

Rubin LSST:UK key messages for press and partners

UK participation in a global astronomy project

Through the Rubin LSST:UK science collaboration, the UK is participating in one of the most ambitious science projects of the next decade.

In 2014, researchers across the UK formed the LSST:UK Consortium to coordinate UK involvement in the Rubin LSST. Today, the LSST:UK Consortium has 36 partners, representing all major UK astronomy research groups: lsst.ac.uk/about/consortium

Across all 36 LSST:UK institutions, astronomers and software developers are developing ways to interpret and mine the petabytes of Rubin data that are to come. This work is enabling groundbreaking science that enhances our understanding of the universe.

The UK is the second biggest international contributor to Rubin through an in-kind contribution funded by the Science and Technology Facilities Council (STFC). Thanks to an investment of £23 million to date, UK scientists are among the first to access Rubin's data.

At the forefront of science + data innovation

In addition to the science contribution, the UK has significant role in the management and processing of the unprecedented amounts of Rubin data.

Through Rubin LSST:UK, the UK:

- hosts one of three international data centres (the others are in the US and France)
- is processing around 1.5 million images, capturing around 10 billion stars and galaxies
- will have a full copy of the survey, expected to be 200 Petabytes in size – two hundred quadrillion data points) requiring as much storage as half-a-million 4K Hollywood movies.
- hosts a science portal for the international community capable connecting around 1,500 astronomers with UK Digital Research Infrastructure.

Rubin Observatory milestones

30 June 2026

The 10-year Legacy Survey of Space and Time officially started, marking the beginning of a new era in astronomy and astrophysics

25 February 2026

Rubin issued its first scientific alerts, kickstarting a new era of dynamic, real-time observation of the night sky.

23 June 2025

The first images from the Rubin Observatory were revealed to the world in a 'First Look' event.

Rubin Observatory key messages

By repeatedly scanning the sky for a decade, the Rubin Observatory will create an ultra-wide ultra-high-definition time-lapse record. This unique movie will bring the night sky to life, yielding a treasure trove of discoveries: asteroids and comets, pulsating stars, and supernova explosions.

Over the next decade, Rubin will perform the Legacy Survey of Space and Time (LSST) using the LSST Camera – the largest camera ever built – and the Simonyi Survey Telescope.

The huge amount of data that Rubin will capture will help us understand our Universe better, chronicle its evolution, delve into the mysteries of dark energy and dark matter, and reveal answers to questions we have yet to imagine.

Rubin is the first of its kind: its mirror design, camera size and sensitivity, telescope speed, and computing infrastructure are each in an entirely new category.

One Observatory - Boundless Discoveries

NSF-DOE Vera C. Rubin Observatory

KEY SCIENCE AREAS

Milky Way Structure & Formation

How did the Milky Way form and evolve? Rubin will help us make the best map of our home galaxy yet.



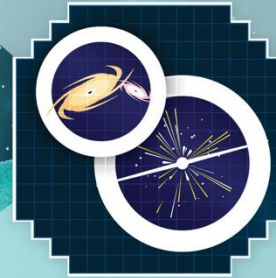
Solar System Census

What will a detailed inventory of our Solar System reveal that we couldn't see before? Rubin will show us millions of new asteroids and comets, and so much more.



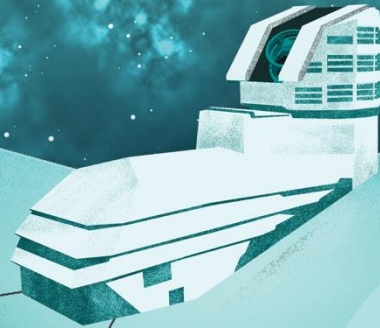
Dark Matter & Dark Energy

They make up 95% of our Universe, but what are they... and what are they doing? Rubin is a brand new tool to help us learn more about their nature & behavior.



The Changing Sky

What can we learn from dynamic events like pulsating stars and supernova explosions? Rubin will bring the night sky to life, yielding a treasure trove of discoveries.

