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Titolo: "*Supernova vs. Host Galaxies Properties***"**

Descrizione: The search and characterization of transient events is fascinating research field in Astronomy. Supernova Diversity and Rate Evolution (SUDARE) is a survey targeting medium-redshift galaxies to discover supernovae, active galactic nuclei, quasars and new exiting transient events. Our research is focused on the catastrophic deaths of massive stars, which is a fundamental ingredient for understanding galaxy formation, cosmic chemical evolution, and the mechanisms which determined the efficiency of the conversion of gas into stars in galaxies at various epochs. The large field of view of 2.6m VLT survey telescope (VST) provides us the unique opportunity to obtain, at the same time, unprecedented Supernova statistics and unbiased nature of the host galaxies surveyed.
We expect to detect on average a dozen Supernova candidates on each VST image and, at the end of the survey, to collect light curves and colors for about 500 Supernovae.

The synergy between SUDARE and VOICE (VST optical imaging of the CDFS and ES1 fields) surveys will allow us to study some important properties of the Supernova host galaxies, including redshift, luminosity, morphology, star formation rate and stellar mass. This thesis project is focused on the characterization of the galaxy sample monitored by SUDARE survey. The role of the student will be to collect and analyse all ancillary data for the galaxies surveyed. The sky fields monitored by SUDARE have been already surveyed by Spitzer (SWIRE) and are the target of ongoing deep surveys: in the NIR (VISTA-VIDEO), MIR (Spitzer-SERVS) and FIR (Herschel-HerMES). GALEX (UV) and ATLAS (radio) data are also available. This will involve collaborating with VOICE group (Dr G. Covone and Dr M. Vaccari).

The students will experience the process of research as a creative intellectual activity and to acquire the basic skills of Supernova searches and galaxy surveys. They will gain an expertise on analysis of VST data and on the exploitation of archival data. S/he will have the chance to work with leading supernova observers and to carry out observations ESO La Silla and Paranal ESO Observatory.
The activity of the research group of Dr Della Valle is complemented by the collaboration with researchers at Osservatorio astronomico di Padova, Osservatorio astronomico di Arcetri and ESO (Garching).