Astrophysics Seminar

PLANET FORMATION IN THE AGE OF *KEPLER*: PLUTO RETURNS TO THE FOLD

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For centuries, the Solar System provided the main clues to the origin of planets. Currently, discoveries of extrasolar planets are expanding our understanding of the formation and diversity of planetary systems. I will begin with an overview of the standard model of planet formation, core accretion theory. I will emphasize the crucial first step of planetesimal formation. A discussion of the remnant planetesimals in the Kuiper Belt naturally leads to the much maligned Pluto system. I will describe dynamical insights from the recently discovered moons of Pluto. Since the Pluto system is dominated by the Pluto-Charon binary, I will establish a connection with the Tatooine-like circumbinary planets being discovered by *Kepler.* A particularly interesting case is the recently discovered *Kepler* 47 system, the first with multiple circumbinary planets. Both our Solar System and distant worlds continue to inform our understanding of planet formation and evolution.

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