

HyARC-SELIS Seminar (HyARC Seminar#155)

Date: July 18 (Thursday) 15:00-

Room: Conference Hall (1F) of Institute for Advanced Research

Speaker: Dr. Z. JOHNNY LUO (City College of New York, CUNY)

Title: Use of A-Train Observations to Study Convective Dynamics: From the Core to the Outflow

Abstract:

A-Train constellation provides a suite of synergistic passive and active observations of clouds. While the original purpose of the passive-active synergy was to improve retrievals of cloud radiative and microphysical properties, they have also spurred the development of innovative analysis methods and new concepts that go beyond just remote sensing algorithm development. The unique data collected have led to novel applications that enable us to probe the underlying cloud dynamical processes from a global perspective. This talk will use a few examples from the authors' recent publications to illustrate how A-Train observations can be used to understand convective dynamics, including 1) convective buoyancy and entrainment rates associated with the convective core, 2) level of neutral buoyancy as inferred from convective outflow, 3) and comparison between observations with parcel theory predictions. These new analysis tools will facilitate the use of satellite observations to evaluate GCM cumulus parameterizations.