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Carolyn J. Shoemaker

(1929–2021)

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¹**Lowell Observatory**

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Carolyn Shoemaker, a housewife-turned scientist who once held the record for most comet discoveries by an individual, died on Friday, August 13, 2021. She was 92 years old.

Carolyn Jean Spellman was born on June 24, 1929, in Gallup, New Mexico. Her family later moved to Chico, California, where she grew up. She studied history, political science, and English literature at Chico State College (now the California State University, Chico). She later taught for a short time but didn't like it. No matter — she soon was occupied with the duties of a mother after marrying her brother's college roommate at the California Institute of Technology, Gene Shoemaker.

While Gene's career as a geologist took off, Carolyn stayed at home to raise the couple's three children. Gene went on to become one of the most celebrated scientists of his era. He studied impact craters around the world, proved the impact origin of Meteor Crater, and relocated the United States Geological Survey's Astrogeology Branch to Flagstaff, Arizona, where much of the geology training for the Apollo astronauts was centered. During their long tenure in Flagstaff, the couple lived in a house they designed themselves. Carolyn even handpicked all the rocks used in the living room wall.

In 1980, with all the children now graduated from high school, 51-year-old Carolyn was looking for something fulfilling on which to spend her time. Gene was then leading a project that searched for potentially hazardous asteroids and comets — those that might one day closely approach Earth. The search consisted of photographing the sky with Palomar Observatory's 18-inch Schmidt Telescope, then scanning the resulting films for asteroids and comets, using a stereomicroscope. Gene invited Carolyn to join

the project and she was soon hooked, detecting her first asteroid not long after joining the project. She went on to discover 377 numbered asteroids and hundreds of unnumbered ones.

It was her discovery of comets that brought Carolyn her most fame. She found her first one in 1983 and went on to discover or co-discover a total of 32. The most famous of these came in 1993, when she teamed with Gene and David Levy to discover Comet Shoemaker-Levy 9. The following year, it dramatically collided with Jupiter in an event observed by astronomers around the world. This was the first time in recorded history that humans observed two solar system bodies colliding, and it brought the discoverers international recognition.

Gene and Carolyn continued their research after the Palomar program ended, splitting their time in Flagstaff between the USGS and Lowell Observatory. Tragedy struck in 1997, when the couple was involved in an automobile accident that left Gene dead and Carolyn severely injured. After recovering, she carried on her research for several years. She also became a popular guest at star parties and other amateur astronomy events around the world.

Carolyn remained active in the scientific community even after retiring, serving on Lowell Observatory's Advisory Board, speaking to astronomy groups across the United States, and participating in astronomical events. The last of these was the 2019 Lunar Legacy celebration, hosted by Lowell Observatory and the Flagstaff community.

For her efforts, Carolyn garnered many honors. Ted Bowell of Lowell Observatory named Asteroid 4446 Carolyn after her in 1988 and Northern Arizona University bestowed an honorary doctorate to her two years later. Among her numerous awards is NASA's Exceptional Scientific Achievement Medal and the National Academy of Science's James Craig Watson Medal, which she shared with Gene.

Carolyn Shoemaker was a kind and gracious person, known as much for her cheerful personality as her astronomical discoveries. She died 24 years after Gene and though the world mourns her loss, she is now reunited with her cherished partner in the heavens.