Hiding in the crowd: The search for missing young stars

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Credit: ESO/F. Nogueras-Lara et al.

Hundreds of thousands of stars are contained in this picture, an infrared image of Sagittarius C, a region near the center of the Milky Way. Taken with ESO's Very Large Telescope (VLT) in the Chilean Atacama Desert, this image is helping astronomers unlock a stellar puzzle.

The center of the Milky Way is the most prolific star-forming region in the entire galaxy. However, astronomers have only found a fraction of the young stars they expected here: there is "fossil" evidence that many

more stars were born in the recent past than the ones we actually see.

This is because looking toward the center of the galaxy is not an easy task: clouds of dust and gas block the light from the stars and obscure the view. Infrared instruments, such as the HAWK-I camera on the VLT, allow astronomers to peer through these clouds and reveal the starry landscape beyond.

In a recent study appearing in *Astronomy & Astrophysics*, Francisco Nogueras Lara, an astronomer at ESO in Germany, analyzed VLT data of Sagittarius C, a region whose chemical composition made it a promising candidate to host recently formed stars. And it delivered: he found that this region was much richer in young stars than other areas in the galactic center. Looking to similar regions, now, is a promising lead to finding the other missing young stars.

More information: F. Nogueras-Lara, Hunting young stars in the Galactic centre, *Astronomy & Astrophysics* (2024). DOI: 10.1051/0004-6361/202348712

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