

# Extreme Universe

## The 9th COLLOQUIUM

October 14<sup>th</sup> (Fri.) ONLINE

TALK 22:00 - 23:00 am (JST)

October 14<sup>th</sup> (Fri.) 13:00 - 14:00 (UTC)

October 14<sup>th</sup> (Fri.) 9:00 - 10:00 (EDT)

ONLINE COFFEE(?) TIME  
23:00 - 24:00 (JST)

Registration required (click [HERE](#))

Extreme Universe, JAPAN



Speaker

Prof. Netta Engelhardt

MIT

Collaboration

Title

## The Black Hole Information Paradox: a Resolution on the Horizon?

### Abstract

The black hole information paradox — whether information escapes an evaporating black hole or not — remains one of the greatest unsolved mysteries of theoretical physics. The apparent conflict between validity of semiclassical gravity at low energies and unitarity of quantum mechanics has long been expected to find its resolution in the deep quantum gravity regime. Recent developments in the holographic dictionary and in particular its application to entanglement, however, have shown that a semiclassical analysis of gravitational physics has a hallmark feature of unitary evolution. I will describe this recent progress and discuss some potential new avenues for a resolution of the information paradox.

2022

