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UCT astronomers to celebrate first light images of global astronomy and astrophysics facility

Facility set to revolutionise our understanding of the cosmos

University of Cape Town (UCT) astronomers will be part of global celebrations to mark the first light images of the Legacy Survey of Space and Time (LSST) – a project of the [Vera C. Rubin Observatory](#), a brand-new astronomy and astrophysics facility under construction on Cerro Pachón in Chile – on the afternoon of Monday, 16 June 2025.

The Vera C. Rubin Observatory's LSST, which will commence later in 2025, is set to revolutionise our understanding of the cosmos. To celebrate this milestone, the first light images from LSST will be unveiled simultaneously at events worldwide, including two in South Africa: in Cape Town and Johannesburg.

In 10 years, the Vera C. Rubin Observatory will generate about 60 petabytes, more data than everything that's ever been written in any language in human history. The Square Kilometre Array (SKA), a radio telescope under construction in South Africa and Australia, will produce more data than this.

Professor Patricia Whitelock from the UCT's [Department of Astronomy](#) and the South African Astronomical Observatory (SAAO), who is the manager of the South African LSST project, said: "National and international collaborations are fundamental to the advancement of science. The LSST offers a tremendous opportunity for South African astronomers to engage with a global community and to showcase the capabilities of facilities in Africa, including SALT, MeerKAT and the SKA."

Ten South African scientists, including those from UCT, and their teams will have access to LSST data, enabling groundbreaking research on topics ranging from the origins of the universe to galaxy evolution and the mechanisms behind stellar explosions.

Astronomy is no longer limited by what we can observe, but by how well we can handle and understand the flood of information we collect.

The Vera C. Rubin Observatory is named after astronomer Vera Rubin, who provided the first convincing evidence for the existence of dark matter. It is the first of its kind: its mirror

design, camera sensitivity, telescope speed and computing infrastructure are each in an entirely new category.

The 8.4-meter Simonyi Survey Telescope at the Vera C. Rubin Observatory, equipped with the LSST Camera – the largest digital camera ever built – will take detailed images of the southern hemisphere sky for 10 years, covering the entire sky every few nights and creating an ultra-wide, ultra-high-definition, time-lapse record – the largest astronomical movie of all time. This unique movie will bring the night sky to life, yielding a treasure trove of discoveries: asteroids and comets, pulsating stars and supernova explosions.

Valuable South African facilities and skills

South Africa's award of 10 LSST principal investigator positions and their junior associates, who enjoy the same data access privileges as their counterparts in the USA and Chile, is the result of significant contributions by South African institutions to the Vera C. Rubin Observatory collaboration. These contributions are coordinated through the National Research Fund's SAAO, under the leadership of Professor Rosalind Skelton.

Dr Lucia Marchetti, a senior lecturer in the Department of Astronomy at UCT and director of the [IDIA Visualisation Lab](#), is one of the South African cohort of principal investigators. Her work spans two key areas: developing immersive visualisation tools using virtual reality to explore large astronomical datasets and leading a research group that studies how complex objects like galaxies form and evolve.

By combining observations from a wide range of telescopes, including SALT and MeerKAT, Marchetti's team investigates how galaxy properties change over cosmic time, such as how many stars they host or what colour they are. They aim to reconstruct their story from the early Universe to the present day. In this effort, the Vera C. Rubin Observatory will provide vital new optical data to deepen our understanding of these fascinating and ever-changing systems.

Rubin Observatory's global first light celebrations

Members of the media are invited to participate in this celebration in Cape Town or Johannesburg on Monday, 23 June at 16:30.

- Please [complete the form to attend](#) the event at the Iziko Museum in Cape Town.
- Please [complete the form to attend](#) the event at the Wits Anglo American Digital Dome in Johannesburg.

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