

Real-time detection of bioaerosols by Mass Spectrometry and fluorescence methods during the cea/biodetect 2014 campaign at Sirta supersite (paris, france).

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In the frame of Bio Chemical Collectors (BCC) research project, the French Atomic Energy Commission (CEA) has developed a new on-line mass spectrometry technique to detect atmospheric fungal spores. This method has been successfully compared with traditional method from the National Network of Survey for Airborne contaminants (RNSA), showing a very good agreement with microscopy identification of *Cladosporium* events. On-line measurements using fluorescence technics have been also widely used over the world for the detection of bioaerosols and could, for some of them (WIBS-4A with statistical data process ^[1]), distinguish bacteria from fungal spores using fluorescence latex particles.

To better understand all the processes involved in these real-time fluorescence technics it is necessary to compare them with on-line measurements of biological targets measured with on-line mass spectrometry. In this context, an intensive campaign (BIODETECT 2014) is taking place at the EU-FP7 ACTIRS SIRTA supersite next to Paris in summer 2014, when fungal spores show their highest ambient concentrations. The objective of BIODETECT 2014 is to clearly understand what is really measurable by on-line fluorescence technics in an urban/suburban complex atmospheric environment inducing possible interferences in the bioaerosol fluorescence signal.

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[1] Robinson *et al* (2013) *AMT* **6**, 337-347