

Chat Hull (CfA/NRAO)

VLA Observations of Star-Forming Filaments in the Perseus Cluster

Magnetic fields play a role in the star formation process across vastly differing spatial scales, from protoplanetary disks to protostellar cores to molecular clouds to galaxies and beyond. Focusing on the "beyond": I'll discuss recent VLA observations of the Perseus cluster, where, with the help of NRAO imaging and reduction gurus, we are on a quest to detect synchrotron emission from the famous H-alpha filaments surrounding NGC 1275, the BCG/cD galaxy of the Perseus Cluster. (NGC 1275 also harbors the famous AGN 3C84, beloved by radio astronomers throughout the cosmos.) While the H-alpha images are the best known, the filaments have been observed across the wavelength spectrum, from X-rays to the millimeter, and are the only known regions where star formation is effectively occurring **outside** of a galaxy. Our VLA observations will help us tackle a number of questions about extragalactic star formation in exotic environments, the role of magnetic fields in the filaments' formation, and the formation of the most massive galaxies in the Universe.