

Milestone Reached In Construction Of Discovery Channel Telescope

July 14 2005

Lowell Observatory and Discovery Communications broke ground yesterday on the versatile, 4.2-meter Discovery Channel Telescope.

With a phase-one cost of \$35 million, the telescope will be the fifth largest telescope in the continental United States and one of the most sophisticated ground-based telescopes of its size.

Today's groundbreaking is a major milestone on the path towards a new astronomical research era for the 111-year-old Lowell Observatory, and presents unique, far-reaching programming and educational opportunities for media industry leader and telescope sponsor, Discovery Communications.

The telescope site is located north of the U.S. Forest Service Happy Jack Ranger Station, Coconino National Forest. The agency issued the special use permit to build in this location. Forest Service officials will take part in a groundbreaking ceremony along with Lowell Observatory supporters, astronomers, and Discovery executives.

"Today's groundbreaking is one more important step towards the realization of a dream that began just over a decade ago when Lowell Observatory celebrated its centennial year," said Bob Millis, Director, Lowell Observatory.

"With this new telescope, Lowell astronomers will be equipped to continue cutting-edge research well into our institution's second century

and, through the magnificent programming capabilities of our partner, Discovery Communications, we will see the results of that research brought into living rooms and classrooms around the world," said Millis.

"Twenty years ago, Discovery Communications began its mission of enabling people to explore their world and satisfy their natural curiosity through high-quality real-world programming," said John S. Hendricks, Founder and Chairman of Discovery Communications.

"Today we are proud to advance that mission with the Discovery Channel Telescope. By significantly improving the exploration of our solar system and the universe beyond, Discovery and Lowell Observatory will bring the most exciting new discoveries found in our universe to millions of people around the globe."

Expected to be fully operational by 2010, the Discovery Channel Telescope will enable Lowell astronomers to enter new research areas and conduct many existing programs much more efficiently.

Among the telescope's numerous scientific objectives, the search for near-Earth asteroids, Kuiper Belt Objects, and planets orbiting other stars, will be substantially advanced.

The Discovery Channel Telescope will make it possible to identify potentially life-threatening near-Earth asteroids much sooner than the technology currently available.

Similar results are expected in the search for Kuiper Belt Objects, of which just over 1,000 have been identified and can range in size from that of large asteroids to objects potentially comparable in size to the planet Pluto.

The Kuiper Belt, the first objects of which were discovered in 1992, is a

sun-centered swarm of orbiting icy bodies extending from Neptune to as yet unknown distances.

The 4.2-meter telescope ultimately will have a significantly wider field of view than any currently existing telescope of its size, giving it the unprecedented ability to survey the sky at nearly eight times the capacity of the largest existing survey telescope.

In this wide-field mode, the DCT's ability to perform deep imaging surveys of the night sky will be unmatched.

This versatile telescope can be quickly converted to its alternative optical configuration, allowing it, unlike other pure survey telescopes, to be highly effective during bright phases of the moon.

Once operational, the DCT also will have real-time capability, allowing the images acquired by the telescope to be simultaneously broadcast to people around the world.

Currently, the design of the telescope's major optical and mechanical components is being refined. The 14-foot-diameter primary mirror blank will be completed in September by Corning, Canton, New York.

The access road to the Happy Jack site has been completed, and construction of the building for the Discovery Channel Telescope will begin in late summer.

Design currently continues on the following telescope components: optical system by Goodrich Corporation in Danbury, Conn.; facility and site design by M3 Engineering in Tucson, Ariz.; and the telescope mount by Vertex RSI in Richardson, Texas.

The camera that Lowell will design and build for the 4.2-meter telescope

will have 40 2K by 4K charge-coupled devices capable of acquiring enormous amounts of data from each exposure and has a two degree field of view.

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