

**LABORATORI NAZIONALI DEL GRAN SASSO**

**SEMINAR ANNOUNCEMENT**

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**The spectrum of Cosmic Ray  
Electrons and Positrons and  
Searches for Dark Matter  
with the Fermi Large Area  
Telescope**

*The Fermi Gamma-ray Space Telescope is an international satellite observatory designed to study the high-energy Universe. In four years after its launch in June 2008, Fermi has recorded a remarkable variety of novel observations from the most energetic sources in the sky, like black holes, rapidly-spinning neutron stars, supernova remnants, gamma-ray bursts as well as cosmic-ray interactions with the interstellar gas and radiation fields in the Milky Way and other galaxies. High energy cosmic-ray electrons and positrons up to 1 TeV were also directly measured. These observations are providing invaluable, new insights into fundamental questions of high energy astrophysics and astro-particle physics, such as, among others, particle acceleration mechanisms, production and propagation of cosmic-rays, and constraints to the nature of Dark Matter. In this talk I will describe the measurements of the cosmic-ray electron and positron spectra performed by the Fermi Large Area Telescope and I will review our ongoing searches for Dark Matter.*

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**LNGS - “B. PONTECORVO” ROOM**