

How do Galaxies Shut Off Their Star Formation?

What is the science question? How do galaxies halt their star formation and become “red and dead”?

What were your findings?

- Not all galaxies undergo the same processes to shut off their star formation...
- Low-mass galaxies, on average, quench on fast timescales, suggesting that the quenching is a consequence of a violent event (e.g., environmental effects that strip away the gas)
- High-mass galaxies instead take a long time to reach quiescence, as if they are slowly running out of gas

What was the impact? The star formation histories of galaxies are more complex than simple analytic functions that have been often used in the past to model galaxy evolution. Also, not all massive galaxies are maximally old (i.e., they quenched their star formation at very early epochs), but form stars on long timescales.

Why does it matter to non-scientists? Looking at galaxies at different epochs gives us clues on how our own Milky Way may have formed.

