ESOcast Episode 10: **GigaGalaxy Zoom:** **The Sky, from the Eye to the Telescope**		
00:03 **[Visual starts]** **[Narrator]** 1. In the framework of the International Year of Astronomy 2009, ESO has launched a new project aimed at connecting the sky as seen by the unaided eye with that seen by hobby and professional astronomers. The project, called GigaGalaxy Zoom, reveals three amazing, ultra-high-resolution images of the night sky that online stargazers can zoom in on and explore in an incredible level of detail. The reward is the most breathtaking dive ever made into our Galaxy, linking the sky seen by all with the cosmos studied by astronomers.		IYA 2009 logo 3 images appearing dynamically Accelerated version of the zoom
00:43 **ESOcast intro** This is the ESOcast! Cutting-edge science and life behind the scenes of ESO, the European Southern Observatory.		ESOcast intro
00:59 **[Narrator]** 2. In today's ESOcast we will explore the unique and amazing GigaGalaxy Zoom project, which reveals the whole night sky as it appears with the unaided eye from one of the darkest deserts on Earth. The project allows users to zoom in on a rich region of the Milky Way with the magnification offered by a hobby telescope and then to go one step further, using the power of a professional telescope to explore details of an iconic nebula.		Slate: EPISODE 10: GigaGalaxy Zoom: The Sky, from the Eye to the Telescope

01:27 **[Narrator]** 3. Most of the photographs comprising the three GigaGalaxy Zoom images were taken from La Silla and Paranal, two of ESO's observing sites in Chile. The wonderful quality of the images is a testament to the splendour of the night sky at these ESO sites, which are the most productive astronomical observatories in the world.		Images of Paranal, La Silla, also by night…
01:48 **[Narrator]** 4. The first image, taken by the renowned French writer and astrophotographer Serge Brunier, aims to present the sky as people have experienced it the world over, though in the far greater detail offered by top-notch stargazing conditions and incorporating the view from both hemispheres. Brunier spent several weeks capturing the sky with a digital camera, mostly from ESO observatories at La Silla and Paranal in Chile. To cover the full arc of the Milky Way, Brunier also made a week-long trip to La Palma, one of the Canary Islands, to photograph the northern skies.		Footage of Brunier at Paranal Photo of Brunier's equipment
02:25 **[Narrator]** 5. The final image — the result of 120 hours of observations — provides a magnificent 800-million pixel panorama of the whole Milky Way. This 360-degree panoramic image, covering the entire celestial sphere, reveals the cosmic landscape that surrounds our tiny blue planet. The plane of our Milky Way Galaxy, which we see edge-on from our perspective on Earth, cuts a luminous swath across the image — almost as if we were looking at the Milky Way from the outside.		Brunier image Pan over Brunier's image
03:16 **[Narrator]** 6. The second image was captured by another renowned astrophotographer named Stéphane Guisard. Stéphane is also the chief optician at the ESO Paranal Observatory, where he is responsible for making sure that the Very Large Telescope has the best possible optical quality. This second image directly benefits from the dark and cloudless sky at Paranal, one of the best observing sites on the planet, and from Stéphane's professional expertise as an optical engineer specialising in telescopes.		Footage of S. Guisard at Paranal Guisard image

To snap a photographic mosaic of the central parts of our galactic home, Stéphane relied on a 10-centimetre aperture hobby telescope coupled with a CCD camera. The final result produced by Stéphane, together with ESO's image experts, is a colour image of the Milky Way containing more than 340 million pixels. The image combines about 1200 photos for a total exposure time of at least 250 hours!		Picture of his equipment
04:21 **[Narrator]** 7. The resulting image beautifully exhibits the sky, spanning several constellations from Sagittarius to Scorpius, an area that includes the Galactic Centre, the famous Lagoon and Trifid nebulae on the left, and the colourful Antares and Rho Ophiucus region on the right.		Zooms/Pan on Guisard image Music interlude
05:02 **[Narrator]** 8. The third image of the GigaGalaxy Zoom project illustrates the power of professional astronomy. It covers a one-degree field of view, or about two times the width of the full Moon, using the Wide Field Imager attached to the MPG/ESO 2.2-metre telescope at the ESO La Silla Observatory. This camera has already created several of the most iconic pictures produced by ESO.		MPG/ESO 2.2-metre telescope
05:30 **[Narrator]** 9. The professional image is a zoom into the attractive and intriguing Lagoon nebula. Scattered dark patches within this 100 light-year wide nebula are huge clouds of gas and dust collapsing under their own weight. Soon, they will give birth to clusters of young glowing stars.		From Guisard image, frame of WFI, Zoom to WFI Pan over the WFI image…

		Musical interlude
05:54 **[Narrator]** 10. Together these three stunning images allow for a unique exploration of a magnificently detailed cosmic environment from the scale seen by the unaided eye into the astronomers' realm. Enjoy this dive into the starry depths of our Milky Way from the Eye to the Telescope!		The final long zoom into the 3 images Musical interlude Slate with gigagalaxyzoom.org
07:00 **[Outro]**		ESOcast is produced by ESO, the European Southern Observatory. www.eso.org *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.*

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