

## **Title: "Origin and evolution of nitrogen on planetary bodies in the inner solar system"**

### **Abstract:**

Knowledge of the origin of nitrogen on Earth is of particular importance to understanding the development of conditions favorable to the emergence of prebiotic molecules and the maintenance of life on rocky planets. However, the origin and timing of the accretion of nitrogen on Earth remains a subject of controversy. In this talk, I will present new data obtained by secondary ion mass spectrometry (SIMS) analyses of extraterrestrial melt inclusions. First, I will show that olivine-hosted melt inclusions in angrites and martian meteorites are key for constraining the source(s) and timing of nitrogen delivery to planetary bodies in the inner solar system. However, the effects of planetary formation processes (core formation, magma ocean crystallization and degassing) on the original elemental and isotopic composition of planetary mantles still need to be investigated.