

# Surface Exchange of Reactive Nitrogen Gas between Soil and Atmosphere



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**Conference Room, 3/F,  
Mong Man Wai Building**



**[Zoom Link](#) (Mixed-mode)**

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Interactions between soil and the atmosphere significantly influence climate change and air pollution. Anthropogenic nitrogen input into soil has more than doubled since the last century, leading to the emission of substantial quantities of reactive nitrogen (Nr) gases, such as nitrous acid (HONO), nitrogen oxides ( $\text{NO}_x$ ), and ammonia ( $\text{NH}_3$ ), which subsequently enter the atmosphere. HONO,  $\text{NO}_x$ , and  $\text{NH}_3$  are typical air pollutants that affect atmospheric oxidation capacity and air quality. However, many challenges and open questions remain in the research on soil Nr emissions. This presentation will introduce our group's research on soil Nr emissions, particularly focusing on HONO. It will discuss the measurement methodologies, the dominant processes and environmental factors involved, and their impacts on the atmospheric environment. Understanding the interactions and feedback between soil microbes and atmospheric chemistry is crucial for comprehending our Earth's atmosphere and global change.



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