BOSTON UNIVERSITY

# Astrophysics Seminar
# Monday, November 16, 2015

## The Origins and Implications of Turbulence in Galaxies

**3:15 pm**
Refreshments
CAS Room 500

**3:30 pm**
Seminar
CAS Room 502


## Dr. Blakesley Burkhart

*Harvard-Smithsonian Center for Astrophysics*
*Einstein Fellow, Joint ITC/SMA Fellow*
*Institute for Theory and Computation (ITC)*



### Abstract:

Magnetic fields and turbulence are vital components in galactic processes, including cosmic ray transport, ISM structure formation and star formation. However turbulence is difficult to measure observationally and the role of simulations is vital for both testing theories of ISM turbulence and gauging observational diagnostics via synthetic observations. In this talk I will discuss the origins of turbulence in galaxies, and its connection to the star formation process, both from observations and the Illustris AREPO cosmological simulation. I will also highlight how turbulence can be measured in spectral line observations of molecular clouds and diffuse gas in galaxies in order to constrain and test simulations as well as obtain important properties of turbulence such as the injection scale, spectral index and Mach number.


### Next Week

- *Karin Oberg*
  *Harvard University*
- The Chemistry of Planet Formation

http://www.bu.edu/iar/seminars/current-seminars/

INSTITUTE for ASTROPHYSICAL RESEARCH · BOSTON UNIVERSITY · I·A·R

725 Commonwealth Avenue
Boston, MA 02215