Contribution ID: **17** Type: **Invited talk**

Growth, destruction, and expulsion of dust in galaxies

Monday, 11 June 2018 10:00 (35 minutes)

Physical properties of interstellar dust (e.g., dust-to-gas ratios) are observed to be quite diverse in galaxies with different masses and types. I will discuss the origin of these diverse dust properties based on the latest results of galaxy-scale hydrodynamical simulations of galaxies with dust physics. I will particularly discuss how dust growth processes in interstellar medium (ISM) depends on the physical properties of ISM, dust-related physical processes (e.g., photo-electric heating and radiation pressure of stars on dust grains), global galaxy-scale dynamics. I will demonstrate that the formation of molecular hydrogen and dust growth in cold molecular clouds is strongly coupled. I will also show the masses of galaxies and galaxy interaction/merging can significantly influence the dust growth processes in ISM. I will briefly discuss how radiation pressure of young stars on dust grains can influence the evolution of dust in galaxies.

Consider for a poster?

Presenter: Prof. BEKKI, Kenji (University of Western Australia)

Session Classification: Non-stellar dust production and the dust cycle in the ISM

Track Classification: The creation and evolution of dust