The Role of Large Herschel Surveys in Galaxy Evolution and Cosmology

The Cosmic Infrared Background (CIB) contains the entire star-formation history of the Universe, with over half the light ever emitted from stars thermally re-radiated by warmed dust. However, determining its relationship to the optical/near-infrared-selected star-forming galaxies that make up the optical background has proven to be incredibly challenging.

Dr. Viero will outline state-of-the-art techniques designed to make this connection, and present the latest results from HerMES on the evolving physical properties of these infrared galaxies, including their redshift distributions, clustering properties, temperatures, and luminosity densities. He will show how these properties are intimately tied to their host galaxy stellar mass and redshift, and then summarize their implications for galaxy evolution and cosmology.

He will finish by presenting the Herschel Stripe 82 Survey (HerS), which was designed to leverage the rich set of ancillary data in the stripe to better answer these and other exciting questions.