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MONDAY, MARCH 16TH



Dr. Nadar Haghighipour

University of Hawaii-Manoa

4:00 PM in TH 411

Refreshments served at 3:50 PM

Terrestrial Planets' Formation in the Context of Giant Planet Migration

Abstract:

Recent efforts in explaining the formation of planets in the inner solar system, in particular the origin of Mars, have profoundly altered our views of the formation and evolution of terrestrial planets. The two current models that have successfully accounted for the formation of Mars suggest that Mars formed in a protoplanetary disk where the distribution of solid material contained non-uniformities. One model attributes these non-uniformities to the migration of Jupiter and Saturn, whereas the other assumes that the protoplanetary disks are naturally inhomogeneous.

These assumptions have led to two major questions: 1) Is Mars evidence to giant planet migration, or 2) can Mars (and other terrestrial planets) form without the migration of giant planets? I will present the recent results on this topic and discuss models of terrestrial planet formation in which Mars and other planets in the inner solar system can form without drastic migration of giant planets.