

Avviso di seminari



Nell'ambito del progetto FFR "Gravità e Fisica Quantistica" del DiFC, il Dr. **Goffredo Chirco** del Max Planck Institute for Gravitational Physics (AEI Potsdam) e del Romanian Institute of Science and Technology (DeepRiemann-project) terrà due seminari su temi di gravità quantistica e teoria dell'informazione.

Entanglement, information and spacetime architecture

Background independent approaches to quantum gravity, including loop quantum gravity and related covariant path-integral formulations, as spin-foam gravity and group field theory, translate the operational content of Einstein's theory of General Relativity into a relational and purely algebraic description of quantum spacetime geometry, realised in terms of quantum spin-network states. By approaching the fundamental structure of Einstein's theory in information-theoretic terms, we will consider the possibility to extract information on the quantum nature of the gravitational field and the emergence of classical spacetime geometry by looking at the entanglement properties of such spin network states, within a series of examples based on recent work.

Information geometry: from statistical inference to high energy physics

I will provide an elementary introduction to the framework of information geometry and consider a series of examples of its use, ranging from machine learning, optimisation theory, up to quantum gravity and recent geometrical formalisations of statistical mechanics.

B. Daniele Militello