



# International Center for Hadron Astrophysics

CHIBA UNIVERSITY

## ICEHAP セミナー

**Date** 日時      4月10日（水）      14:00～16:00

**Place** 場所      [ICEHAP オフィス \(工学系総合研究棟 1 内 6 階 609-1 号室\)](#)

**By** 講演者      播金 優一 氏      (東京大学宇宙線研究所 助教)

**Title** タイトル

『**Early Galaxies and Supermassive Black Holes Revealed  
with the James Webb Space Telescope**』

**Abstract** 概要

The James Webb Space Telescope (JWST) is a large infrared space observatory jointly developed by NASA, ESA, and CSA. With its 6.5-meter primary mirror, JWST achieves a sensitivity 10-1000 times greater than that of previous infrared telescopes, enabling efficient observations of galaxies in the early universe as well as active galactic nuclei (AGN) hosting supermassive black holes. Since the release of its first science data in the summer of 2022, JWST has discovered numerous luminous galaxies at redshifts  $z > 10$  and a large population of AGNs at  $z > 4$ , including a new population of AGNs called "little red dots". Remarkably, the number of such objects significantly exceeds pre-launch predictions, bringing about a revolution in the study of the distant universe. In this talk, I will provide an overview of these latest discoveries and discuss the physical processes involved in the formation of early galaxies and supermassive black holes.