

## *The Solar System Beyond Pluto*

The dynamical and physical properties of small bodies in our solar system offer one of the few constraints on the formation, evolution and migration of the planets. The recent advent of sensitive, wide-field digital detectors on large class telescopes are allowing us to complete the inventory of our solar system and obtain detailed knowledge about the small bodies it contains. I will discuss the recent results we have made through our ongoing very wide and deep solar system survey with a focus on the discovery and characterization of objects beyond Neptune and what they are telling us about the formation and evolution of our solar system.

Scott S. Sheppard is an astronomer at the Carnegie Institution for Science in Washington, DC. He obtained his PhD from the University of Hawaii. Scott studies small bodies in our solar system in order to understand how the planets formed and migrated. If Guinness World Records had a record for the most moon discoveries, Sheppard would hold it as he has discovered over 100 moons around Jupiter, Saturn, Uranus and Neptune. Sheppard also discovered the first Neptune Trojan that trails behind Neptune in Neptune's orbit as well as several dwarf planets that reside beyond Neptune. The asteroid 17898 Scottsheppard as well as three comets are named after him. Sheppard was lead discoverer of the most distant object ever observed in our solar system, 2018 VG18. In 2014, Sheppard along with colleague Chad Trujillo noticed all the extremely distant known small bodies have similar orbits. From this observation, they predicted a Super-Earth mass planet likely exists in our solar system some ten times further out than Pluto and it is shepherding these extremely distant smaller objects into their similar orbits.



Dr. Scott Sheppard

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