

Introduction of Overseas Research for Ph.D. Degree: Royal Belgian Institute for Space Aeronomy and Université catholique de Louvain (Belgium)

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I have been analyzing the trace gas observed by solar occultation using the Nadir and Occultation for Mars Discovery spectrograph onboard the Trace Gas Orbiter to understand the mechanisms of Martian atmospheric variability and atmospheric evolution. In order to adopt the latest calibration of this instrument to the analysis and further discussions with co-authors, I stayed at BIRA-IASB (Royal Belgian Institute of Space and Aeronautics) and Université Catholique de Louvain (Belgium) for 3 months from October 2021. In this presentation, I will introduce the procedures before the visit, the research and daily life during the visit, and the isolation after returning to Japan.

This stay was scheduled to start in October 2020 but it was postponed due to the COVID-19. My stay was officially decided in August 2021. I completed two vaccinations and received permission from my university to study abroad before entering Belgium. At the time of entry into Belgium, restrictions on social activities had been relaxed, but isolation (for three days) was necessary due to the increased COVID-19 infection in Japan. During the first half of my stay, research activities like group-meeting and discussions were held on basically face-to-face. In November 2021, the Belgian government notified us that we had to telework four times per week due to the pandemic of the COVID-19. We can ask for exemption depending on the status of each individual's research, but many faculty members, Post-Doc researchers, and students chose to telework. As a result, group meetings were held online, and we need to schedule a day to discuss at the institute when we want to talk face-to-face. As a result, there were fewer opportunities for discussions in person in the latter half of my stay compared to the first half. However, in an environment without a time difference, it was possible to have quick discussions using online meetings and chat tools, which has a useful effect on my research. In terms of daily life, I was able to keep in touch with my colleagues and not feel lonely. Although I need to use online tools during my entire stay, I feel that overseas research for Ph.D. helped me to develop my research skills and to a network of researchers for the future. This case study is only one example, but we believe it is important to continue overseas research as much as possible.

Information about the visit is as follows.

Destination: BIRA-IASB (Royal Belgian Institute for Space Aeronomy), Université catholique de Louvain

Period: October - December 2021

Field of Research: Planetary Atmospheres and Upper atmospheric physics

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The research topic will be presented at the “P-CG19” session.

Keywords: Study abroad for PhD degree, Belgium, Planetary science, Planetary atmosphere