

# *The RAL Seminar Series*



**NCAR**

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## **Mid-Latitude Cyclons: Mesoscale and Microscale**

by

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*Foothills Lab, Building 2, Auditorium, Room 1022, 3:30 p.m.*

The treatment of clouds in global models is known to result in large uncertainties in the prediction of future climate and weather. It is clear that we require better understanding of cloud physical processes, from the microphysical treatment of ice formation and growth to the mesoscale dynamical forcing of these systems, and the means to critically evaluate our models that encapsulate that knowledge.

In this talk I will present results from compositing satellite observations of hundreds of mid-latitude cyclones. Their mean structure and variability will be discussed with particular emphasis upon cloud properties as a function of cyclone strength and water vapor path. Moving down in scale, a brief description of the scalability of ice particle size distributions measured in mid-latitude cyclones and how this approach can be applied to models will be given. Finally, at the smallest scale, a thirty year old problem is tackled: what does the ice self collection kernel look like?