University of Leicester

Job Summary

Job Title: : Research Associate

Grade: 7

Job reference: SEN00479

Department: Physics & Astronomy

Post Responsible To: Hartmut Boesch

Job Purpose:
Satellite remote sensing of major greenhouse gases such as CO2 and CH4 is a novel research area that can lead to a much better understanding of sources and sinks of these greenhouse gases. This will not only help to develop more reliable forecasts of our future climate but it will also provide key data in support of policy makers involved in efforts to reduce greenhouse gas emissions.

The European Space Agency ESA has recently launched a major activity for the development of essential climate variables from satellite observations which includes greenhouse gases (GHG-CCI project) as one of their themes. Our group at University of Leicester is one of the main partners for the greenhouse gas theme.

We are seeking a Research Associate for the ESA GHG-CCI project to further evolve our retrieval methods for CO2 and CH4 from satellites and to apply it the Japanese GOSAT satellite and the upcoming NASA OCO-2 mission to generate global, well characterized long-term datasets that will allow detailed assessments of model calculations.

Principal Accountabilities:	**% Time**
• Develop and document improvements of the retrieval algorithm used for the CO2 and CH4 retrievals	30
• Generate global datasets for CO2 and CH4 from satellites and characterize and validate the datasets including development of improved validation/characterization methods	30
• Interpret the obtained datasets using model calculations and work with data assimilation groups for surface flux inversions.	20
• Communicate results at project meetings, to contribute to the required project documentations and to represent the University at conferences and seminars.	10
• Analyse and write up research findings, and contribute to research papers as lead or co-author author for submission to journals	10

Resources Managed:
Day to day management of the project

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Evolvement and maintenance of software for the retrieval of greenhouse gases on the University of Leicester high performance computer

Manage other aspects of the research group activities, as deemed appropriate by the PI

Internal and External Relationships:

Work closely with other members of the group at Leicester and from other institutions involved in the project.

Contribute to the supervision of graduate and undergraduate students working on related projects

Regularly attend conferences to provide advice and support to research staff and post graduate students working on this and similar research projects.

Network and contribute to the maintenance of the wider research programmes profile and research area (e.g. building relationships with leading experts in the field of greenhouse gas remote sensing and inverse modelling)

Planning and Organising:

Planning own workload within the aims and objectives of projects.

Assisting the PI in day-to-day planning and organisational or the wider research programme

Delivering data, reports and software within agreed deadlines.

Identifying new project opportunities and supporting the planning and writing of project proposals.

Qualifications, Knowledge and Experience:	**Assessment Criteria**
Essential	
• A PhD in Earth Observation, Physics, Astronomy, Meteorology, Geography, Environmental Science (or soon to be obtained)*	*Application*
• Proven record of working in collaborative projects and of completing project and research deliverables in a timely manner	*Application and Interview*
• Good publication record or potential for publication*	*Application*
Desirable	
• Expertise in remote sensing, radiative transfer or atmospheric science*	*Application and Interview*
• Expertise in handling and analysis of large datasets, ideally related to Earth Observations*	*Application and Interview*

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Skills, Abilities and Competencies:	Assessment Criteria
Essential • High level of proficiency in English, sufficient to undertake research and administrative activities utilising English Language materials and to communicate effectively with staff and students	*Interview*
• Good time management, organisational and problem solving skills	*Application and Interview*
• Willingness to travel nationally and internationally.	*Interview*
• Ability to independently work as part of a research team	*Application and Interview*
• Ability to program in scientific computing languages such as Fortran, python or IDL*	*Application*
Desirable • Ability to develop own ideas and research	Interview

Contract Information:

This appointment is for a period of 24 months on a fixed term contract basis because the particular expertise is required for this time. The appointment will cease on the end date without further notice, you will be able to access all University vacancies on the web site in order to seek alternative opportunities.

Athena Swan:
We are proud holders of the Athena Swan Bronze Award which recognises and celebrates good practice for employment in science, engineering and technology (SET) in higher education and research. The award reflects our commitment to the advancement and promotion of diversity and equality. We are actively seeking Silver and Gold awards. http://www.athenaswan.org.uk

Applications:
As part of the online application process, you will be asked to supply contact details for your referees. Please ensure that one of these is your current or most recent employer. You will also be asked to supply a CV and covering letter to support your application.

Candidates short-listed for interview will be contacted by the University. If you do not receive a communication from the University within 4 weeks of the closing date, please assume that your application has been unsuccessful.