

FROM THE EDITOR...

Suzanne Jacoby

On behalf of the LSST Project Office I'd like to welcome you to the first issue of our newsletter. Our goal is to raise public awareness of the project and keep interested parties, including our distributed project staff, informed of progress. At the moment, it feels like the project is on fire—figuratively and literally! We're riding the wave of publicity from the generous \$30M donation from Charles Simonyi's fund and Bill Gates, recovering from a most successful AAS Meeting with a gauntlet of 28 science posters and an exhibit featuring Todd Mason artwork, and preparing for HIGH FIRE of the primary/tertiary mirror at the University of Arizona Steward Observatory's Mirror Lab scheduled for late March. There's never been a better time to launch a newsletter—all we need is the time to write it! We anticipate a quarterly production schedule as we start out and welcome your comments to make the LSST Newsletter as informative as possible. Contact:

enews@lsst.org

PROJECT MANAGER'S CORNER

Don Sweeney, LSST Project Manager

With the successful completion of our Conceptual Design Review last September, LSST moved substantially closer to beginning construction. To make the plans for construction and mirror casting a reality, LSST management continued to work on major fund raising. We are pleased to announce <http://www.lsst.org/Press/LSSTC_Jan_3_2007.pdf> that this January the Charles Simonyi Fund for Arts and Sciences provided \$20 million and Bill Gates gave \$10 million to support the LSST Project. This major joint gift keeps the project on schedule by enabling early fabrication of LSST's large optics and manufacture of other long-lead components of the LSST system. The mirror casting is scheduled for March 2008 (see accompanying article) and is our major milestone for the spring. Read more <<http://www.lsst.org/News/enews/pmc-0803.html>>

SCIENCE UPDATE

LSST to Solicit Applications for Scientists to join Science Collaborations

Tony Tyson, LSST Director

LSST will have a scientific impact on fields ranging from studies of asteroids in the Solar System to the nature of dark energy. To manage the science investigations, LSST established a series of *Science Collaborations*, semi-autonomous groups of scientists drawn from the astronomy and high-energy physics communities. 179 scientists from the LSST project team and

member institutions have signed on already. They are laying the detailed groundwork to carry out scientific investigations once LSST commissioning begins in 2014. This spring LSST will begin to solicit applications for additional scientists to join the existing science collaborations. Membership in these collaborations is open to the US astronomical and high-energy physics communities. The National Optical Astronomy Observatory (NOAO) and Stanford Linear Accelerator Center (SLAC) will oversee the proposal process. Read more <<http://www.lsst.org/News/enews/su-0803.html>>

FOCUS ON...

STEWARD OBSERVATORY MIRROR LAB READY TO CAST LSST M1/M3 MONOLITH

A Steward Observatory Mirror Lab technician loads the cores into the M1/M3 mold.

Casting of LSST's unique M1/M3 mirror is underway! In January 2005 LSST Corporation awarded the contract to the University of Arizona Steward Observatory Mirror Lab (SOML) to purchase the glass and begin engineering work for the M1M3 monolith for the Large Synoptic Survey Telescope (LSST). The primary (M1) and tertiary (M3) mirrors are designed as one block of glass: vertically continuous but with different radii of curvature so that their surfaces form a cusp at their intersection. This design allows them to be fabricated from a single casting. The mirrors will be spun cast in a parabola consistent with the primary mirror surface. After casting, 2.1 cubic meters of glass will be ground out of the center to form the tertiary surface. LSST Corporation and SOML have conducted extensive design reviews and on November 9, 2007 determined that M1M3 casting could proceed. At the end of March 2008, SOML will begin casting this distinctive mirror. Read more <<http://www.lsst.org/News/enews/focus-0803.html>>

DATA MANAGEMENT AND THE GOOGLE PARTNERSHIP

LSST presents immense and stimulating challenges in data management. LSST will collect, process and store more than 1000 times the data of any existing optical telescope each night. LSST will take over 1000 panoramic images per night, 30 terabytes of data in a ten-hour winter night. The data management system (DMS) will compare new with previous images to monitor change. Multiple Data Challenges, prototypes of the full DMS, take place during the Design and Development phase of the project. Read More <<http://www.lsst.org/News/enews/google-0803.html>>

SITE VISIT UPDATE

L-R: Chuck Claver, Victor Krabbendam, Don Sweeney and Steve Kahn. In May 2006 LSST Corp selected 2,682-meter (8,800-foot) Cerro Pachón in northern Chile for the site of the LSST Observatory

<http://www.lsst.org/News/site_selection.shtml> . This selection followed two years of in-depth testing and analysis of the atmospheric conditions and utility for hosting the LSST. From numerous worldwide sites candidates, the project team narrowed the selection to four finalists, sites in Chile, Mexico and the Canary Islands, and then settled on Cerro Pachón as the best choice. With the selection made, work has continued to characterize the site and 2008 will see the start of rough excavation. 2008 will also see the selection of an architecture & engineering firm. Read more <<http://www.lsst.org/News/enews/site-visit-0803.html>>

UPCOMING ISSUES

Our next issue will provide updates about M1/M3 casting progress, the All-Hands Meeting in May 2008, sensor and camera development, and a feature which highlights one of the LSST team members and his/her work.

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