

Extreme Universe

The 1st COLLOQUIUM

December 4th (Sat.), ONLINE

TALK 10:00 am - 11:00 am (JST)

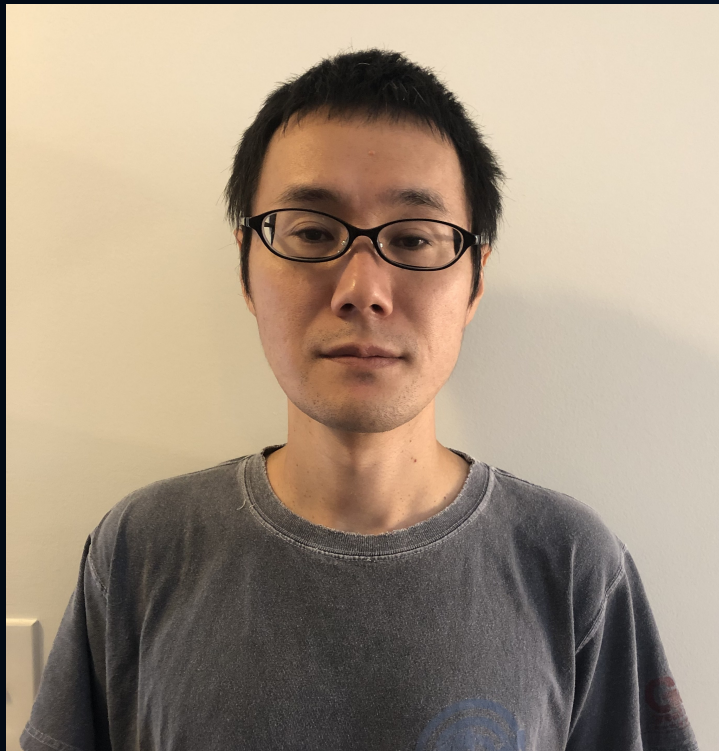
December 4th (Sat.) 1:00 am - 2:00 am (UTC)

December 3rd (Fri.) 8:00 pm - 9:00 pm (EST)

ONLINE COFFEE TIME afterwards

Registration required (click [HERE](#))

Extreme Universe, JAPAN



Speaker

Prof. Shinsei Ryu

Princeton University

Title

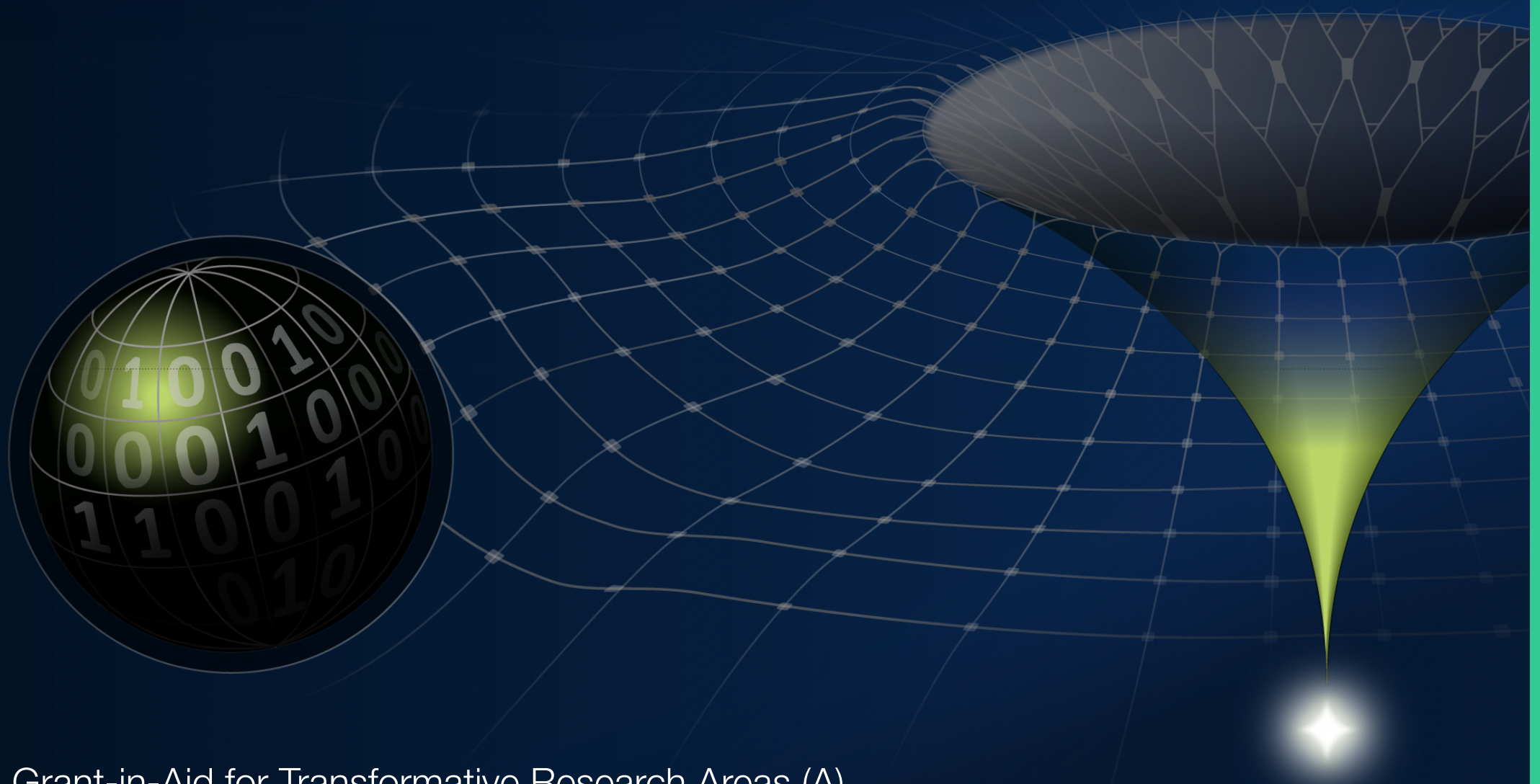
**Many-body quantum physics
through the lens of quantum entanglement**

Abstract

Quantum entanglement and associated quantities have been proven to be a useful probe to study strongly correlated quantum systems, including topological phases of matter. For example, the topological entanglement entropy has been established as a standard tool to study topologically-ordered phases of matter. In this talk, we will discuss quantum entanglement quantities other than topological entanglement entropy, such as entanglement negativity and reflected entropy in various setups, mainly in the context of topologically-ordered phases in two spatial dimensions. These quantities may capture emergent universal data characterizing many-body quantum systems.



2021



MEXT -KAKENHI- Grant-in-Aid for Transformative Research Areas (A)

The Natural Laws of Extreme Universe -A New Paradigm for Spacetime and Matter from Quantum Information-

Collaboration