University of Wisconsin-Milwaukee

Dept. of Physics
COLLOQUIUM

The Milky Way & Magellanic Clouds as Laboratories for Understanding the Evolution of Galaxies

Naomi McClure-Griffiths
The Australian National University

Friday, 26 April 2019
3:30 PM (coffee/cookies at 3:15 PM)

Lapham Hall – Room 160

Galaxies are not closed box systems. Their evolution is impacted by gas accreted via inflow, gas lost from the disk via large-scale outflows and gas circulations via the halo. Many simulations of galaxy formation and evolution have highlighted the importance of feedback in reproducing the observable Universe. In this talk, I will present an overview of observational evidence for outflows within the Milky Way and Magellanic Clouds. Superbubbles, formed from the stellar winds and supernovae of up to hundreds of massive stars, these large-scale features dominate the observed structure of neutral hydrogen within the many galaxies. Superbubbles that grow as large as the gas layer can burst to create galactic outflows, which can circulate hot, enriched gas within a galaxy's halo and out of its gravitational potential to enrich the surrounding intergalactic medium. The Milky Way and Magellanic system have many spectacular examples of gaseous outflows, which we are able to study with physical resolution unmatched anywhere else in the Universe. In this talk I will give an overview of how superbubbles develop and break out to form galactic outflows. I will describe how atomic hydrogen emission data of the nearest galactic systems is helping us to understand how galaxies evolve.

UNIVERSITY of WISCONSIN
UWMILWAUKEE