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## Ultra High energy Cosmic Rays Propagation and the Production of Secondary Cosmogenic Particles

*Monday, September 14, 2015 3:30 PM (25 minutes)*

The main experimental evidences of UHECR will be reviewed with a particular emphasis on the propagation of these extremely energetic particles and the subsequent production of secondary cosmogenic neutrinos and gamma rays. The cross analysis of the observations of different messengers is of paramount importance in the study of UHECR, principally to determine the physical conditions associated to astrophysical sources. The final part of the talk will be devoted to the discussion of exotic (top-down) models for the origin of UHECR, models that recently have been reconsidered linking the physics of UHECR with cosmological observations.

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**Session Classification:** Interplay between LHC and UHECR physics

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