

# Progress and open questions in core-collapse supernova theory

*Wednesday, October 9, 2024 9:00 AM (50 minutes)*

I will outline the current status of core-collapse supernova (CCSN) theory, and then introduce some proposed strategies of how the theory can be tested from multi-messenger observations. After underlining the recent progress, I summarize remaining questions on some microphysical aspects of CCSN theory, paying a special attention to neutrino quantum kinetics or self-induced neutrino flavor conversions.

**Presenter:** Dr NAGAKURA, Hiroki