



Agnès Borbon

Université Clermont Auvergne, CNRS, LaMP, Clermont-Ferrand

Tel. : 0033 4 73 40 73 50

E-mail : a.borbon@opgc.univ-bpclermont.fr

Biography :

Dr. Agnès BORBON is a research scientist at CNRS since 2005 in the field of atmospheric chemistry. Since her PhD, she has been dealing with sources and fate of gaseous organic carbon (VOC) in contrasted environments worldwide from in-situ observations and source-receptor approaches. She has been involved in the development and implementation of on-line and off-line VOC measurement techniques on various platforms including research aircraft in intensive field campaigns. She was involved in international projects like AMMA and DACCIWA (West Africa), MEGAPOLI (Paris), CalNex (Los Angeles) and ChArMEx/TRANSEMED (West and East Mediterranean). In 2015, she joined the Laboratoire de Meteorologie Physique (LaMP) in Clermont-Ferrand (France). Now she is also moving towards multiphasic organic carbon by looking at air-water interface in the cloudy atmosphere.

Abstract title: Anthropogenic gaseous organic carbon in urban environments: sources and impacts

Gaseous organic carbon (COG) from anthropogenic sources has several implications on air quality and regional climate change as it contributes to the formation of secondary pollutants like ozone and Secondary Organic Aerosol. The quantification of emissions is a prerequisite to predict its impacts and guide emission reduction policies. While sources of COG are generally well identified, their relative importance is still under debate even in urban areas of post-industrialized countries. Indeed, large uncertainties are often associated with emission amounts, their temporal variability or their chemical composition. Main reasons are the multiplicity of sources and compounds which are themselves controlled by various technical and/or environmental parameters and emission inventory methodologies. Regarding such complexity, in-situ observations which reflect, to some extent, emissions and their variability, are relevant and useful data to assess emissions and anticipate their impacts.

During this lecture I will provide an overview of the most recent results on the assessment of urban emissions of anthropogenic COG from in-situ observations. Most of the results are based on intensive scientific campaigns led by the French community (ie. MEGAPOLI-Paris 2009, ChArMEx/TRANSEMED in Eastern Mediterranean since 2012, DACCIWA in West Africa in 2016). I will finish with a discussion on pending questions related to urban COG.