

# Colloquium Notice

## Hector Arce

**American Museum of natural History**

### *Outflows from Young Stars and their Influence on the Star Formation*

Stars form deep inside clouds of dense dust and gas. Most of the optical light from the nascent stars cannot escape from these clouds, making the star formation process practically invisible to even the most powerful optical telescopes. It was not until recent advances in radio, millimeter, and infrared detectors, over the last 30 years, that important observational progress was made in our understanding of the star-formation process. However, much more progress is needed.

Understanding the star formation process is essential to astrophysics, as it will give us an insight on how the Earth and Sun formed, and will also help us better understand the early universe and the formation of galaxies. I will talk about one of the most important, and yet still poorly understood, stages of the star forming process --the mass outflow stage. As stars form inside molecular clouds, they gravitationally gather gas from their surrounding gaseous environment and disk, while at the same time they energetically spurt out vast amounts of mass in a bipolar flow. Outflows deposit energy and momentum into their surroundings and have a considerable impact on the dynamics, distribution, and chemical composition of the gas in star forming clouds. I will discuss the physical and chemical impact outflows have on the star formation environment.

Wednesday

**March 7, 2007**

Starts at 12:15 PM

Coffee at 12:00 PM

Physics Conference Room, SB B326