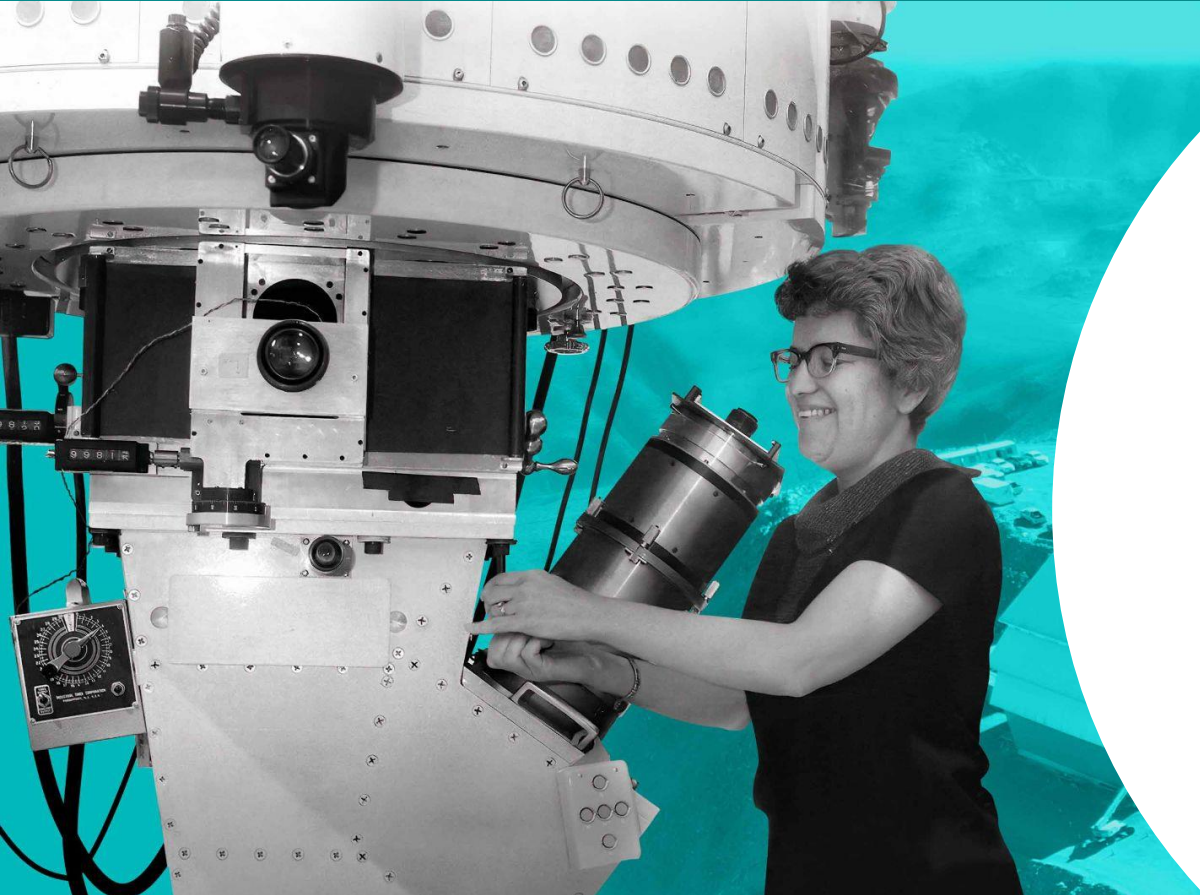


Fun Rubin facts

- The observatory's 3200-megapixel camera is **the world's largest digital camera**. It's the size of a car and weighs around 2,800kg.
- Each night the observatory will produce approximately 20 terabytes of data – that's **more data than three years of streaming video**, or 50 years of streaming music.
- During its 10-year survey, Rubin will catalogue an estimated **17 billion stars, 20 billion galaxies, and millions of transients** – more objects than there are living people on earth.
- Over a decade, Rubin data processing will generate around 500 petabytes, which is **equivalent to the total amount of content written in every language throughout human history**.

The Rubin Observatory is located in Chile, on a mountain called Cerro Pachón. The observatory sits 2,647 metres above sea level.

About Vera C. Rubin



Dr. Vera C. Rubin (1928-2016) was a pioneering American astronomer whose work profoundly changed the way we understand the Universe.

Her most significant contribution to science was her groundbreaking work on dark matter.

Rubin funding information and naming guide

The NSF–DOE Vera C. Rubin Observatory is funded by the U.S. National Science Foundation (NSF) and the U.S. Department of Energy's Office of Science (DOE/SC).

NSF–DOE Vera C. Rubin Observatory Name guidelines

First reference: NSF-DOE Vera C. Rubin Observatory

For subsequent references, use any of the following:

- Vera C. Rubin Observatory
- Rubin Observatory
- Rubin



Oliver Borin/SLAC National Accelerator Laboratory

Links to media assets and more info

Visit the Rubin LSST:UK website for more information about the UK contribution to Rubin.

www.lsst.ac.uk

The Rubin media kit –

rubinobservatory.org/media

Access visual resources in the [Rubin media library](#). All the resources can be downloaded and used with the provided credit

Social media

Rubin LSST:UK

Blue Sky: [lsstuk.bsky.social](https://bsky.app/profile/lsstuk.bsky.social)

LinkedIn: [lsstuk](https://www.linkedin.com/company/lsstuk) | X: [LSSTUK](https://twitter.com/LSSTUK)

Rubin Observatory

Blue Sky: [vrubinobs.bsky.social](https://bsky.app/profile/vrubinobs.bsky.social)

X: [VRubinObs](https://twitter.com/VRubinObs)

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