

**ATS/CIRA Colloquium**

**Laura Pan**

**Visiting ATS from NCAR**

**Observational Studies of the Coupling between Dynamics and Chemistry in the Upper Troposphere and Lower Stratosphere (UTLS) from Recent Field Campaigns**

**Hosted by Thomas Birner**

**Friday, May 9, 2014**

**ATS room 101; Discussion will begin at 11:15am  
Refreshments will be served at 10:45am in the weather lab**

The upper troposphere and lower stratosphere (UTLS) is a region of complex dynamical, chemical and radiative characteristics, with strong gradients in trace species and enhanced climate sensitivity to changes in water vapor, ozone, aerosols and clouds. The observational studies of this region highlight the complementary relationship between dynamical meteorology and atmospheric chemistry. The knowledge of the dynamics from the global scale to processes in the storm scale is essential for understanding the chemical composition. Conversely, the chemical observations provide unique insight into the dynamical systems. Using results from a number of field campaigns, I will discuss how chemical observations help improve our concept of the global tropopause, and how convective transport studies provide new insight into the dynamics of storms. I will use examples from a number of field campaigns, including the Stratosphere-Troposphere Analyses of Regional Studies (START08), Deep Convective Clouds and Chemistry (DC3) experiment, Airborne Tropical Tropopause Experiment (ATTREX), and the Studies of Emissions and Atmospheric Composition, Clouds and Climate Coupling by Regional Surveys (SEAC4RS). I will also present the initial highlights of a recent field campaign in the western Pacific, CONvective Transport of Active Species in the Tropics (CONTRAST).

Link to colloquium videos and announcement page: <http://www.atmos.colostate.edu/dept/colloquia.php>