



## ASTROPHYSICS SEMINAR SERIES

**“How to make a Milky Way -- The Continuing Story”**

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**Monday, September 24, 2012**

**Refreshments at 3:30pm in CAS 500**

**Talk begins at 4:00pm in CAS 502**

### Abstract:

The first part of the talk is about the Green Bank 100-meter diameter radio telescope, its dramatic origin in the collapse of the 300-foot telescope, and its unique capabilities. Some of its recent scientific programs include the search for gravitational radiation, study of Mercury's molten core, discovery of new organic molecules in interstellar space, and topics in the growth and evolution of galaxies.

The second part of the talk will expand on the topic of the evolution of galaxies. Many spiral galaxies are surrounded by in falling clouds of gas that add to their mass and fuel star formation over time. We have discovered that there is a large cloud containing several million solar masses of gas in the process of merging with the Milky Way. It will hit the disk in a few tens of Myr. This object may be part of a much larger stream, pieces of which are now already in the Galactic disk. Its origin is still quite uncertain. Also of uncertain origin are the hydrogen clouds recently discovered with the GBT between the galaxies M31 and M33. They may result from tidal interactions in the Local Group, rather than in fall of fresh material.