“Examining Hints for Dark Matter in the Milky Way’s Galactic Center”

Data from the Fermi Large Area Telescope suggests that there is an extended excess of GeV gamma-ray photons in the Inner Galaxy. Identifying potential astrophysical sources that contribute to this excess is an important step in verifying whether the signal originates from annihilating dark matter. I will discuss recent efforts in determining the potential contribution of unresolved point sources, such as millisecond pulsars, to this GeV excess. We have been able to demonstrate that photon statistics provide a powerful tool for distinguishing between the dark-matter and point-source interpretations of the signal.

Mariangela Lisanti, Princeton University