

26th Special seminar on The IDEC Institute, 13th PHIS Seminar

Date: Jun 28th, 2023, 14:00~15:00

Online: <https://onl.la/j88Rat2>

Title: Diversity and functioning of the aeromicrobiome.

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Abstract

Microorganisms circulate in the atmosphere up to high altitudes and clouds. Since the early 2000's, we investigate outdoor microbial communities using multidisciplinary approaches, at our master site of puy de Dôme Mountain summit (1465 m asl), and its surrounding landscape in Central France. We explore their biodiversity, viability and functioning from aerosols to precipitation and surface waters using cultural and molecular (DNA and RNA-based) approaches, associated with fine characterizations of air masses from chemical and meteorological variables. Model microorganisms are also assessed under laboratory and simulation chamber experiments. Our objectives are to better understand how microorganisms maintain in such harsh conditions, and what are the associated environmental and ecological impacts, such as the selective role of microbial aerial transport, and the contribution of biologically-driven processes to atmospheric chemistry and physics. Innovative approaches, from sampling to modelling, are developed to gain access to the low airborne microbial biomass, its great diversity and, above all, its functioning in-situ, whose we attempt to unravel the modulations by environmental conditions. This seminar will cover all these aspects of a microbial journey through the atmosphere.

Microbial Genomics and Ecology



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