

ATS/CIRA Colloquium

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**Fine-scale dynamical and microphysical processes of
snowfall from shallow orographic clouds**

Hosted by Russ Schumacher

Friday, May 8, 2015

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

Light snowfall often falls over mountains long after deep frontal disturbances have passed. We use high-resolution profiling radar observations over Colorado and Wyoming, as well as numerical simulations, to explore mechanisms of such persistent precipitation from rather shallow clouds. These clouds are often convective, in which case they tend to deposit relatively more snow on the lee side of mountains, compared to stratiform clouds. Strong winds are often present and the associated boundary-layer turbulence itself may enhance snowfall in mixed-phase clouds. Radar observations show how supercooled liquid clouds over the mountains, with relatively high cloud top temperatures for significant heterogeneous ice initiation, may be glaciated by blowing snow particles from the ground up. Neither snow growth by BL turbulence nor the injection of ice crystals from below are represented in operational weather prediction models.

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