

## Dense matter and the QCD phase diagram: insights from Neutron Stars

*Friday 5 September 2025 10:30 (20 minutes)*

Neutron stars are among the most fascinating and extreme astrophysical objects in the universe, offering a unique laboratory for probing the properties of ultra-dense matter—at densities exceeding that of atomic nuclei. In this talk, I will provide a brief overview of neutron star properties from both theoretical and observational perspectives. I will also explore the potential observational signatures that could indicate the presence of quark matter in the cores of neutron stars, shedding light on one of the most intriguing questions in high-energy physics and astrophysics.

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**Session Classification:** Plenary Session