

## **Abstract**

The Fermi Gamma-Ray Space Telescope was launched 10 years ago and represents the reference observatory of the violent high energy gamma-ray Universe. The Large Area Telescope on board Fermi is providing the richest database of high-energy photons to the community (more than 1 billion of photons over 100 MeV), revolutionizing our knowledge of gamma-ray emission from a multitude of different sources in our Galaxy and in the extragalactic sky (e.g. pulsars, supernova remnants, gamma-ray bursts, novae, active galactic nuclei).

When combined with contemporaneous ground- and space-based observations, Fermi-LAT achieves its full capability to characterize the properties of these sources. Concurrent and upcoming operations of multi-wavelength and multi-messenger observatories open the way to years of new scientific discoveries, most notably in the time-domain and multi-messenger astrophysics.

In this talk, I will review some of the most exciting science highlights from Fermi-LAT and discuss their implications for the future observations.