

2026

5.13

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12:10
12:50

12:10-12:15

◆ Introduction

12:15-12:40

◆ Seminar
(Presentation)

12:40-12:50

◆ Q&A

Online
(Zoom)Scan here for
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Evidence of the bolide impact responsible for the end-Cretaceous mass extinction and subsequent recovery of marine ecosystems

**Key Words****Bolide impact****Ejecta deposit****Cretaceous/Paleogene boundary****Mass extinction****Highly siderophile elements****Assistant Professor Honami SATO**

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After completing a master's degree at Kagoshima University, I entered the Graduate School of Science at Kyushu University and obtained a Doctor of Science. My research focuses on geology and geochemistry, particularly on marine and terrestrial environmental changes associated with large bolide impact events, investigated through worldwide fieldwork and geochemical analyses, including mass spectrometry. I have held positions as a JSPS Research Fellow (PD) at the Japan Agency for Marine-Earth Science and Technology (JAMSTEC), a senior researcher at Chiba Institute of Technology, and a researcher at the University of Padova in Italy. In 2022, I joined the Faculty of Science at Kyushu University. I received the JSPS Ikushi Prize in 2015 and the Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology (Research Category) in 2023.

Approximately 66 million years ago, a bolide impact event triggered the mass extinction of many species, including dinosaurs. The fossil record indicates that more than 70% of species became extinct at the Cretaceous/Paleogene boundary. Despite this catastrophic impact event, it also served as a catalyst for the recovery and subsequent diversification of life. This seminar focuses on a sediment layer known as impact-derived ejecta deposits, formed from material ejected and globally dispersed by the impact. Investigation of this layer allow us to reconstruct the scale of the impact and assess its effects on both marine and terrestrial ecosystems. Furthermore, we will discuss the recovery and diversification of marine ecosystems after the impact, based on detailed geologic and geochemical analyses.