UNIVERSITY OF LEEDS

CANDIDATE BRIEF

COMET Research Fellow in InSAR and the Digital Environment, Faculty of Environment

Salary: Grade 7 (£33,199 – £39,609 p.a.)

Reference: ENVEE1320

Closing date: 26 May 2019

Fixed-term until 3 February 2020

We will consider job share / flexible working arrangements

COMET Research Fellow in InSAR and the Digital Environment, School of Earth and Environment, Faculty of Environment

Do you have a background in using satellite data to monitor ground deformation, with a specialism in Synthetic Aperture Radar Interferometry (InSAR)? Do you want to apply your skills to the digital transformation of the UK's built environment?

The Centre for Observation and Modelling of Earthquakes, Volcanoes and Tectonics (COMET) is seeking to recruit a Research Fellow in InSAR and the Digital Environment to join an exciting new initiative investigating how a dynamic motion map can be used in the UK's Digital Environment.

COMET is a world-leading research centre involving researchers from across the UK. We use state-of-the-art Earth observation techniques, including InSAR, to study earthquakes and volcanoes, and help understand the hazards they pose.

The tools and techniques employed by COMET also have broader applications. COMET scientists at Bristol, Leeds and the BGS were recently funded to assess the requirements for a Sentinel-1 based UK ground motion map to be incorporated into the Digital Environment.

We are seeking a skilled individual who can analyse InSAR data and establish how how it can be combined with more traditional ground-based sensor networks to monitor structural movement across the UK.

Although based in the School of Earth and Environment, you will be expected to work with our project partners at the University of Bristol and the British Geological Survey, as well as with stakeholders from across the UK, including at the University of Leeds spinout, SatSense Ltd.

With a PhD (or close to obtaining) in satellite geodesy or a related topic, you will also have excellent communication skills and the ability to work as part of a team.

What does the role entail?

As COMET Research Fellow in InSAR and the Digital Environment, your main duties will include:

- Comparing and assessing different methodologies for deriving ground motion data from Sentinel-1 at high resolution;
- Investigating how to integrate the outputs of the InSAR processing strategy with the UK's existing GPS, GNSS and seismometer networks;

- Developing a series of case studies demonstrating the strengths and weaknesses of Sentinel-1 ground motion data for different applications;
- Contributing to a white paper and other publications describing the results of your research;
- Contributing to wider COMET research, participating in meetings and discussions, and contributing to outreach and training activities as required;
- Presenting work to project partners and at the end of project workshop;
- Planning and managing your own research activity in collaboration with others and within the strategy identified for the project team as a whole;
- Generating and pursuing independent and original research ideas in the appropriate subject area;
- Developing research objectives and proposals and contributing to setting the direction of the research project and team including preparing proposals for funding in collaboration with colleagues;
- Evaluating methods and techniques used and results obtained by other researchers and to relate such evaluations appropriately to your own work;
- Maintaining your own continuing professional development and acting as a mentor to less experienced colleagues as appropriate;
- Contributing to the training of both undergraduate and postgraduate students, including assisting with the supervision of projects in areas relevant to the project.

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 a COMET Research Fellow in InSAR and the Digital Environment you will have:

- A PhD or near completion - i.e. the initial thesis needs to have been handed in at the point of application in satellite geodesy or a closely allied discipline (or equivalent experience in industry), with experience of working with InSAR data;
- A strong background in satellite geodesy, Earth observation or a related topic;
- A proven track record of peer-reviewed publications in high impact factor journals;
- Initiative in tackling research problems;



- Ability to work accurately and carefully, maintaining a professional approach to all aspects of the role;
- Good time management and planning skills, with the ability to meet tight deadlines, manage competing demands and work effectively under pressure without close support;
- Excellent written and verbal communication skills including presentation skills;
- A proven ability to work well both individually and in a team;
- A strong commitment to your own continuous professional development.

You may also have:

- Experience of pursuing external funding to support research;
- Experience in the use of GPS data and other types of spatial information;
- Experience of commercial applications of InSAR data.

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:

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 our School.

Find out more about our Research and associated facilities.

A diverse workforce
Find out more about Athena Swan in the Faculty.

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.