

AVIS DE SOUTENANCE EN VUE DE L'HABILITATION A DIRIGER DES RECHERCHES

Discipline : Chimie et Physique de l'Environnement

Max R. MCGILLEN, Chargé de recherche CNRS

présentera ses travaux en vue de l'habilitation à diriger des recherches

Approaches to comprehend and address atmospheric chemical complexity

Le 6 Janvier 2022 à 14 heures

Lieu : Salle de conférence ICARE, Campus CNRS Orléans La Source

devant le jury constitué par les personnalités suivantes :

- V. GROS, Directrice de Recherche, CNRS-LSCE, Gif sur Yvette
- C. GEORGE, Directeur de Recherche, CNRS-IRCELYON, Lyon
- S. BEKKI, Directeur de Recherche, CNRS, LATMOS, Paris
- B. PICQUET-VARRAULT, Professeure, Université Paris-Est Créteil
- E. VILLENAVE, Professeur, Université de Bordeaux
- J. ORLANDO, Senior Scientist, National Center for Atmospheric Research, USA
- V. CATOIRE, Professeur LPC2E / Université d'Orléans
- A. MELLOUKI, Directeur de Recherche, CNRS-ICARE, Orléans

Résumé des travaux :

Atmospheric chemistry is the diverse assortment of photochemical processes that ultimately determine the effects of emissions on air quality and climate, both of which have profound societal consequences. In this presentation, I will first describe the path that I have taken over the 17 years that I have been studying atmospheric chemistry. Over this period, I have tried to maintain a broad experience in laboratory gas-kinetic methods and the complementary discipline of rate coefficient estimation using structure-activity relationships (SARs). My studies have taken me to several leading laboratories worldwide, where I have attempted to absorb as many of the best practices, and as much knowledge from my various hosts as I was able to. Along the way, I have been able to transfer some of this knowledge to several gifted and engaged students that I have co-supervised. Despite the intentional broadness in my research efforts, there is a clear thread running through my work, which can be described as my drive to understand and parameterize the many mechanisms by which molecules are processed in the atmosphere. Following this retrospective view, I will share some details of my current activities as a researcher at CNRS-Orléans. I will conclude this presentation with some of the perspectives that I have gained: what is the state of the knowledge; where I think atmospheric chemistry is headed in the future; and where I would like to help direct the next generation of atmospheric scientists in their explorations.