

ATS/CIRA Colloquium

Wen-Chau Lee

**Visiting ATS from the National Center for Atmospheric Research/
Earth Observing Laboratory**

**Probing Precipitation, Cloud, and Clear Air
Using EOL Remote Sensing Facilities**

Hosted by Michael Bell

Friday, Sept. 8, 2017

ATS room 101

Discussion will begin at 11:15 a.m.

Refreshments will be served at 10:45 a.m. in the weather lab

Probing precipitation, cloud, and clear air using remote sensing instruments has enabled and advanced our understanding of mesoscale phenomena and high impact weather. The Remote Sensing Facility (RSF) of the National Center for Atmospheric Research/Earth Observing Laboratory (EOL) has a long history of developing, operating and deploying radars and lidars in the past 40 years to serve the National Science Foundation funded investigators. The rich history of RSF that influenced the radar community and US national radar network (Doppler and dual-polarization) will be briefly reviewed. The main focus of this talk will be on RSF's current remote sensing capabilities and illustrating scientific achievement from data collected in recent field experiments. The advancement in multiple-frequency measurements in the same (or comparable) sampling volumes opened the doors to retrieve atmospheric moisture profiles and liquid water content within clouds. Developing low-cost water vapor DIAL in RSF permitted a vertical water vapor profile to be obtained every ~5 min. By looking into the future, EOL plans to develop airborne phased array radar with dual-Doppler and dual-polarization capabilities to replace the current airborne tail Doppler radars and explore the possibility to add temperature profiling capability to the existing water vapor DIAL system.

Bio

Wen-Chau Lee is Senior Scientist and Manager of the Remote Sensing Facility at the National Center for Atmospheric Research/Earth Observing Laboratory.

Link to colloquia page: <https://www.atmos.colostate.edu/colloquia/>