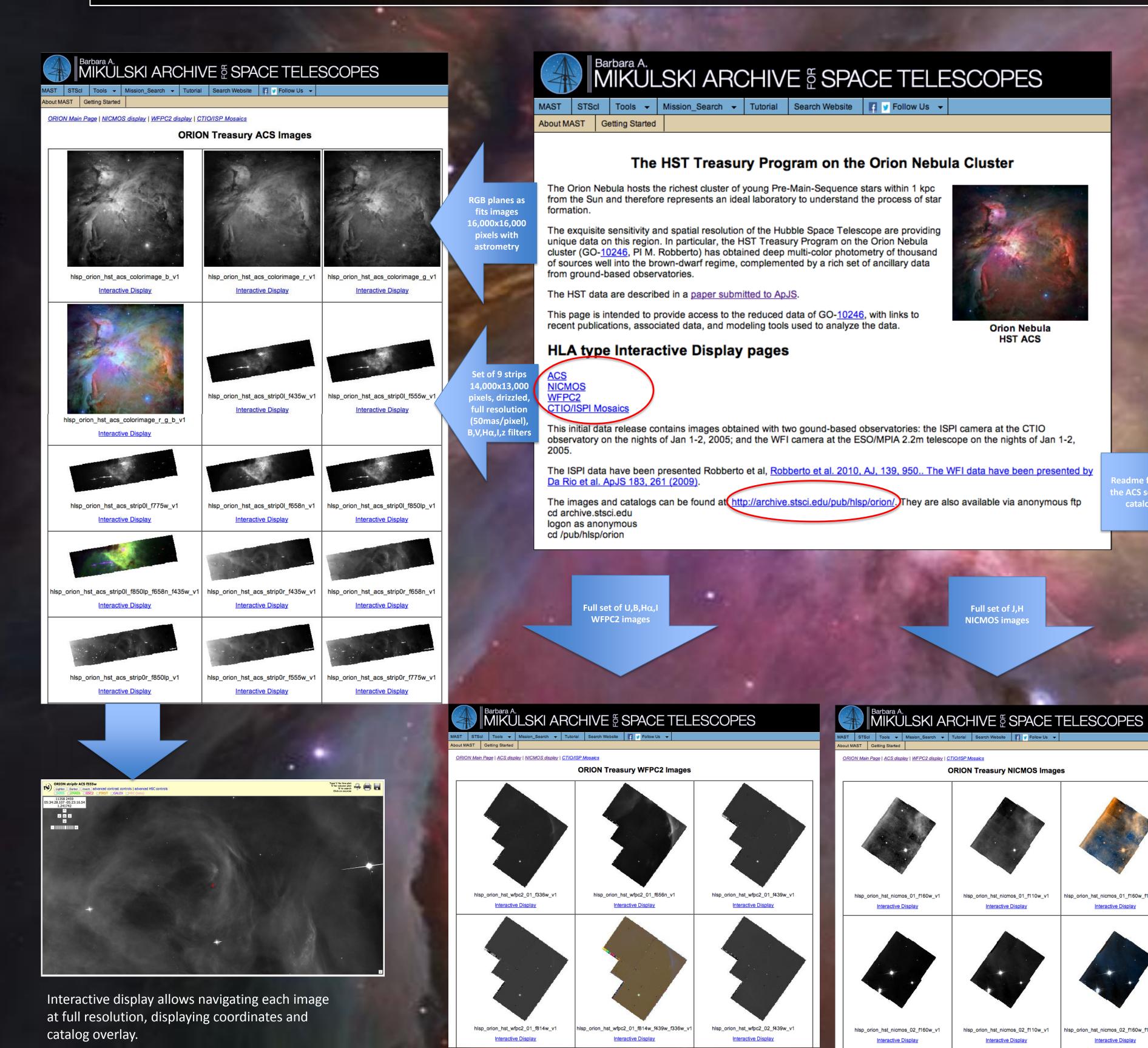# MINING THE HST SURVEY OF THE ORION NEBULA CLUSTER
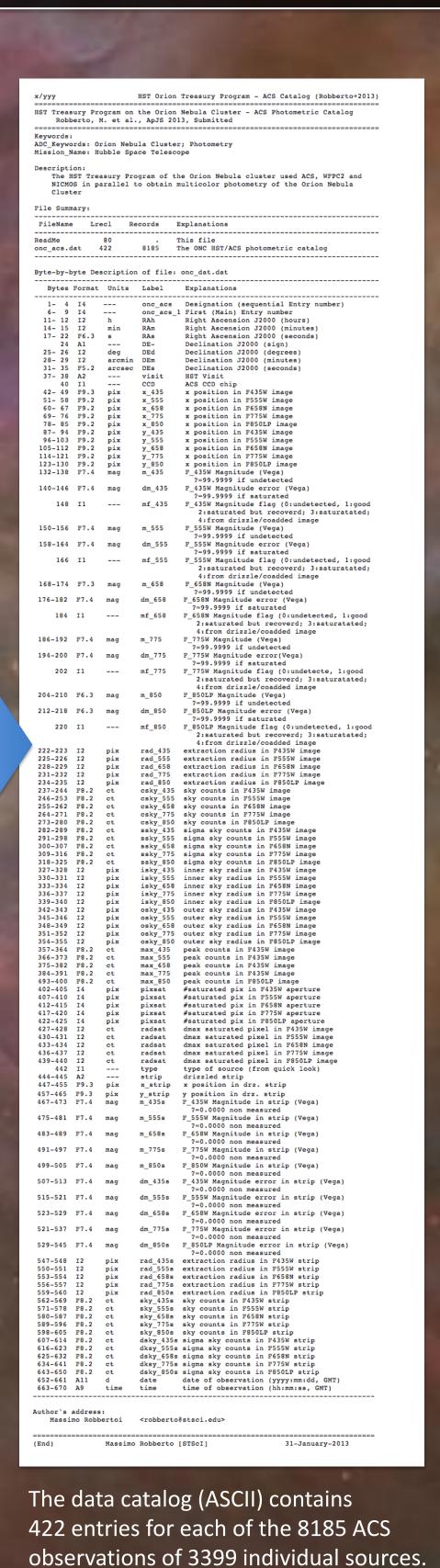
M. Robberto (STScI) & N. Da Rio (ESA/ESTEC) - *for the HST Treasury Program on the ONC collaboration*

