



<p>ESOCast Episode 4: 24 hours in the life of an ESO astronomer</p>	
<p>00:00 [Visual starts]</p> <p>[Narrator] 1. Have you ever wondered what it must be like to be an astronomer? Let's take you behind the scenes and see what 24 hours in the life of an ESO staff astronomer is like. The countdown for an exciting night with an observation run at the world's most advanced optical telescope, the ESO VLT, has begun...</p>	<p>Residencia outside, Residencia façade close up</p> <p>ESO astronomer in his private room, working on his laptop.</p> <p>VLT platform shot</p>
<p>00:28 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 intro</p>
<p>00:44 [Dr. J]</p> <p>2. Hello and welcome to the ESOCast. In today's episode, we're going to follow a day in the life of Dieter Nürnberger. Dieter is a staff astronomer at ESO. His job is to support those scientists that have managed to get observing time on ESO's Very Large Telescope at Paranal Observatory in Chile. Now ESO receives about 1000 applications for observing time every 6 months, and only about one in five of those are actually selected. Dieter spends most of his working days helping the successful few to make ground-breaking discoveries.</p>	<p>Dr. J in virtual studio.</p> <p>Slate: HOST: Dr. J EPISODE 4: 24 hours in the life of an ESO astronomer</p> <p>Background images: Footage of Dieter working in his office The VLT platform</p>
<p>01:18 [Narrator]</p> <p>3. Dieter Nürnberger is on his way to meet the visiting scientists, Chris Tinney and his PhD student Stephen Parker, to team up for the night to come. The three have been observing together for several nights, today is their final evening and they are keen to get started. Over dinner they discuss plans for the night ahead.</p> <p>Well before sunset they leave the Residencia and drive up the desert road to the building housing the</p>	<p>Dieter as he leaves his private room</p> <p>Meeting with the visiting astronomers</p> <p>Discussions over dinner</p> <p>Astronomers driving to control building</p>

<p>VLT control room.</p> <p>At the control building they prepare the observations and check the set-up of the telescope. Observing time on these great telescopes is precious and delays must be avoided at all costs.</p> <p>Like a pilot checking his plane before departure, Dieter goes through a detailed check of “his” instrument, while the telescope operator does the same for the giant telescope.</p> <p>Everything is good to go, so the team goes to the telescope platform to inspect the weather. The astronomers have travelled far for a glorious view of the Universe, and here a glorious view of the sunset is included for free! As usual at Paranal, the conditions are perfect and Dieter and the visiting astronomers return with high expectations.</p>	<p>Arrival at the building and control room</p> <p>First activities in the control room</p> <p>Scientists on VLT platform during sunset</p> <p>The VLT domes open</p> <p>View of the sunset from the platform</p> <p>Astronomers leave the platform</p>
<p>02:40 [Dr J] 4. So, here we go! This is when all the hard work and preparation pay off. For many astronomers this is a long awaited moment when they finally get to use one of the world’s most advanced science machines to test their ideas of the Universe.</p> <p>Let’s join them and see how the first observations of the night are going.</p>	<p>Dr. J in virtual studio</p> <p>Background images:</p> <p>The VLT domes open</p> <p>Telescope moves into position</p>
<p>02:58 [Narrator] 5. Cocooned in the high-tech environment of the control room, the observing programme is underway.</p> <p>Although the observation is running smoothly, it still requires the full attention of our team. The telescope and weather conditions are monitored continuously.</p> <p>[Tinney] Image quality is looking pretty good across the whole field.</p> <p>[Narrator] The team is using a very clever technique called methane imaging to detect brown dwarfs - objects too small and too cold to fuse hydrogen into their centres and which, therefore, are can be called failed stars. What will the data reveal?</p> <p>[Tinney] There's nice round images everywhere, which is what we like to see.</p>	<p>Astronomers in the control room during observations</p> <p>Close up views of computer display</p> <p>Astronomers discussing initial image quality</p>

<p>03:39 [Dr J.] 6. The first half of the night is a success, and the team has already collected a lot of data. So, this is a good moment to shift down a gear.</p> <p>While Dieter and his companions stop over for their midnight lunch, the telescope doesn't sit idle though. Their observations continue, being monitored by the telescope instrument operator.</p>	<p>Dr. J in virtual studio</p> <p>Background images: Team during midnight lunch</p>
<p>03:57 [Narrator] 7. As the observations progress it is vital that the support astronomer and the visiting astronomers are in constant dialogue: Is this the data quality that we expected to see? Do we continue with this target or do we proceed with the next one? Do we change the instrument set-up or do we keep it? With Dieter's expert knowledge of the VLT and its instruments, the visiting astronomers can evaluate and decide their observing strategy in real-time!</p>	<p>Astronomers in control room, evaluating obtained images</p>
<p>04:29 [Narrator] 8. At dawn the observation run comes to an end. Our team is tired but happy! The acquired data look extremely promising and now need to be analysed back in the home institute of the visiting astronomers.</p> <p>The night report is handed over and the astronomers leave the control room building and head back to the Residencia.</p>	<p>Platform at dawn</p> <p>Astronomers in the control room</p> <p>Handover of the night report</p> <p>Dieter and the astronomers driving downhill toward the rising sun</p>
<p>04:58 [Dr J.] 9. For the visiting astronomers this is the end of their observing run, so for them it's time to say goodbye! Or rather, see you next time...</p> <p>But for Dieter the day isn't quite over...</p>	<p>Dr. J in virtual studio</p> <p>Background images: Driving away from the observatory Astronomers say farewell</p>
<p>05:08 [Narrator] 10. As usual, after an observing run at the VLT, Dieter seeks some relaxation in the morning before going to bed. The swimming pool of the Residencia was built to humidify the extremely dry desert air, but can certainly be used for a quick swim.</p>	<p>Dieter in the swimming pool</p>
<p>05:27 [Dr J.] 11. It's an amazing place, isn't it?</p> <p>But for Dieter, it's all in a day's work. Tonight he will sleep well, safe in the knowledge that the VLT has once again delivered first class data to its users.</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 images: Long distance shot of Dieter in the pool and tropical garden. VLT at Paranal</p>

05:46
[Outro]

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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.

06:00
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