# Noncommutative Geometry, the Spectral Action and Fundamental Symmetries

**Fedele Lizzi**[*]
*Università di napoli Federico II*
*E-mail:* fedele.lizzi@na.infn.it

Noncommutative Geometry, i.e., the spectral data of generalized spaces, provides a fruitful approach to the standard model of fundamental interactions. This is done via the spectral action, which is a function of the Dirac operator. It is a regularized trace, cutoff at a scale. This cutoff is stye point in which all gauge interactions are equally strong, and it may represent a phase transition of the theory to a pre geometric phase. I will discuss the role of this field theory cutoff, and the symmetries and structure of space-time that one can infer from the spectral action.

---

[*]Speaker.