NERC Innovation Placements 2017

The Emissions and Atmospheric Metrology Group at the National Physical Laboratory is offering to host NERC-funded Innovation Placements to begin on 1st November 2017.

The National Physical Laboratory (NPL) is the UK's National Measurement Institute and is a world-leading centre of excellence in developing and applying the most accurate measurement standards, science and technology available. For more than a century, NPL has developed and maintained the nation's primary measurement standards. These standards underpin an infrastructure of traceability throughout the UK and the world that ensures accuracy and consistency of measurement.

The Emissions and Atmospheric Metrology Group provides measurement services and conducts research into emissions monitoring, ambient air quality and atmospheric greenhouse gas measurement. Through its role within UK Government, NPL participates on the development of standards for atmospheric sampling and contributes to the UK National Emissions Inventory for greenhouse gases.

Project Areas

Researchers will spend their time at NPL in Teddington, with the potential of travel for field measurements, if required for the project. Placements concerning measurement or modelling of ambient greenhouse gas concentrations and atmospheric data could include:

- Characterisation of trapping materials for extraction of greenhouse gases from ambient air in a new preconcentration instrument.
- Reviewing existing network of instruments and data to quantify uncertainty and traceability to primary gas standards.
- Developing robust data analysis techniques to extract relative source fractions from measured isotope ratios.
- Reviewing atmospheric transport model uncertainty and quantifying correlations between inversion modelling parameters such as the precision of prior estimates of source emissions.
- Characterising the reduction in uncertainty on regional emissions estimates by measurement of additional observables, such as isotope ratio or local meteorological data, to existing data.
- Developing tools to compare and combine results from different atmospheric measurement techniques, e.g. validation of satellite data with ground measurements.
- Determination and reporting of correlated uncertainties in atmospheric measurements.

Development and Output

An essential component of any project will be quantitate analysis of measurement and inventory data. This will be supported by the opportunity to undertake training in measurement uncertainty and other courses through the NPL postgraduate institute.

The primary output of the Innovation Placement will be a report and presentation of the key findings and recommendations from the projects. There may also be opportunity to present at relevant stakeholder meetings.

Application process

Please first check the NERC eligibility rules for this call. All applicants interested in completing a NERC Innovation Placement are required to contact Dr Chris Rennick by 26th May 2017 with a brief description of the proposed project, identifying the fit with NPL. The proposals will be discussed at an internal meeting to decide on which applications can be supported. The full proposal must be co-developed with NPL and submitted to JeS by the NERC deadline 29th June 2017. A letter of support from NPL is required.

For queries about this call, please contact:

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For technical queries regarding the content of the Placement at NPL please contact:

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