CANDIDATE BRIEF
Interferometric Synthetic Aperture Radar (InSAR) Scientist and Facility Developer, Faculty of Environment

Salary: Grade 8 (£40,792 - £48,677 p.a.)

Reference: ENVEE1315

Closing date: 30 April 2019

Fixed Term until March 2022 due to external funding

This post is open to job share and flexible working

Interferometric Synthetic Aperture Radar (InSAR) Scientist and Facility Developer, Faculty of Environment

Are you a highly skilled InSAR scientist specialising in InSAR? Do you have experience in developing and implementing InSAR algorithms? Are you keen to apply your skills to scientific problem-solving? Would you like to join a world-leading programme of Earth Observation research?

The Centre for Observation and Modelling of Earthquakes, Volcanoes and Tectonics (COMET) is seeking an experienced InSAR scientist with skills in project management, InSAR algorithm development, and scientific programming to lead and develop COMET's InSAR facility. COMET provides the UK with core strategic research in the exploitation of satellite measurements to study geohazards, using state-of-the-art Earth observation techniques, including Synthetic Aperture Radar Interferometry (InSAR).

In this role, you will lead and develop COMET's automated InSAR processing facility in collaboration with the existing scientific teams. Although based in Leeds, you will support scientists across our partner universities and the British Geological Survey to access and utilise the InSAR facility, as well as liaising with partner institutions on the acquisition and processing of InSAR data.

You will have a PhD in physics, geophysics, engineering, mathematics, computer science or a related subject, or have equivalent industry experience. You will have a track record of research in technical aspects of InSAR, strong programming skills, an enthusiasm for scientific research and problem-solving. You will also have excellent communication and interpersonal skills, the ability to raise research funding, and the ability to lead and manage a small team.

What does the role entail?

As InSAR Scientist and Facility Developer for COMET, your main duties will include:

- Managing the small team of scientific programmers working on data acquisition, InSAR processing, and data delivery;

- Leading the development and maintenance of COMET's near real-time Interferometric Synthetic Aperture Radar (InSAR) processing engine to process data from the Sentinel-1 satellite constellation and other satellite systems as required;

- Working closely with the COMET Executive and advisory group to develop the overarching vision for the facility, communicating this effectively and gaining buy in from key stakeholders;

- Writing/developing software, using primarily the Python programming language, to develop specific radar processing modules in time series analysis, phase unwrapping, geocoding and quality control;

- Acting as COMET's technical authority on InSAR processing, developing guidance documentation and provide training on relevant aspects of InSAR data acquisition and processing;

- Providing quality control reviews of COMET InSAR processing techniques and data, and monitoring progress against objectives and milestones;

- Helping to create web pages displaying InSAR data and enabling data download;

- Working collaboratively with InSAR researchers in COMET institutions and external users of our data to maximise the facility's capabilities and applications;

- Liaising with COMET's strategic partners, including the European Space Agency (ESA), British Geological Survey (BGS) and National Centre for Earth Observation (NCEO) on the acquisition and processing of InSAR data;

- Acting as COMET's main point of contact with the Centre for Environmental Data Analysis (CEDA) Facility at Harwell, where the computational infrastructure is based;

- Maintaining awareness of the latest developments in InSAR data acquisition and processing, using these to maximise the capability of the InSAR facility;

- Leading the development of scientific publications and presentations as lead or co-author, working collaboratively with COMET colleagues and external partners;

- Contributing technical information to funding applications as required;

- Securing independent funding to develop the facility and successfully complete funded research projects;

- Leading on promoting the facility at national and international conferences and with a range of research project partners.

These duties provide a framework for the role and should not be regarded as a definitive list. Other reasonable duties may be required consistent with the grade of the post.

What will you bring to the role?

As InSAR Scientist and Facility Developer you will have:

- A PhD in physics, geophysics, engineering, mathematics, computer science or a related subject, or equivalent industry experience;

- Experience of successfully leading and managing project teams;

- A high level of ability and practical experience in scientific computer programming using languages such as Python, FORTRAN, IDL, C, ADA or PERL;

- Experience of writing software and/or developing algorithms used in processing, interpreting and presenting InSAR data;

- Experience of web application development;

- Experience of data/image processing;

- Effective communication skills and the ability to communicate technical information at all levels and to a range of stakeholders;

- Experience of contributing technical information to peer-reviewed scientific publications and/or research proposals;

- A track record of raising research funding/experience of securing external funding and/or successfully delivering funded projects;

- A track record of producing peer-reviewed research outputs, including as lead author;

- The ability to prioritise competing demands and work to multiple deadlines;

- Strong problem solving and analytical capabilities.

You may also have:

- Experience of postgraduate teaching and research supervision.

How to apply

You can apply for this role online; more guidance can be found on our How to Apply information page. Applications should be submitted by **23.59** (UK time) on the advertised closing date.

Contact information

To explore the post further or for any queries you may have, please contact:

Professor Tim Wright, Professor of Satellite Geodesy

Tel: +44 (0) 113 343 5258

Email t.j.wright@leeds.ac.uk

Additional information

Find out more about the Faculty of Environment.

Find out more about Athena Swan in the Faculty.

Find out more about our School.

Find out more about our Research and associated facilities.

Working at Leeds
Find out more about the benefits of working at the University and what it is like to live and work in the Leeds area on our Working at Leeds information page.

Candidates with disabilities
Information for candidates with disabilities, impairments or health conditions, including requesting alternative formats, can be found on our Accessibility information page or by getting in touch with us at disclosure@leeds.ac.uk.

Criminal record information

Rehabilitation of Offenders Act 1974
A criminal record check is not required for this position. However, all applicants will be required to declare if they have any 'unspent' criminal offences, including those pending.

Any offer of appointment will be in accordance with our Criminal Records policy. You can find out more about required checks and declarations in our Criminal Records information page.