



*The Virginia Tech Physics Department presents the following colloquium:*

Dr. Vy Tran (Leiden Observatory and the Harvard-Smithsonian  
Center for Astrophysics)

***“Cosmic Collisions: Forming the Most Massive  
Galaxies in the Universe”***

**Abstract:**

With the advent of 8-10 meter optical telescopes, multi-wavelength instruments, and space-based observatories, observational astronomy has made extraordinary progress in the past decade. We are now able to study galaxies from when the universe was less than a billion years old to now. However, connecting the points in the timeline to understand how galaxies form and evolve remains a fundamental question in modern astronomy. The standard theoretical paradigm of hierarchical assembly requires that galaxies form via continuous merging of younger, less massive components, but this conflicts with the vast majority of current observations. A viable solution that is gaining support is the merging of galaxies that are already massive and old. I will present examples from my research that conclusively show how many galaxies, in particular the ones that are a hundred times more massive than our own Milky Way, form via galaxy-galaxy merging.

**Friday, September 1, 2006  
210 Robeson Hall  
2:30 P.M.  
(Refreshments will be served at 2:15)**

