

# *Colloquium*

**Department of Physics**

**Not Your Mother's Milky Way: Lumpy Halo, Wiggly Disk**

Heidi Newberg

*Department of Physics, Rensselaer Polytechnic Institute*

## **Abstract**

Fifteen years ago I tried to measure the shape of the Milky Way, and discovered that the halo of our galaxy is full of dwarf galaxies being ripped apart by the gravity of the Milky Way into tidal "streams" of stars, some of which encircle our galaxy. These tidal streams of stars could be our best opportunity to determine the distribution of dark matter in the Milky Way - including its general shape and whether it is lumpy. I will present new results showing that the midplane of the Milky Way's stellar disk does not stay in a flat plane as previously believed. The observed oscillation of the disk midplane could be the result of dwarf galaxies and/or dark matter "subhalos" passing through the disk. These Milky Way satellites could even drive our galaxy's spiral structure.

**Monday, February 23, 2015 at 3:00pm**

**SERC, Room 110A**

**Refreshments served at 2:45pm**