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POSSIBILITY TO EXPAND OPPORTUNITY AND BENEFIT WITH JAXA MOUSE HABITAT UNIT
FOR THE INTERNATIONAL SPACE STATION AND BEYOND**Abstract**

Rodent research in the International Space Station (ISS) have been widely performed recently in the aim of contributing to studies for such as human health, longevity, and obtaining fundamental data for future deep space exploration to the moon, mars, etc. Since 2015, Mitsubishi Heavy Industries, Ltd. (MHI) has developed an equipment called "Mouse Habitat Unit (MHU)" under a contract with Japan Aerospace Exploration Agency (JAXA) which features individual on-orbit rearing of mouse first time in the world. MHU has been utilized eight times in the ISS as of 2023 and contributed to many remarkable science achievements. In addition to the MHU, JAXA/MHI is now developing a new equipment called "Single-CTB Mouse Automated Rearing Transporter (SMART)" which features maintenance-free rearing of mice as well as biological information collecting capability and can be operated on any on-orbit platform beyond the ISS. This paper introduces a summary of on-orbit MHU experiments until now and utilization ideas for expanding the opportunity and benefit.