Journée scientifique du CDP AREA

Jeudi 12 mars 2026

Cité Scientifique, IMT Nord Europe
Villeneuve d'Ascq

8:30-9:00 Accueil – Installation des posters - Café

9:00-9:30 Introduction de la journée

9:30-10:30 **Plenary session: Prof. Jurgita Ovadnevaite, University of Galway**

Title : Aerosol Mass Spectrometry Measurements for Essential Climate and Air Pollution Variables

Abstract

Aerosol plays a significant role in climate, air quality and human health, which makes it one of the most important and studied components in the atmosphere, nevertheless, its effects are still poorly quantified. A significant improvement has been made with an introduction of an Aerosol Mass Spectrometer (AMS), which proved to be a powerful tool for studying the aerosol effects. In addition to being able to quantify near real time mass concentration of major inorganic compounds and organic matter, information on the organic components and sources can be obtained by inspecting the mass spectra. The source apportionment of organic aerosols is a critical step towards enabling the efficient control strategies underpinning air pollution policy development as well as advancing climate change mitigation strategies.

Prof. Jurgita Ovadnevaite will present major achievements in marine aerosol physicochemical characterisation and their climate impacts at the Mace Head Atmospheric Research station. Atmospheric aerosols have been sampled and characterised at Mace Head since 1958, with many interesting phenomena being discovered. The latest results of experimental studies focusing on marine aerosol over the NE Atlantic that extends from a sea spray source function to effects of chemical sea spray composition on particle water uptake properties and secondary aerosol composition effects on cloud formation will be shown. In addition, results from the national air quality network comprising AMS/ACSM instruments, AEROSOURCE, will be highlighted. The AEROSOURCE network has demonstrated how critical it is to augment regulatory air quality networks with aerosol mass spectrometry approaches that can identify the main pollution culprits, which, in turn, can better inform policy measures and enable specifically targeted and sophisticated emission reduction.

10:30-11:30 **Présentations WP1** (2 présentations de 25 min + 5 min de questions)

Identification des sources de particules ultrafines sur la plateforme ATOLL. Soatoavina Randrianomenjanahary (CERI EE, LOA).

Understanding Asphalt and Tire Contributions to Non-Exhaust Road Emissions. Antoine Roose (CERIE EE)

11:30-12:00 Session Poster flash *

12:00-12:30 Session Posters *

12:30-13:00 Buffet

13:00-13:30 Café – Session Posters *

13:30-15:00 **Présentations WP2** (3 présentations de 25 min + 5 min de questions)

Dynamique moléculaire ab initio (AIMD) et surfaces d'énergie potentielle basées sur l'apprentissage automatique. Gilberto Alou. (PhLAM)

Comparaison de l'allergénicité et de la fertilité du pollen de bouleau de deux métropoles françaises. Klervi Vandenbossche (LASIRE)

Compréhension des processus de formation d'ozone et de PUF en milieu urbain : études de laboratoire et de terrain. Emilie Chantraine (PC2A, CERI EE)

15:00-16:00 **Présentations WP3** (2 présentations de 25 min + 5 min de questions)

Size and long-term persistence of stratospheric sulfate aerosols from 2022 Hunga Tonga eruption until today. Paul Ruyneau de St George (LOA)

Do regional background sites capture changes in primary PM2.5 emissions at the national scale? Recent trends in PM2.5 in rural environments in metropolitan France. Anna Font (CERI EE)

16:00 – 16:30 **Clôture de la journée** - Café - Posters.

* Voir liste des posters en page 3. Consignes : 1 diapositive par poster et 2 minutes pour la présenter.

Liste des Posters

P1. La mesure du potentiel oxydant des AOS (projet Metronome). Thomas Audoux (CERI EE)

P2. Estimation de la contribution de l'agriculture aux aérosols atmosphériques azotés (projet CAPARA). Sauryadeep Mukherjee, (CERI EE)

P3. Molecular Characterization of Brake Wear Particle Emissions by Two-Step Laser Mass Spectometry. Michèle Kouamé (PhLAM)

P4. Calcul des impacts des aérosols sur les propriétés microphysiques des nuages en combinant des mesures en surface et spatiales. Suzanne Crumeyrolle (LOA)

P5. Insights in the atmospheric degradation of clomazone herbicide using molecular simulations. Florent Louis (PC2A).

P6. Dimethyl Selenide Gas Phase Oxidation Initiated by Ozone. Alejandro Cardona (PC2A)

P7. Impacts du CO_2 sur le pollen de graminée (Phleum pratense) : de sa production à son potentiel allergisant. Alix Vaneecloo (LASIRE).

P8. Unraveling Formaldehyde Uptake on Microplastics and Indoor Materials: Experimental Findings. Subhadarsi Nayak (CERI EE)

P9. Modeling of Iron Isotope Fractionation During Aerosol Cloud Processing. Hisham K. Al Rawas (LPCA, UCEIV)

P10. Atmospheric Fate of Ketolimonene: Reaction Kinetics, Highly Oxygenated Molecules (HOMs), and Secondary Organic Aerosols (SOAs) Formation from NO_3-Initiated Oxidation. Sandy Solaiman (CERI EE)

P11. VOC Emissions from Asphalt Pavements under Urban-Relevant Temperatures and UV Radiation: Role of Ageing and Formulation. Darya Urupina (CERI EE)

P12. Uptake of HCl on minerals of interest for Stratospheric Injection: a Knudsen cell study. Anais Lostier (CERI EE)

P13. Theoretical investigation of the reactivity of organosulfur compounds with OH radical. Zahraa CHOUAIB (PhLAM)