

# PHAROS Conference 2020: The multi-messenger physics and astrophysics of neutron stars



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Type: Oral Presentation

## Superfluidity and Superconductivity in Neutron Stars (Invited)

Thursday 2 April 2020 09:00 (30 minutes)

The observational evidence for superfluidity in neutron stars will be reviewed. Rotational and magnetic properties of superfluids and superconductors will be discussed, to lead to the current understanding of neutron star dynamics. In particular pulsar glitches and interglitch relaxation will be addressed in terms of superfluid vortex pinning, unpinning and creep. Extraction of information on neutron star structure, in particular of the moments of inertia fractions in various superfluid components of the star leading to possible constraints on the equation of state will be addressed, as well as entrainment effects and the resulting ambiguities in the implied moment of inertia fractions.

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**Session Classification:** Invited Talks

**Track Classification:** Invited Talks