Call for 9-month postdoctoral position (2018)

Instrument development for measurement of vertical concentration profile of GHGs by LHR / atmospheric radicals by FRS

Keywords	Laser heterodyne radiometry (LHR), mid-IR QCL, greenhouse gases (GHGs), OH radicals, Faraday rotation spectroscopy (FRS)
Project	(1) A mid-infrared laser heterodyne radiometer (LHR) is in development for ground-based in situ measurement of trace gases in the atmospheric column, in particular the development of a fiber coupling device to couple the sunlight to the laser heterodyne receiver which will allow us to realize a fully portable LHR for long-range, long-term and continuous atmospheric observation. The postdoctoral researcher will be involved in the development of the LHR, including: • Optimizing and testing the fiber-coupling system by following the sun movement; • Optimizing and testing the fiber-coupled LHR in lab & in the field; • Testing and validating by field side-by-side inter-comparison measurement. or (2) Development of a laser spectroscopic instrument based on Faraday rotation spectroscopy (FRS) for measurement of free radical OH in the atmosphere, including: Test, characterization and calibration of the FRS instrument, and validation via inter-comparison measurements with well established instruments such as FAGE. This project takes place in the framework of the regional program CLIMIBIO[1].
Qualifications	The candidate should have a PhD in optics. He/she should have expertise in the followings fields: laser and spectroscopic measurement techniques. Skills in data analysis and computer programming (LabView or equivalent) are also required.
Application	Candidates are invited to send their application by email, including a statement of research activities, a cover letter, a CV, as well name and address of two referees who could provide a recommendation letter.
Salary	About 2100 € monthly net wages.
Dates	The position can be available from June 1st 2018
Lab location	Laboratoire de Physico-Chimie de l'Atmosphère (LPCA) Université du Littoral-Côte d'Opale (ULCO) 189A, avenue Maurice Schumann, 59140 Dunkerque, France
Contact	Pr. W. Chen (LPCA/ULCO), chen@univ-littoral.fr, +33 (0)3 28 65 82 64

[1] CLIMIBIO: Changement climatique, Dynamique de l'atmosphère, Impacts sur la biodiversité et la santé humaine. http://climibio.univ-lille.fr/ (in French).