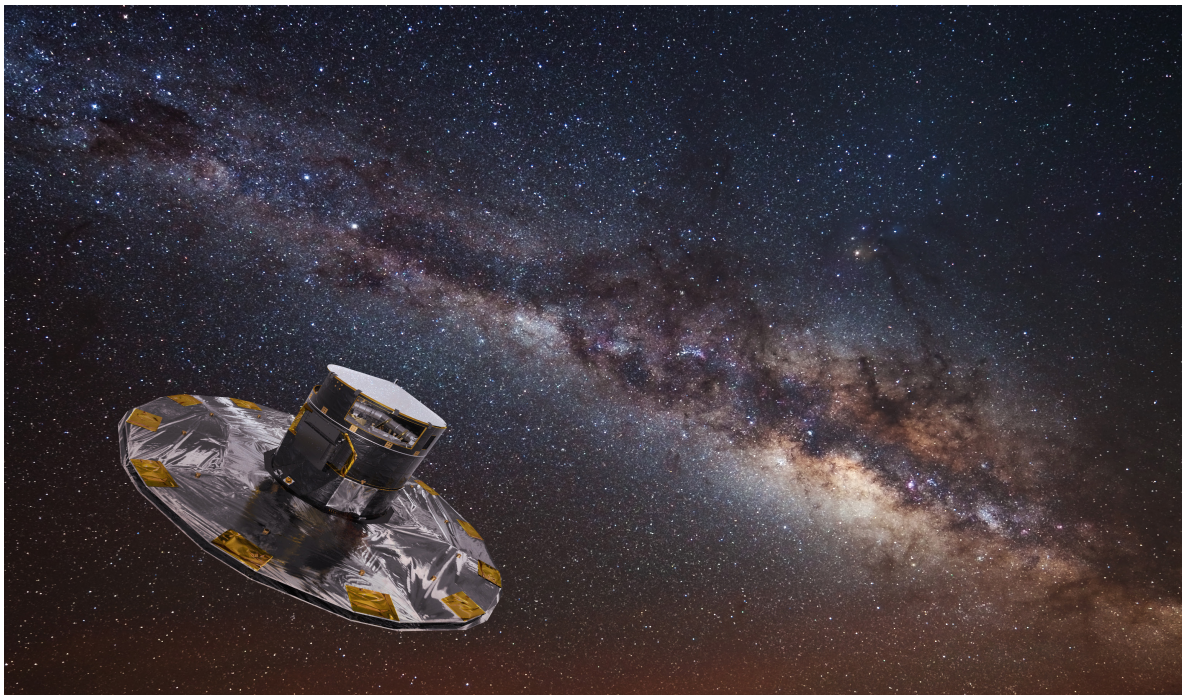
Boston University **Colloquium**



Dark Matter in Disequilibrium

September 18, 2018
Tuesday

3:30 - 4:30 PM
Refreshments at 3:00PM

SCI 109
590 Commonwealth Ave

Mariangela Lisanti
Princeton

The Gaia mission is in the process of mapping nearly 1% of the Milky Way's stars. This data set is unprecedented and provides a unique view into the formation history of our Galaxy and its associated dark matter halo. I will review results based on the most recent Gaia data release, which demonstrate that the inner Galaxy is dominated by the stellar remnants of a single massive satellite galaxy that merged with the Milky Way early on. These results suggest that a component of the local dark matter is not in equilibrium, as typically assumed, and instead exhibits distinctive dynamics. The updated dark matter map built from the Gaia data has ramifications for direct detection experiments, which search for the interactions of these particles in terrestrial targets.