

Why You Should Join the LSST Corporation (LSSTC)

The Legacy Survey of Space and Time (LSST), to be carried out at the Vera C. Rubin Observatory (Rubin Observatory), is the most ambitious time-domain survey of the universe ever proposed. The Rubin Observatory is a joint U.S. National Science Foundation (NSF)/U.S. Department of Energy (DOE) project that will see “first light” in late 2020. A commissioning survey will begin soon thereafter, with the main survey starting in late 2022. In just its first year of operations, the Rubin Observatory LSST will survey more of the universe at optical wavelengths than all previous studies. As a member of LSSTC, you will receive numerous benefits (listed below) for your institution and for your researchers preparing to do science with the Rubin Observatory LSST.

The Survey will repeatedly image the sky over 10 years, delivering a 60-petabyte set of images and a 15-petabyte data catalog to address some of the most pressing questions about the structure and evolution of the universe and objects within it. The Survey will focus on four key science areas:

- Probing Dark Energy and Dark Matter
- Taking an Inventory of the Solar System
- Exploring the Transient Optical Sky
- Mapping the Milky Way

The LSST Corporation (<https://www.lsstcorporation.org>), headquartered in Tucson, Arizona, is a not-for-profit 501(c)3 corporation formed to initiate the this project and advance astronomy and physics. LSSTC represents over 30 U.S., Chilean, and European institutional members committed to enabling the exploitation of Rubin Observatory LSST data by advocating for and supporting LSST science.

Using Big Data for Big Science: Given the imminent start of Rubin Observatory operations, LSSTC is focused on preparing the community to capitalize on this remarkable and unprecedented dataset. We are committed to fostering and building new modes of interdisciplinary collaboration at the interface of astronomy, physics, computer science, mathematics, and information science. Through graduate and postdoctoral fellowships, science schools, workshops, think tanks, and support of science collaborations, LSSTC is enabling the training of a new generation of young scientists and researchers, and preparing the scientific community for the big data challenges that the Rubin Observatory LSST will bring.



Membership Benefits

- Building and belonging to a science community that includes many of the world's leading astrophysicists, cosmologists, and particle physicists, working together through LSSTC and its Science Collaborations to create an era of transformative science with the Rubin Observatory LSST.
- Access to the best opportunity for financial support of researchers involved in preparations for the Rubin Observatory LSST operations. Because NSF has stated clearly that it will not set aside dedicated funds for preparatory activities related to this project, LSSTC is aggressively seeking such funds from private donors, primarily for its members. As the coordinated voice of LSSTC institutions throughout the country, LSSTC has proven success in raising funds for those planning to carry out research with the Rubin Observatory LSST.
- Preferential access to LSSTC's Enabling Science funds and programs. To date, all Enabling Science awards have been made either to scientists active within the (LSSTC-supported) Science Collaborations or from LSSTC member institutions.
- The opportunity to clearly demonstrate your institution's commitment to current and prospective faculty, post docs, and students who plan to use the Rubin Observatory. Big data in general, and LSST in particular, will dominate the astrophysics landscape in the coming decade. Because most of those striving to undertake cutting-edge research with data from the Rubin Observatory LSST will participate in some preparatory activities, access to funds that support such work – even before the start of operations – helps recruit and retain top faculty and students.
- Validation for prospective faculty, postdocs, students, alumni, and the world community that your institution has a leadership role in a project that will transform the field of astrophysics.
- The opportunity to serve the physics and astronomy communities by helping to maximize the scientific output and societal impact of the Rubin Observatory LSST, with subsequent benefit for your faculty, researchers, students, and alumni.
- Participation in LSSTC Board meetings, which provide in-depth, wide-ranging updates from the leadership of the Rubin Observatory LSST.
- The best, and early, access to information about the status of the Rubin Observatory, its policies, and policies in preparation.



(Left) Data Science Fellowship Program Session 5 Johns Hopkins University – January 2018

(Right) Dark Energy Schools & Hack Days Stony Brook – July 2017