

## PhLAM RESEARCH SEMINAR SERIES

**April 12<sup>th</sup>, 2024, 10:30 AM**

**Pierre GLORIEUX Amphitheater, CERLA Building**

# **Astrophysical and Atmospheric Laboratory: Experimental and Theoretical Approaches**

by

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**PhLAM**

In this presentation, we will explore the latest advancements in the study of key mechanisms crucial for understanding atmospheric and astrophysical molecular phenomena. Our investigation spans a diverse scale of reactions, from microscale events such as collisions between small molecules, to macroscale phenomena including gas-surface interactions. These reactions play a fundamental role in deciphering the complex mechanisms that govern both terrestrial and cosmic environments.

We will discuss the experimental and theoretical strategies that are pivotal in conducting these studies, highlighting the integration of state-of-the-art methodologies in our research. A particular focus will be on the adoption of artificial intelligence technologies, which have significantly enhanced our analytical capabilities, allowing for more sophisticated modeling of these complex systems.

This lecture aims to provide a detailed overview of current approaches and methodologies in the field, underscoring the challenges encountered and the potential for future research directions. Our objective is to contribute to the ongoing dialogue within the scientific community, fostering a deeper understanding of the intricate processes that shape our atmospheric and astrophysical understanding..