

IAF SPACE EXPLORATION SYMPOSIUM (A3)
Moon Exploration – Part 2 (2B)

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ILOA 2018 UPDATE: TWO MAIN MISSIONS, TWO PRECURSORS, GALAXY FORUM

Abstract

The International Lunar Observatory Association, a 501(c)(3) non-profit based in Hawaii "to expand human understanding of the Cosmos through observation and communication from our Moon", is approaching its 11th anniversary since its founding in November 2007 with two primary missions – the ILO-1 to the Moon's South Pole and the ILOA Human Service Mission (HSM) to the South Pole planned robotic village; and with two precursor missions – the Lunar Ultraviolet Telescope (LUT) aboard the China Chang'e-3 lander and ILO-X aboard a Moon Express first lander.

The ILO-1 spacecraft builder and landing enterprise, Moon Express Inc of Cape Canaveral, Florida, is contracted and collaborating with ILOA, to place the ILO-1 on one of several Malapert Massif locations with optimal mix of solar power reception and Earth observation for multi-object observation and Moon / Earth interglobal communication. ILO-1 instrumentation is contracted and developing with Canadensys Aerospace Corp of Toronto, Canada, which conducted a Lunar Electronics Program for ILOA in 2016-17 and now is conducting the Lunar Optics Program to complete a 2019 spaceflight-ready Optical instrument for the ILO-1. Both Canadensys and Moon Express have conducted major research on Malapert optimal landing sites and on advanced hazard avoidance and landing technology.

The ILOA Human Service Mission is accelerating in development towards the ILOA Galaxy Forum in December 2018 on China's southern-most Island Province of Hainan, from where China / International Astronauts may someday depart Wenchang Launch Center for the Moon. New HSM work has been discussed with Astrobotic Inc and others, and would build on pioneering Lunar Lander research coordinated 2011-2014 by Golden Spike Company with 8-10 other lunar technology enterprises, and conducted 2005-2006 by visionary innovator Space Dev Inc. The new USA / international / commercial Moon Return activities and missions of NASA provide one model and foundation with which other such initiatives and programs may align and interact.

A precursor lunar observatory mission continues since 2013 through ILOA collaboration with the NAOC LUT, enabling in-situ lunar-based astronomy experience and pioneering results, and continuing longtime potential operation with a power supply good until at least 2040. The Moon Express first lunar lander, should it not be at Malapert, would carry an ILO-X precursor instrument for Galaxy First Light Imaging, delivering the first view of the Milky Way / Galaxy Center from the Moon to the ILOA Galaxy Forum global network, advancing 21st Century education in every class.