

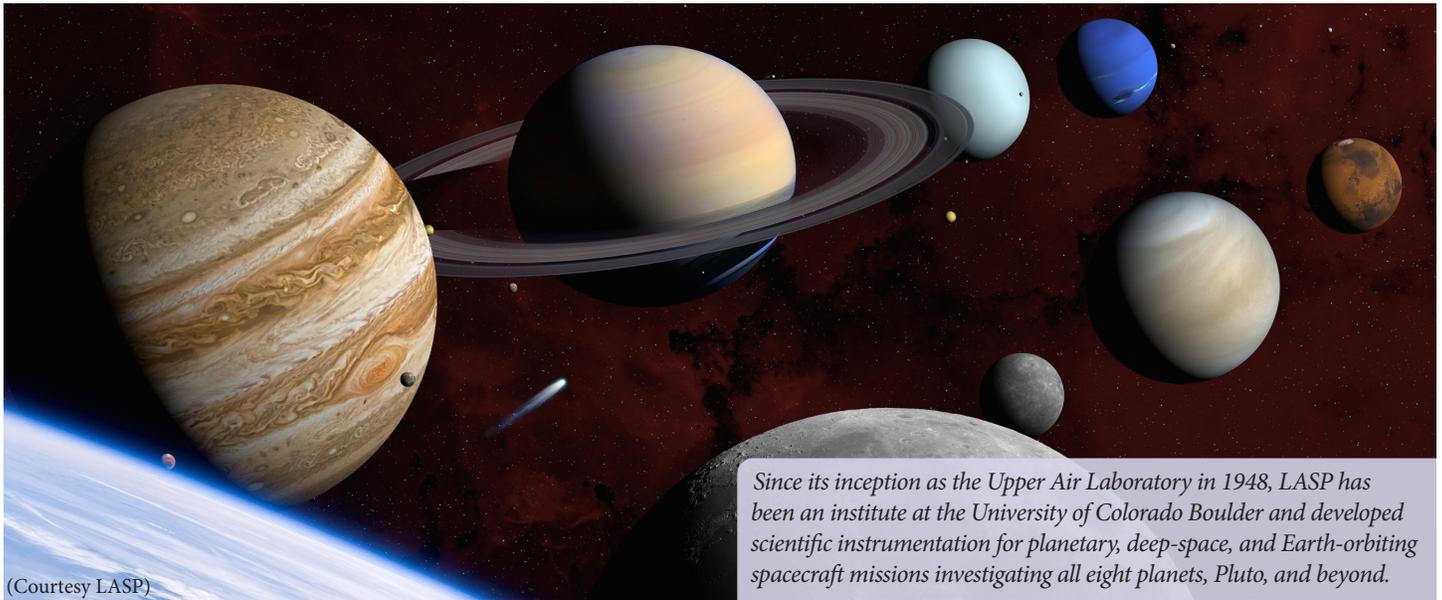
# CAPABILITIES

## The Laboratory for Atmospheric and Space Physics

A full-cycle research institute



Summer 2020



(Courtesy LASP)

Since its inception as the Upper Air Laboratory in 1948, LASP has been an institute at the University of Colorado Boulder and developed scientific instrumentation for planetary, deep-space, and Earth-orbiting spacecraft missions investigating all eight planets, Pluto, and beyond.

The Laboratory for Atmospheric and Space Physics (LASP) is a full-cycle space research institute, combining all aspects of space exploration through expertise in science, engineering, mission operations, data management, and education.

### Science drives exploration

Science drives what we do at LASP. With a focus on the solar system—including solar influences, astrophysics, atmospheric and planetary sciences, and space physics—LASP engages in both experimental and theoretical aspects of science. As part of a full-cycle institution, LASP scientists are fully involved in designing missions and instruments to answer key scientific questions.

### Engineering supports scientific endeavors

LASP's in-house engineers and facilities support the design and manufacturing of spacecraft and scientific instrumentation in support of scientific goals. The proficiency of the engineers, as well as the depth of their technical expertise and business system organization, mirror those of a small aerospace company; yet within an educational institution. The proximity of scientists and engineers at LASP maximizes scientific return by enabling dynamic, collaborative interaction and the exchange of ideas.

### Mission Ops retrieves, processes, and delivers data

To round out the full-cycle institution, the LASP Mission Operations & Data Systems (MO&DS) staff manage the day-to-day mission and scientific operations for numerous spacecraft and instruments. LASP is one of only a few university-based mission operations centers in the world. The data systems personnel ensure the delivery of scientific data to scientists and the public, continuing the cycle of space exploration.

## Current Accomplishments

**Research awards:** \$123.3M in FY 2019

**Employees:** 432 staff and 165 students

**LASP currently operates satellites or instruments for these missions:** AIM, CSIM, GOES, GOLD, MAVEN, MMS, New Horizons, Parker Solar Probe, SDO, THEMIS/ARTEMIS, TIMED, TSIS-1, Voyager

**LASP is funded to develop instrumentation or mission operations for these missions:**

**Explorer Class and larger:** CLARREO Pathfinder, Daedalus, EDA, Emirates Mars Mission, ESCAPE, Europa Clipper, GOES-T and U, IMAP, IXPE, Libera, LSITP, TSIS-2

**SmallSat:** AEPEX, CANVAS, CIRBE, CTIM, CUTE, INSPIRESat-1, INSPIRESat-4, SPRITE, VISORS

**Colorado economic impact:** 200 local suppliers

### Students are involved at all levels

LASP is committed to educating the next generation of space professionals. The laboratory employs University of Colorado Boulder undergraduate and graduate students to work in all aspects of LASP operations including science, MO&DS, engineering, and administration. A hands-on, real-life experience provides the groundwork to produce successful industry professionals that will carry on the future of space exploration.

For more about LASP, visit <http://lasp.colorado.edu>.

*The Laboratory for Atmospheric and Space Physics (LASP) combines all aspects of space exploration through our expertise in science, engineering, mission operations, and data management. As an institute at the University of Colorado Boulder, LASP includes students throughout our activities. Learn more at <http://lasp.colorado.edu>.*