## **Proca seminars series**



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## Modified theories of gravity - foundations and models

Thursday 3 February 2022 10:00 (1h 30m)

Abstract: In the first part of the talk I am discussing General Relativity, in particular its basic ingredients and its mathematical structure. This will naturally lead the way to consider various modifications or extensions of General Relativity, many of which have been studied recently. Next I will discuss modified gravity models based on generalised geometries and on actions no longer linear in curvature. The main part of the talk will discuss how these many different theories can be studied using a single unified approach which also shows the equivalence of some of these models. Boundary terms in the action will play a crucial role in establishing the equivalence between different theories. This setup will also allow us to discuss models where local Lorentz invariance can be broken and also models where local diffeomorphisms can be broken. In general this is done by introducing appropriate length scales.

Presenter: Prof. BOEHMER, Christian (University College London)