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Visiting from JAMSTEC/Japan

**Impact of Chikira-Sugiyama cumulus scheme in climate
and variability**

Hosted by Dave Randall

Thursday, April 18, 2013

**ATS room 101; Discussion will begin at 3:30pm
Refreshments will be served at 3:00pm in the weather lab**

A cumulus scheme developed in Chikira and Sugiyama (2010) is an offshoot of the prognostic Arakawa-Schubert scheme. But it is characterized by state-dependent entrainment rate based on Gregory (2001) and a spectral representation of cloud types according to cloud base updraft velocity. The scheme naturally represents the effect of free-tropospheric humidity on deep convection through the vertical variation of the entrainment rate without any empirical triggering schemes. A series of papers have been published on the impact of this scheme in one of Japanese GCM (MIROC5). They showed significant improvements both in climatology and variability which ranges from the double ITCZ, equatorial waves, monsoon and ENSO. In this talk, I will pick up highlights from these papers and discuss the future subjects. I will also give a brief introduction of my studies as a visiting research scientist at CSU.

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