UNIVERSITY OF LEEDS

CANDIDATE BRIEF

InSAR Scientist and Facility Developer (COMET), Faculty of Environment

Salary: Grade 7 (£39,105 – £46,485 p.a. depending on experience)

Reporting to: Tim Wright

Reference: ENVEE1774

Location: University of Leeds (with scope for hybrid working)

We are open to discussing flexible working arrangements

Overview of the Role

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 InSAR scientist with skills in InSAR algorithm development, and scientific programming to play a leading role in COMET's InSAR processing 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 play a leading role in 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 strategic partner institutions, such as the European Space Agency (ESA) and National Centre for Earth Observation (NCEO), on the acquisition and processing of InSAR data.

You will have a track record of research in technical aspects of InSAR, strong programming skills, an enthusiasm for scientific research and problem-solving, excellent communication and interpersonal skills, and the ability to work as part of a team.

Main duties and responsibilities

- Playing a leading role in running and developing COMET's near-real-time Interferometric Synthetic Aperture Radar (InSAR) processing facility;
- Helping coordinate activities of researchers in COMET working on data acquisition and InSAR processing;
- Acting as COMET's technical authority on InSAR processing, developing guidance documentation and provide training on relevant aspects of InSAR data acquisition and processing;
- Contributing to scientific publications and presentations, as lead or co-author, on InSAR algorithms, describing the processing system and/or applications of InSAR to tectonic and volcanic research;



- Writing/developing software, as required, primarily using the Python programming language, to develop specific radar processing modules in time series analysis, phase unwrapping, geocoding and quality control;
- 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, and maintaining awareness of the latest developments in InSAR data acquisition to maximise the facility's capabilities and applications;
- 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, including the Centre for Environmental Data Analysis (CEDA) Facility at Harwell, where the computational infrastructure is based;
- Contributing technical information to funding applications, as required.

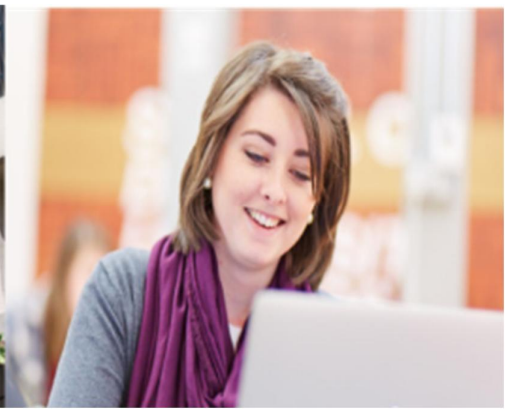
These duties provide a framework for the role and should not be regarded as a definitive list. Other reasonable duties may be required consistent with the grade of the post.

Qualifications and skills

Essential

- A PhD or near completion - i.e. the initial thesis needs to have been handed in at the point of application in physics, geophysics, engineering, mathematics, computer science or a related subject, or equivalent technical professional experience;
- Experience conducting research using InSAR, for example in developing algorithms used in processing, interpreting and presenting InSAR data;
- 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 working with and analysing large datasets;
- Effective communication skills and the ability to communicate technical information at all levels, and specifically with a range of stakeholders;





- Experience of contributing technical information to peer-reviewed scientific publications and/or research proposals;
- The ability to coordinate activities of team members, to prioritise competing demands and work to multiple deadlines;
- Strong problem solving and analytical capabilities.

Desirable

- Experience of postgraduate teaching and research supervision;
- Experience in developing interactive web-based data portals;
- Experience in raising research funding.

Additional information

Please note: If you are not a British or Irish citizen, from 1 January 2021 you will require permission to work in the UK. This will normally be in the form of a visa but, if you are an EEA/Swiss citizen and resident in the UK before 31 December 2020, this may be your passport or status under the EU Settlement Scheme.

Please note that this post may be suitable for sponsorship under the Skilled Worker visa route but first-time applicants might need to qualify for salary concessions. For more information please visit: www.gov.uk/skilled-worker-visa

For research and academic posts, we will consider eligibility under the Global Talent visa. For more information please visit: https://www.gov.uk/global-talent

Find out more about the School of Earth and Environment.

Find out more about the Faculty of Environment

Find out more about our Research and associated facilities

Find out more about equality in the Faculty.

Our University
As an international research-intensive university, we welcome students and staff from all walks of life and from across the world. We foster an inclusive environment where all can flourish and prosper, and we are proud of our strong commitment to student



education. Within the Faculty of Environment we are dedicated to diversifying our community and we welcome the unique contributions that individuals can bring, and particularly encourage applications from, but not limited to Black, Asian and ethnically diverse people; people who identify as LGBT+; and people with disabilities. Candidates will always be selected based on merit and ability.

The Faculty of Environment has received a prestigious Athena SWAN silver award from Advance HE, the national body that promotes equality in the higher education sector. This award represents the combined efforts of all schools in the Faculty and shows the positive actions we have taken to ensure that our policies, processes and ethos all promote an equal and inclusive environment for work and study.

Working at Leeds
We are a campus based community and regular interaction with campus is an expectation of all roles in line with academic and service needs and the requirements of the role. We are also open to discussing flexible working arrangements. To find out more about the benefits of working at the University and what it is like to live and work in the Leeds area visit our Working at Leeds information page.

Information for disabled candidates
Information for disabled candidates, impairments or health conditions, including requesting alternative formats, can be found on our Accessibility information page or by getting in touch with us at hr@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.