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**Presentation Requested: oral**

**Category: Role of AGN in Galaxy Evolution in the ALMA Era**

**Question:** How does the AGN fraction evolve with redshift and in what types of galaxies? What is the contribution of AGN to the bolometric luminosity and energy budget in galaxies over cosmic time? How can ALMA and other new facilities help address these questions?

## **Resolving the Obscured Cosmic Accretion History and Modes of Galaxy Assembly**

Dust obscuration has hidden at least half of the cosmic accretion activity and concealed the most intense sites of star formation during the peak epoch for both processes in galaxy evolution at  $1 < z < 3$ . Centimetric radio interferometry is the only means of identifying the AGNs and tracing star-forming activities at sub-arcsecond resolution, in an extinction-independent manner. This talk presents early results from two ultra-deep 4 – 8 GHz Jansky VLA (JVLA) radio observations at 0.3" resolution in the UDS and HUDF fields. The goals of these surveys are to combine the radio data with the existing panchromatic observations to produce a complete census of AGN and to spatially resolve the star-forming galaxies. The ongoing survey in the HUDF, in particular, will reach  $0.3 \mu\text{Jy}/\text{beam}$  RMS and will provide the definitive radio dataset for spatially-resolved, ultra-deep, broadband extragalactic studies until the SKA era. Our early results presented here will focus on the extinction-free morphology of SF and AGN in relation to their rest-frame optical and X-ray properties, the extinction-free AGN census out to  $z > 3$ , and the fraction of nucleated/extended SF at  $1 < z < 3$ .