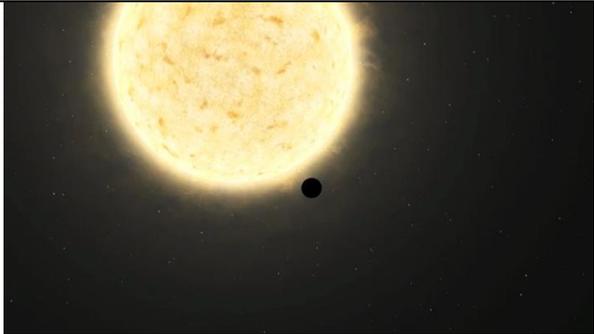


<p>ESOcast Episode 24: Planet from another galaxy discovered</p>	
<p>00:00 [Visuals start]</p> <p>[Narrator] 1. An exoplanet orbiting a star that entered our Milky Way from another galaxy has been detected by a European team of astronomers. The Jupiter-like planet is particularly unusual, as it is orbiting a star nearing the end of its life and could be about to be engulfed by it, giving tantalising clues about the fate of our own planetary system in the distant future.</p>	
<p>00:26 ESOcast intro 2. This is the ESOcast! Cutting-edge science and life behind the scenes at ESO, the European Southern Observatory. Exploring the ultimate frontier with our host Dr J, a.k.a. Dr Joe Liske.</p>	
<p>00:46 [Narrator] 3. Hello and welcome to the ESOcast. In this episode we are going to find out how an act of galactic cannibalism has brought a planet from another galaxy within astronomers' reach.</p>	
<p>01:01 [Narrator] 4. Astronomers have detected nearly 500 planets orbiting stars in our cosmic neighbourhood, but none outside our Milky Way has been confirmed. Now, however, a planet weighing at least 1.25 times as much as Jupiter has been discovered orbiting a star of extragalactic origin, even though the star now finds itself within our own galaxy.</p>	

<p>01:26 [Narrator] 5. The star, which is known as HIP 13044, lies about 2000 light-years from Earth and is part of the so-called Helmi stream. This stream of stars originally belonged to a dwarf galaxy, which was devoured by our Milky Way in an act of galactic cannibalism six to nine billion years ago.</p> <p>Astronomers detected the planet by looking for tiny telltale wobbles of the star caused by the gravitational tug of an orbiting companion. For these precise observations, the team used a high-resolution spectrograph called FEROS, attached to the 2.2-metre telescope at ESO's La Silla Observatory in Chile.</p>	
<p>02:11 [Narrator] 6. The planet, HIP 13044 b, is also one of the few exoplanets known to have survived its host star massively growing in size after exhausting the hydrogen fuel supply in its core — the Red Giant phase of stellar evolution.</p>	
<p>02:27 [Narrator] 7. HIP 13044 b is near to its host star. At the closest point in its elliptical orbit, it is less than one stellar diameter from the surface of the star (or 0.055 times the Sun-Earth distance), and completes an orbit in only about 16 days. The astronomers hypothesise that the planet's orbit might initially have been much larger, but that it moved inwards during the Red Giant phase.</p>	
<p>02:58 [Narrator] 8. Any closer-in planets may not have been so lucky. Astronomers suggest that some inner planets may have been swallowed by the star during the Red Giant phase.</p>	

<p>03:08 [Narrator] 9. Although the Jupiter-like exoplanet has escaped the fate of these inner planets so far, the star will expand again in the next stage of its evolution. When this happens, the star may engulf the planet, meaning it may be doomed after all.</p>	
<p>03:26</p> <p>10. The astronomers are now searching for more planets around stars near the ends of their lives. Their work may tell us about the fate of planets in the distant future of our own Solar System, as the Sun is also expected to become a Red Giant in about five billion years.</p> <p>This is Dr J signing off for the ESOcast. Join me again next time for another cosmic adventure.</p>	
<p>03:49 [Outro]</p>	<p>ESOcast is produced by ESO, the European Southern Observatory.</p> <p>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.</p>

04:45
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