

**BOSTON
UNIVERSITY**

**Boston University College of Arts & Sciences
Institute for Astrophysical Research**

2018 - 2019 ASTROPHYSICS SEMINAR SERIES

Processing in the Group Environment and the Coming Radio Revolution

The environment plays a key role in driving galaxy evolution. The most dramatic examples of this are seen in galaxy clusters, but galaxy groups are where the impact of environment is first felt. This has been teased out from large optical spectroscopic surveys of galaxies, but the atomic neutral hydrogen gas, observed through the 21 cm line in the radio, can reveal and provide insight to ongoing and past interactions in ways that are impossible to know from just observing the stellar content. I will set the stage by discussing how targeted HI observations combined with blind HI surveys such as ALFALFA have led us understand gas processing in groups and clusters. However, we are also on the verge of a new revolution in radio astronomy with several new facilities coming online in the next year. I will present an overview and new data from APERTIF, which will ultimately generate the largest collection of resolved HI galaxies in the northern hemisphere, and will provide an invaluable data set for revealing the nuanced impact of environment on the gas content of galaxies which is the fuel for star formation. By resolving thousands of galaxies in HI across different environments, and combining it with dedicated optical IFU spectroscopic follow-up, we will identify the physical mechanisms in individual galaxies which directly impact the optical tracers through which we infer galaxy evolution.



Monday, October 29th

3:30 - 4:30 p.m.

725 Commonwealth Avenue | Room 502



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