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Time: Wednesday 2:30 PM, July.4th   Location: A601, NAOC

A new look at clustered star formation
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Prof. Eric Feigelson is Professor of Astronomy & Astrophysics and of Statistics at Penn State University. Trained in X-ray astronomy under Riccardo Giacconi in the 1970s, he has focused he research on X-ray studies of Galactic star forming regions. He also promotes advanced statistical methods for astronomical research, co-organizing the Summer School in Statistics for Astronomers at Penn State since 2005, and giving student tutorials like the East Asian Workshops in Astrostatistics. He is the inaugural President of IAU Commission B3 Astroinformatics and Astrostatistics, Statistical Editor of the American Astronomical Society Journals, and Editor of the Astrostatistics and Astroinformatics Portal.

Abstract

The origins of rich star clusters in giant molecular clouds 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 outline several intertwined projects (MYStIX, SFiNCs, MOXC) , that combine X-ray sources from the Chandra X-ray Observatory with infrared sources from UKIRT and Spitzer Space Telescope to produce a catalog of ~50,000 probable young stars in massive Galactic star-forming regions at distances 0.4-4 kpc. Results based on this star sample include: diversity in star clusters morphology, dynamical relaxation, and mass segregation; clear evidence for dynamical expansion of clusters; expected age gradients across star formation regions and unexpected age gradients within rich clusters.
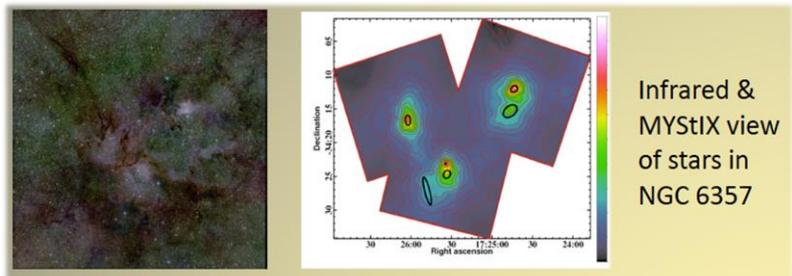
All are welcome ！Tea and coffee will be served at 2:15 PM.