

CGD SEMINAR



PLEASE NOTE DATE AND TIME

DATE: Thursday, 29 October 2009

TIME: 10:30 a.m.

LOCATION: Mesa Lab, Main Seminar Room
NCAR, 1850 Table Mesa Drive

SPEAKER: Steve Klein, PCMI, LLNL

TITLE: Investigating the diurnal cycle of convection over land using long-term observations at the ARM Oklahoma site

ABSTRACT:

Climate models poorly simulate the diurnal cycle of cloud and precipitation over warm land. In particular, they often simulate the maximum in convective precipitation near midday instead of at sunset as observed. This reflects the difficulty models have simulating the growth of clouds from shallow convection to deep convection. In this talk, an analysis of observations from the ARM Oklahoma site is presented that defines the environmental factors that promote the transition of midday shallow convection to late afternoon deep convection. Key environmental factors which emerge from the observational analysis are the relative humidity 2 to 4 kilometers above ground and mesoscale boundary layer variability. Also presented will be a preliminary analysis of cloud-scale vertical velocities and cumulus mass fluxes in shallow cumulus clouds retrieved from the ARM cloud radar.