



<p>ESOCast Episode 5: ESO's First Observatory Celebrates 40th Anniversary</p>	
<p>00:00 [Visual starts]</p> <p>[Narrator] 1. ESO's La Silla Observatory, which is celebrating its 40th anniversary, and became the largest astronomical observatory of its time, leading Europe to the frontline of astronomical research, is still one of the most scientifically productive in ground-based astronomy.</p>	<p>Google zoom to La Silla</p> <p>Views of La Silla</p>
<p>00:24 ESOCast intro</p> <p>This is the ESOCast! Cutting-edge science and life behind the scenes of ESO, the European Southern Observatory. Exploring the Universe's ultimate frontier with our host Dr J, a.k.a. Dr Joe Liske.</p>	<p>ESOCast introduction</p>
<p>00:40 [Dr J]</p> <p>2. Hello and welcome to the ESOCast. In this episode we're going to celebrate an anniversary. And quite an amazing one too. One of the most successful ground-based astronomical observatories in the world, La Silla, is turning 40.</p>	<p>Dr J in virtual studio. Slate: HOST: Dr J EPISODE 5: ESO's First Observatory Celebrates 40th Anniversary</p> <p>La Silla footage in the background</p>
<p>00:53 [Narrator]</p> <p>3. With about 300 refereed publications arising from the observatory per year, La Silla remains at the forefront of astronomy.</p> <p>La Silla has led to an enormous number of scientific discoveries, including several 'firsts'. The HARPS spectrograph is the world's foremost extrasolar planet hunter. It detected the system around Gliese 581, which contains what may be the first known rocky planet in a habitable zone, outside the Solar System. Several telescopes at La Silla played a crucial role in linking gamma-ray bursts – the most energetic explosions in the Universe since the Big Bang – with the explosions of massive stars. Since 1987, the ESO La Silla Observatory has also played an important role in the study and follow-up of the nearest supernova, SN 1987A.</p>	<p>Views of La Silla</p> <p>HARPS spectrograph instrument</p> <p>Images of science highlights from La Silla:</p> <p>Gliese 581 - video-22-07</p> <p>Gamma-ray bursts</p> <p>SN 1987A</p>

<p>01:49 [Dr J] 4. The La Silla Observatory is located at the edge of the Atacama Desert in Chile, one of the driest and most isolated areas in the world. This location is virtually free from sources of polluting light. And, like the Paranal Observatory which houses the Very Large Telescope, it has one of the darkest night skies on the planet.</p>	<p>Dr J in virtual studio</p> <p>Background images: Landscape around La Silla Night sky over La Silla</p>
<p>02:08 [Narrator] 5. At its heyday, La Silla was home to no fewer than 15 telescopes, among them the first – and for a very long time, the only – telescope working in submillimetric waves (the 15 metre SEST) in the southern hemisphere, which paved the way for APEX and ALMA. And the Schmidt telescope, which completed the first photographic mapping of the southern sky. The telescopes at La Silla have also supported countless space missions, for example by obtaining the last images of comet Shoemaker-Levy 9 before it crashed into Jupiter.</p> <p>While some of the smaller telescopes have been closed over the years, front-line observations continue with the larger telescopes, aided by new and improved astronomical instruments. La Silla currently hosts two of the most productive 4-metre class telescopes in the world: the 3.5-m New Technology Telescope, the NTT, and the 3.6 metre ESO telescope.</p>	<p>Pan over La Silla</p> <p>Images of the Swedish-ESO Submillimetre Telescope (SEST)</p> <p>Schmidt telescope</p> <p>Shoemaker Levy 9 impact footage Shoemaker Levy 9 images</p> <p>NTT 3.6-m</p>
<p>03:10 [Dr J] 6. The NTT really broke new ground for telescope engineering and design, hence the name. It was the first telescope in the world to have active optics installed. This is where you have a set of pistons attached to the back of the main mirror. Now these pistons are computer controlled and they constantly maintain the shape of the main mirror so that it can always produce the sharpest images possible. Now this technology was first developed at ESO and nowadays it is used at the VLT and most of the current large telescopes in the world. In addition to active optics, the NTT's dome was also a revolutionary design.</p>	<p>Dr J in virtual studio</p> <p>Background images: Images of the NTT</p>
<p>03:46 [Narrator] 7. The La Silla site was chosen after years of challenging prospecting – partly on horseback – in the Chilean Andes in the mid-60s by the first ESO Director General, Otto Heckmann, and several senior astronomers. In the following years, the site was developed and the first mid-sized telescopes were erected.</p> <p>Today the La Silla infrastructure is also used by many of the ESO member states for targeted projects such as the Swiss 1.2 m Euler telescope,</p>	<p>Archive photos from early site investigations and early telescopes</p> <p>Images of the La Silla's smaller telescopes</p>

<p>the Rapid Eye Mount and TAROT gamma-ray burst chasers, as well as more common user facilities such as the 2.2 m Max-Planck and the 1.5 m Danish telescopes. The amazing 67-million-pixel Wide Field Imager on the 2.2-metre telescope has taken many impressive images of celestial objects, some of which have now become icons of their own.</p>	<p>2.2-m telescope</p> <p>WFI images</p>
<p>04:42 [Dr J] 8. La Silla was ESO's first observatory in Chile and was the start of a very long and fruitful collaboration with that country and its scientific community.</p> <p>This is Dr J signing off for the ESOcast. Join me again next time for another cosmic adventure.</p>	<p>Dr J in virtual studio</p> <p>Background image:</p> <p>Pan over La Silla</p>
<p>04:58 [Outro]</p>	<p>ESOcast is produced by ESO, the European Southern Observatory.</p> <p><i>ESO, the European Southern Observatory, is the pre-eminent intergovernmental science and technology organisation in astronomy designing, constructing and operating the world's most advanced ground-based telescopes.</i></p>

05:18
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