Contribution ID: **36** Type: **not specified**

Hyperbolic nonsmooth calculus

Thursday, 15 June 2023 10:30 (1 hour)

In the last 25 years, tremendous progresses have been made in the field of non-smooth analysis: after the pioneering works of the Finnish school and Cheeger's seminal contribution, interest on the topic has been revamped by Lott-Sturm-Villani's papers on weak lower Ricci curvature bounds.

More recently, there has been a surging interest in non-smooth "hyperbolic" geometry, i.e. in spaces whose smooth counterpart are Lorentzian manifolds rather than "elliptic" Riemannian ones. Motivations come both from geometry and physics and concern in particular, after works of Cavalletti, McCann, Mondino, Suhr, genuinely non-smooth theories of gravity. These new geometries require new calculus tools: in this talk I will present some partial, but promising, results.

Based on joint works with Beran, Braun, Calisti, McCann, Ohanyan, Rott, Saemann.

Presenter: GIGLI, Nicola (SISSA Trieste)