## International Workshop on: Simulating gravitation and cosmology in condensed matter and optical systems



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## **Neutron Stars and Gravitational Waves**

Thursday 25 July 2019 09:00 (30 minutes)

Neutron stars are the densest objects in the present Universe. These unique and irreproducible laboratories allow us to study physics in some of its most extreme regimes. The multifaceted nature of neutron stars involves a delicate interplay among astrophysics, gravitational physics, and nuclear physics. The recent direct detection of gravitational waves by merging black-holes and neutron stars turned gravitational physics into an observational science. Gravitational Waves by tight binary neutron star systems, supernovae explosions, non-axisymmetric or unstable spinning neutron stars will provide us with a unique opportunity to make major breakthroughs in gravitational physics, in particle and high-energy astrophysics. The focus of the talk will be on neutron star as sources of gravitational waves and their impact on astrophysics and nuclear physics.

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