

MYS_tIX: New insights into cluster star formation

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The formation of rich star clusters is poorly understood: Do they form quickly or slowly? Do they form as a coherent structure or by merging subclumps? How does OB stellar feedback affect the molecular environment? Progress has been slow in part due to the weakness of a stellar census in massive star forming regions inhibited by crowding, HII region nebulosity, and contamination by Galactic field stars. I describe a new project, Massive Young Star-Forming Complex Study in Infrared and X-ray that combines X-ray sources from the Chandra X-ray Observatory and infrared sources from UKIRT and Spitzer Space Telescope to produce a catalog of >30,000 young stars in massive Galactic star-forming regions at distances 0.4-4 kpc. Early empirical results based on this star sample include: diversity in star clusters morphology, dynamical relaxation, and mass segregation; clear evidence for dynamical expansion of clusters and possible evidence for subcluster merging; expected age gradients across star formation regions and unexpected age gradients within rich clusters.

**Refreshments @
3:30 in 202 NSH**