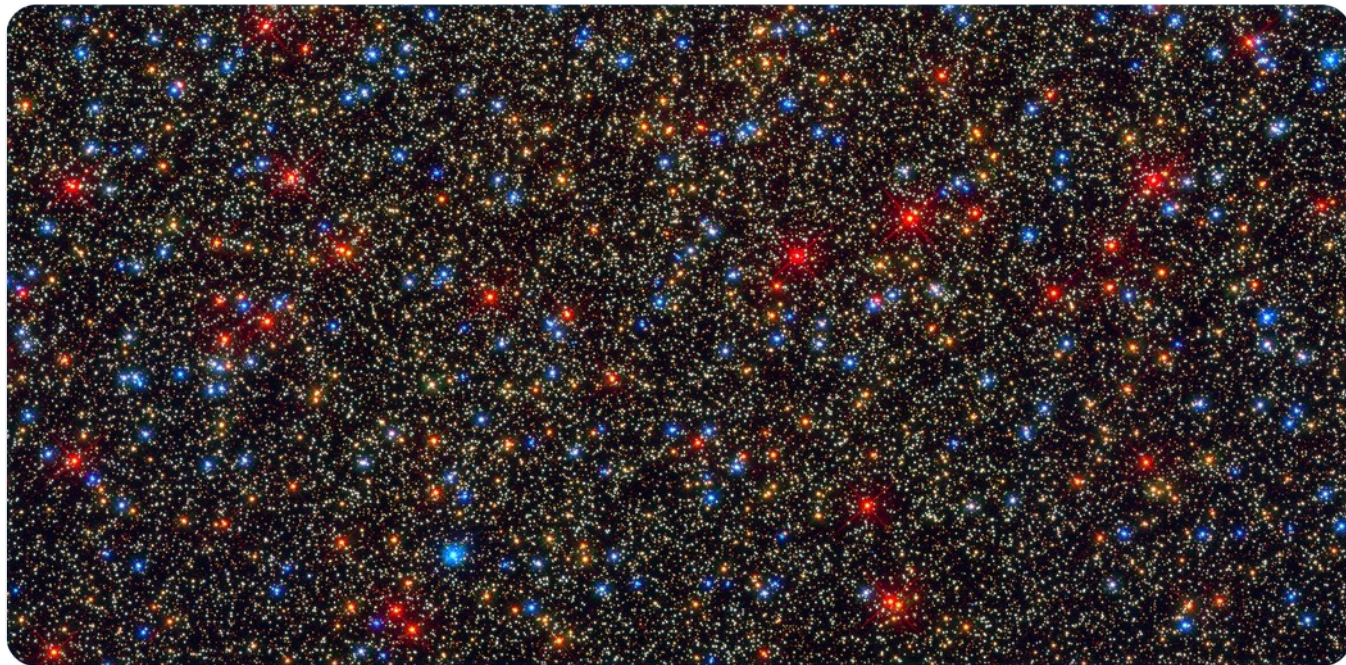




## An Astronomically Wrong Assumption



For decades, astronomers had assumed that the amount of light we observe from a galaxy could be used to work out how much star material it contains. From this, they could work out how many stars are in the galaxy. However, when a team of astronomers recently put this theory to the test, they found that a galaxy's brightness isn't a good way of counting its stars.

First, the astronomers observed many galaxies to create detailed 3D models of how their stars move about. This information was then put into a powerful 'supercomputer' to work out how much star material is really inside the galaxies. Using the supercomputer, the astronomers discovered that some of the oldest galaxies in the Universe have three times more star material than what is predicted by their brightness.

But why is this star material not shining brilliantly? "Galaxies can contain huge numbers of small stars," says astronomer Michele Cappellari. Such small stars wouldn't give off much light, but collectively they would account for a lot of star material. He also says that some of the star material could have been used to make planets. (Just like how the planets in our Solar System formed from the same cloud of gas and dust that created the Sun.) And some of the material could be hiding in dead stars that no longer shine.

Michele is excited by the new discovery. "It reveals how much more there is to discover about how galaxies, and the early Universe itself, evolved," he says.

## COOL FACT

The world's most powerful supercomputer is faster than 28 000 Sony PlayStation 3s consoles combined!