The HST Treasury Program on the Orion Nebula Cluster

The Hubble Space Telescope (HST) Treasury Program on the Orion Nebula Cluster has used 104 orbits of HST time to image the Great Orion Nebula region with the Advanced Camera for Surveys (ACS), the Wide-Field/Planetary Camera 2 (WFPC2) and the Near Infrared Camera and Multi Object Spectrograph (NICMOS) instrument in 11 filters ranging from the U-band to the H-band equivalent of HST. The program has been intended to perform the definitive study of the stellar component of the ONC at visible wavelengths, addressing key questions like the cluster IMF, age spread, mass accretion, binarity and circumstellar disk evolution. The scanning pattern allowed to cover a contiguous field of approximately 600 arcmin^2 with both ACS and WFPC2 reaching a photometric depth AB(F435W) = 25.8 and AB(F775W)=25.2 with 0.2 magnitudes of photometric error.
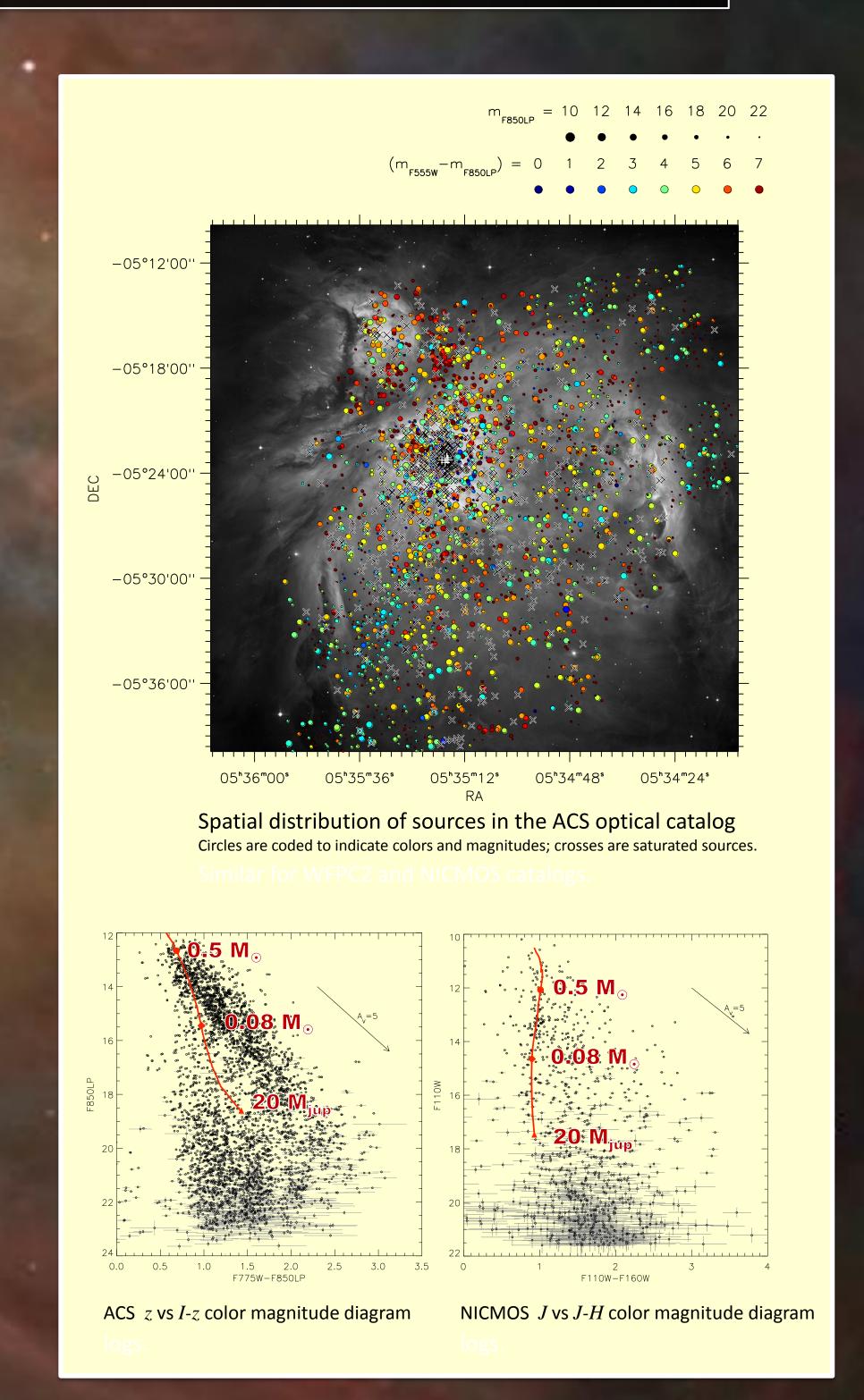
The paper Robberto et al. (2013, ApJSS 207, 10) describes the observations, data reduction and data products, including images, source catalogs and tools for quick look preview. In particular, source catalogs provide ACS photometry for 3399 stars, most of them detected at multiple epochs, WFPC2 photometry for 1643 stars, 1021 of them detected in the U-band, and NICMOS JH photometry for 2117 stars. The paper also summarize the early science results already published. The final set of images and the photometric catalogs are now publicly available through the archive as High Level Science Products at the STScI Multimission Archive hosted by the Space Telescope Science Institute. Here is a graphic description of how to access the data.

Spatial distribution of sources in the ACS optical catalog
Circles are coded to indicate colors and magnitudes; crosses are saturated sources.

ACS *z* vs *I-z* color magnitude diagram

NICMOS *J* vs *J-H* color magnitude diagram

The data catalog (ASCII) contains 422 entries for each of the 8185 ACS observations of 3399 individual sources. Similar for WFPC2 and NICMOS catalogs.

more information and links:
http://bit.ly/12Td3Ft

Interactive display allows navigating each image at full resolution, displaying coordinates and catalog overlay.

RGB planes as fits images 16,000×16,000 pixels with astrometry

Set of 9 strips 14,000×13,000 pixels, drizzled, full resolution (50mas/pixel), B,V,Hα,I,z filters

Readme file of the ACS source catalog

Full set of U,B,Hα,I WFPC2 images

Full set of J,H NICMOS images