



1400 West Mars Hill Road • Flagstaff, Arizona 86001-4499 • USA  
(928) 774-3358 • Fax (928) 774-6296 • www.lowell.edu

**About Lowell Observatory:** Lowell Observatory is a private, non-profit research institution founded in 1894 by Percival Lowell. Lowell Observatory is among the oldest observatories in the United States, and is a Registered National Historic Landmark. The Observatory's original 24-inch Alvan Clark Telescope is still in use today for public education. The trustee of Lowell Observatory is William Lowell Putnam, grandnephew of founder Percival Lowell.

**Location:** 1400 West Mars Hill Road, Flagstaff, Arizona; **Total Staff:** 80, including 20 Ph.D.s

**Capabilities:** Lowell Observatory currently operates four research telescopes at its Anderson Mesa site, east of Flagstaff, Ariz., including the 72-inch Perkins Telescope (in partnership with Boston University and Georgia State University) and the 42-inch John S. Hall Telescope. Lowell is a partner with the USNO and NRL in the Navy Prototype Optical Interferometer (NPOI) also located at that site. The Observatory operates smaller research telescopes at its historic site on Mars Hill and in Australia and Chile. Lowell Observatory is currently building the 4.3-meter Discovery Channel Telescope in partnership with Discovery Communications, LLC.

**Research:** Lowell Observatory's astronomers conduct research on a range of solar system and astrophysical topics using ground-based, airborne, and space-based telescopes. Among the current programs are: a search for planets orbiting other stars; investigations of the Kuiper Belt; a decades-long study of the brightness stability of the sun; and investigations of star formation and other processes in distant galaxies. In addition, the Observatory staff designs and builds instrumentation for use on Lowell's telescopes and elsewhere. For example, Lowell staff built a high-speed camera for use on the Stratospheric Observatory for Infrared Astronomy (SOFIA). SOFIA is a joint project of the United States and German space agencies and consists of a 2.5-meter telescope on board a Boeing 747 SP.

**Discovery Channel Telescope:** Lowell Observatory is building a major new telescope in partnership with Discovery Communications, LLC., near Happy Jack in Northern Arizona. The telescope, located within the Mogollon Rim Ranger District of the Coconino National Forest, will be the fifth largest in the continental United States and will allow Lowell astronomers to enter new research areas and conduct existing programs more effectively and efficiently. The DCT and the research it enables also will be the focus of ongoing informative and educational television programs about astronomy, science, and technology airing on Discovery networks. In addition, the Discovery Channel Telescope is expected to have a significant educational and economic impact within the state.

**Significant Discoveries:** The Observatory has an important role in the advancement of astronomy and our knowledge of the solar system and beyond, including significant discoveries such as:

- Large recessional velocities of galaxies by Vesto Melvin Slipher between 1912-14 (that led ultimately to the realization our universe is expanding);
- The planet Pluto by Clyde Tombaugh in 1930;
- Co-discovery of the rings of Uranus in 1977;
- The periodic variation in the brightness of Halley's Comet;
- The three largest known stars;
- Pluto's atmosphere;
- Gyrochronology – a means of determining the age of a star;
- Accurate orbits of Pluto's two new moons;
- Oxygen on Jupiter's satellite Ganymede;
- Carbon dioxide ice on three Uranian satellites;
- The first Trojan of Neptune; and
- First detection of water in the atmosphere of an extrasolar planet.