and interests the project could, for example, involve assessing how

well a new satellite dataset will perform for a particular use case, or working on a new image processing workflow. You'll get the chance to learn new skills as well as applying your existing skills in an industrial context. You will be welcome to join group meetings and social events, although we're based in Oxfordshire the whole team is currently working remotely.

Applicant Specification:

This placement would suit an undergraduate or postgraduate student who's keen to get experience in the earth observation industry and is interested in earth observation applied to the environment and natural hazards.

Minimum Requirements:

- Have or be studying for a degree in a relevant field such as Earth sciences/remote sensing & GIS/physics/geography
- Comfortable handling numerical datasets
- Basic Python skills by the start date of the placement

Preferred Additional Requirements:

Desirable but not required:

- Good coding skills in Python or other languages
- QGIS or ArcGIS skills
- Experience using satellite remote sensing datasets
- Machine learning skills

Further details:

8 weeks fixed term contract to be agreed with the successful candidate. Virtual Induction Event to be held on 21 June 2021. Ideally to complete before the start of the next academic year. Salary is £1,500 per calendar month gross.

Closing Date for Applications: 5pm Friday 11 June 2021

Applications should be made through the online form attaching a CV, before the closing date. Please note that elements of the form left incomplete will be deemed to render the application ineligible. They will be checked for eligibility and forwarded to the employer.