Kelly H. S.  Parness A. J.  Boston P. J.
_Lava Tube Exploration Robot and Payload Development_ [#9027]
Merging science and engineering from the ground up to co-develop a comprehensive instrument/robot package for exploration of and scientific data collection within lava tubes that target analog sites on the Moon and Mars.

_Near-IR Reflectance Spectra in a Lava Tube Cave from a Robotic Platform_ [#9032]
We present preliminary field measurements of biovermiculations and other mineral deposits made at a lava tube cave in El Malpais National Monument, NM, using a rock climbing robot equipped with a near-infrared point spectrometer.

Okubo C. H.  Cushing G. E.  Titus T. N.
_Mapping the Cave and Dike Structure Below Wood Valley Pit Crater, Kīlauea Volcano, Hawai‘i_ [#9005]
This paper presents the results of mapping within the Wood Valley pit crater and cave system. This work provides novel details into the process of pit crater formation and illustrates key hurdles for exploration of these systems on other planets.

Hong IS.  Cho E.  Yi Y.  Yu J.  Haruyama J.
_3D Printed Structure of Lacus Mortis Pit Crater with Assumption of Cave Underneath_ [#9015]
In this study, under the assumption of the existence of a cave in Lacus Mortis pit, a 3D model was developed based on the optical image data. Since this model simulates the actual terrain, the rendering of the model agrees well with the image data.