

## Societal Engagement and Impact with Sample Return Missions

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Sample return missions, like JAXA's Hayabusa2 and NASA's OSIRIS-REx, have brought invaluable materials from asteroids, providing unprecedented insights into planetary formation and the potential origins of life. However, the impact of these missions extends far beyond scientific discovery. This session highlights the innovative ways in which the Ryugu asteroid grains have been showcased domestically and globally, using engaging exhibits, interactive experiences, and new display technologies to bridge the gap between space science and society.

The proposed session features four speakers. Elizabeth Tasker will discuss the international exhibits of Ryugu grains, examining how these displays have fostered global interest in space exploration.<sup>[1]</sup> Tomoko Ojima will explore domestic exhibits in Japan, featuring a cutting-edge sample container designed to enhance the public's viewing experience. Iori Kajitani will present an interactive perspective, detailing the immersive 'Collect a Sample Yourself' experience inspired by the Hayabusa2 mission, which invites participants to engage with sample collection and understand the complexities of space exploration. Thilina Heenatigala will conclude with a case study on public responses to the Ryugu grain exhibits, analysing how audiences connect with the displays and the curiosity they inspire.<sup>[2]</sup>

Through these presentations, we aim to showcase the powerful role of sample exhibits in public outreach, illustrating how these initiatives transform distant, technical science into tangible, relatable experiences. Together, these efforts underscore the potential of sample return missions to educate, inspire, and build a collective vision for humanity's future in space.

### References

[1] Science Museum. 2023, September 20. 4.6-billion-year-old asteroid sample unveiled at the Science Museum. Science Museum Blog.

[2] Heenatigala, T. 2024, January. Report on Hayabusa2 Ryugu Sample Display Exhibition. Tokyo Institute of Technology, Earth-Life Science Institute.