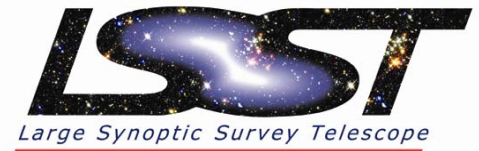


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## **LSST Receives \$30 Million from Charles Simonyi and Bill Gates**

The Large Synoptic Survey Telescope (LSST) Project is pleased to announce receipt of two major gifts: \$20M from the Charles Simonyi Fund for Arts and Sciences and \$10M from Microsoft founder Bill Gates.

Under development since 2000, the LSST is a public-private partnership. This gift enables the construction of LSST's three large mirrors; these mirrors take over five years to manufacture. The first stages of production for the two largest mirrors are now beginning at the Mirror Laboratory at the University of Arizona in Tucson, Arizona. Other key elements of the LSST system will also be aided by this commitment.

The LSST exemplifies characteristics Simonyi and Gates have exhibited in their successful lives and careers - innovation, excitement of discovery, cutting edge technology, and a creative energy that pushes the possibilities of human achievement. The LSST leverages advances in large telescope design, imaging detectors, and computing to engage everyone in a journey of cosmic discovery.

Proposed for "first light" in 2014, the 8.4-meter LSST will survey the entire visible sky deeply in multiple colors every week with its three-billion pixel digital camera, probing the mysteries of Dark Matter and Dark Energy, and opening a movie-like window on objects that change or move.

"This support from Charles Simonyi and Bill Gates will lead to a transformation in the way we study the Universe," said University of California, Davis, Professor and LSST Director J. Anthony Tyson. "By mapping the visible sky deeply and rapidly, the LSST will let everyone experience a novel view of our Universe and permit exciting new questions in a variety of areas of astronomy and fundamental physics."



**Charles Simonyi and Bill Gates have committed \$30M toward the completion of the LSST, scheduled to see first light atop Cerro Pachón in Chile in 2014. Further information about LSST can be found at [www.lsst.org](http://www.lsst.org). Image Credit: LSST Corporation**

The LSST will be constructed on Cerro Pachón, a mountain in northern Chile. Its design of three large mirrors and three refractive lenses in a camera leads to a 10 square degree field-of-view with excellent image quality. The telescope's 3200 Megapixel camera will be the largest digital camera ever constructed. Over ten years of operations, about 2000 deep exposures will be acquired for every part of the sky over 20,000 square degrees. This color "movie" of the Universe will open an entirely new window: the time domain. LSST will produce 30 Terabytes of data per night, yielding a total database of 150 Petabytes. Dedicated data facilities will process the data in real time.

"What a shock it was when Galileo saw in his telescope the phases of Venus, or the moons of Jupiter, the first hints of a dynamic universe" Simonyi said. "Today, by building a special telescope-computer complex, we can study this dynamism in unprecedented detail. LSST will produce a database suitable for answering a wide range of pressing questions: What is dark energy? What is dark matter? How did the Milky Way form?"

What are the properties of small bodies in the solar system? Are there potentially hazardous asteroids that may impact the earth causing significant damage? What sort of new phenomena have yet to be discovered? "

"LSST is just as imaginative in its technology and approach as it is with its science mission. LSST is truly an internet telescope, which will put terabytes of data each night into the hands of anyone that wants to explore it. Astronomical research with LSST becomes a software issue - writing code and database queries to mine the night sky and recover its secrets. The 8.4 meter LSST telescope and the three gigapixel camera are thus a shared resource for all humanity - the ultimate network peripheral device to explore the universe" Gates said. "It is fun for Charles and me to be a team again supporting this work given all we have done together on software projects."

"The LSST will be the world's most powerful survey telescope. This major gift keeps the project on schedule by enabling the early fabrication of LSST's large optics and other long-lead components of the LSST system," said Donald Sweeney, LSST Project Manager.

LSST is designed to be a public facility - the database and resulting catalogs will be made available to the community at large with no proprietary restrictions. A sophisticated data management system will provide easy access, enabling simple queries from individual users (both professionals and amateurs), as well as computationally intensive scientific investigations that utilize the entire database. The public will actively share the adventure of discovery of our dynamic Universe.

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More information about the LSST including current images, graphics, and animation can be found at <http://www.lsst.org>

In 2003, the LSST Corporation was formed as a non-profit 501(c)3 Arizona corporation with headquarters in Tucson, AZ. Membership has since expanded to twenty two members including Brookhaven National Laboratory, California Institute of Technology, Columbia University, Google Inc., Harvard-Smithsonian Center for Astrophysics, Johns Hopkins University, Kavli Institute for Particle Astrophysics and Cosmology - Stanford University, Las Cumbres Observatory Global Telescope Network, Inc., Lawrence Livermore National Laboratory, National Optical Astronomy Observatory, Princeton University, Purdue University, Research Corporation, Stanford Linear Accelerator Center, The Pennsylvania State University, The University of Arizona, University of California, Davis, University of California at Irvine, University of Illinois at Urbana-Champaign, University of Pennsylvania, University of Pittsburgh, and the University of Washington.

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