

**12 february 2020, Seminar 2nd floor, 17:00-18:00**

**Speaker:** Ivan P. Costa e Silva (Federal University of Santa Catarina, Brasil)

**Title:** Topological restrictions in Lorentzian geometry: a survey

**Abstract:** It is well known that globally hyperbolic solutions  $(M,g)$  of the Einstein field equations in general relativity may have initial data Cauchy hypersurfaces with any topology. However, some restrictions on the fundamental group of  $M$  can arise from the causal structure if either all inextendible causal geodesics in  $(M,g)$  are complete or if one assumes that  $M$  has a boundary with suitable properties. I shall review a number of such "topological censorship" results and discuss some open issues.