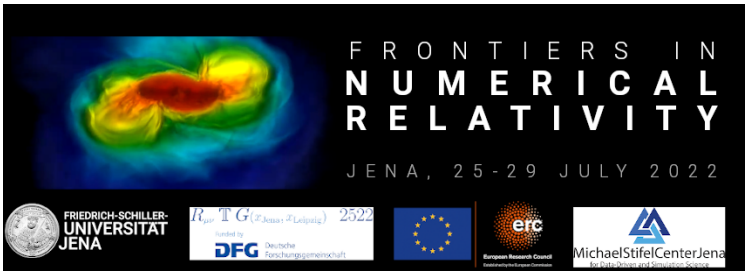

Contribution ID: **5** Type: **not specified**

Black hole binaries in higher derivative theories of gravity

Thursday, 28 July 2022 15:45 (45 minutes)

In this talk I will discuss recent progress on modelling black hole binaries in higher derivative theories of gravity. I shall consider first cubic Horndeski theories for which the higher derivatives are in the scalar sector only. In these theories in the weakly coupled regime, even though the differences with standard general relativity can be locally small, they accumulate over the lifetime of a binary resulting in waveforms that significantly deviate from those in general relativity. In the second part of the talk, I will discuss binaries in a certain eight-derivative theory of gravity. I will first discuss how such a theory can be rendered well-posed and then will present results on binaries as well as pointing out generic issues that may arise when modelling black hole binaries in such theories.

Presenter: Prof. FIGUERAS, Pau (Queen Mary University of London)

Session Classification: Invited talks