Quick L. C. Adams E. Barr A. C. 
Propects for Detecting Cryovolcanic Activity in Exoplanetary Systems [#8036] poster presentation
We consider prospects for the detection of explosive cryovolcanism on cold, water-rich exoplanets by next-generation space telescopes.

Milam S. N. Hammel H. B. 
Planetary Science with Next Generation Large Astrophysics Missions [#8210] poster presentation
Next generation airborne and space-based telescopes will work in concert with future in situ missions and large ground-based facilities to address key questions of molecular inheritance throughout star and planet formation to our solar system.

Brenker F. E. Vincze L. Prior D. J. 
Laboratory Studies of Extraterrestrial Ices — Sample Return from Icy Bodies [#8122] poster presentation
A comprehensive analytical study of ices in laboratories on Earth is fundamental for the understanding of the formation and evolution of our solar system. We predict that ice sample return will be one of the most important and exciting challenges.

Danielson L. R. Draper D. Righter K. McCubbin F. Boyce J. 
Planetary interiors hold the key to planetary origins via accretionary and early differentiation processes. Our vision is to establish a 5000 ton press open user facility that will serve the planetary science and the greater scientific community.

Rymer A. M. Turtle E. P. Hofstadter M. D. Simon A. A. Hospodarsky G. B. 
‘It Takes a Village.’ Collaborative Outer Planet Missions [#8199] poster presentation
How an Ice Giant mission could represent numerous research targets. The case for cross disciplinary collaboration and how to enable it.

Bottke W. F. Nesvorny D. Marchi S. Levison H. Canup R. 
Exploring Planet Migration and Early Solar System Bombardment [#8137] poster presentation
Understanding planet migration and early bombardment are key Decadal Survey goals because they define the nature of many solar system worlds. Both can be constrained by dating ancient terrains, basins, and craters found on the Moon and Mars.

Oleson S. R. Landis G. A. 
Triton Hopper: Exploring Neptune’s Captured Kuiper Belt Object [#8145] 
Neptune’s moon Triton is a fascinating object, a dynamic moon with an atmosphere and geysers. This work will describe the mission options to get to Triton and design of an ISRU propellant supplied hopper to explore large parts of Triton.

Priority Science Targets for Future Sample Return Missions Within the Solar System Out to the Year 2050 [#8224] 
This abstract highlights some of the priority science targets for future sample return missions over the next 35 years and some of the sample handling and storage challenges that would arise if such samples were to be collected and returned to Earth.
Advanced Curation Activities at NASA: Preparing for the Next Waves of Astromaterials Sample Return

We discuss the current curatorial efforts for NASA’s astromaterials collections, as well as efforts that are underway (or need to be undertaken) to prepare for the challenging curation conditions required by future sample return missions.

The Future of Planetary Atmospheric, Surface, and Interior Science Using Radio and Laser Links

Radio science experiments have been conducted on almost every planetary mission in the past five decades and led to numerous discoveries. More science breakthroughs are expected that fit Planetary Vision 2050 themes with described technical advances.

The GSFC Exoplanet Modeling and Analysis Center

The GSFC Exoplanet Modeling and Analysis Center is meant to provide an accessible platform for the planetary atmosphere modeling and analysis community to host their software for modeling and interpreting current and future NASA exoplanet data.

Science at a Variety of Scientific Regions at Titan Using Aerial Platforms

Titan has an abundant supply of organic species and could harbor exotic forms of life. Aerial platforms are ideal for performing reconnaissance and in situ analysis. We describe a range of vehicles in development for exploring Titan.

Origins and Life, the Next Steps Beyond the Initial Survey of Our Solar System

A plan and outline for the next decades of solar system exploration to address key questions regarding the origin of the planets and life. Comparative study of the composition of the planets and small bodies will be advocated.