

## PHAROS Conference 2019: the multi-messenger physics and astrophysics of neutron stars



Contribution ID : 51

Type : **not specified**

### Studying Neutron Stars with long-duration gravitational wave transients

Neutron Stars can emit gravitational waves on many different timescales, ranging from milliseconds to the quasi-permanent continuous wave regime. Among the signals accessible to ground-based detectors, long-duration transients are among the least studied, and searching for them poses many practical challenges. Interesting sources of such transients are both newborn compact objects (including remnants of mergers like GW170817) as well as mature NSs disturbed by energetic transient events such as pulsar glitches, type I X-ray bursts and magnetar bursts. I will talk about these source types, current search methods, their application to data from LIGO's second observing run, how such searches can be improved with constraints from modeling advances and electromagnetic observations, and what they can contribute to determining the inner structure and dynamics of neutron stars.

**Primary author(s)** : Dr KEITEL, David (University of Portsmouth)

**Presenter(s)** : Dr KEITEL, David (University of Portsmouth)