

## STAR BRIGHT

### Planetarium Show Highlights What We're Missing As Creatures Of The Light

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By JONATHON SHACAT

**HARRISONBURG** - As the light pollution slowly disappeared from the night sky during a presentation at the John C. Wells Planetarium at James Madison University, an uncommon sight appeared on the screen — a sky filled with stars.

"It's so pretty," said Megan Evans, 18, a freshman biology major at JMU who attended the event on Friday. "I didn't know there were so many stars that we couldn't see."

The full-dome planetarium show and star talk held on Friday was part of a weeklong series of events — dubbed "Starry Nights" — to raise awareness about light pollution and its effects on Harrisonburg and other areas affected by the prevalence of artificial light. Light pollution has long been a problem for those in even mildly-urbanized areas such as Harrisonburg. One has to travel well outside the city to get a clear view of the Milky Way and most constellations, and even then, it's difficult to get a view comparable to that enjoyed by ancient civilizations, or even those who lived just 100 years ago.

In Harrisonburg's Court Square, a person could view only seven or eight stars, explained Jeff Storey, 27, a planetarium operator and a junior physics major at JMU.

At the university's Quad, someone could see perhaps 50 stars. Outside the city, the number increases to between 250 and 1,000 stars, depending on the location. In a rural part of West Virginia, nearly 6,000 stars are visible.

During the presentation Friday night, Colleen Wallace, 20, a planetarium operator who is a junior physics major at JMU, showed images of five planets (Mercury, Venus, Mars, Jupiter



*James Madison University students Joseph Scully (at right), 18, of Fairfax, and Sabrina McCormack (seated next to him), 19, of Falls Church, get an unobstructed, albeit artificial, view of the night sky during a presentation at the John C. Wells Planetarium on the JMU campus Friday night. The show was part of last week's series of events, dubbed "Starry Nights," designed to raise awareness of light pollution. (Photo by Jason Lenhart)*

and Saturn), Orion, the North Star, the Big Dipper, and the Little Dipper — all objects that are visible without light pollution in an area outside of Harrisonburg.

Light pollution is a problem that gets little attention but has dramatic consequences, said Shanil Virani, the planetarium director — and not just for stargazers.

As a society, the world wastes \$110 billion per year over-lighting the night, he said. That's enough to power about eight million homes every year, he said, adding that it wastes resources, fossil fuels and money.

"We are not advocating the elimination of light at night. We are advocating smart use of light at night that makes cities and campuses safe and secure but doesn't expose our citizens and students to harmful amounts of light that can cause health consequences," he said.

According to a film called "Losing the Dark" by the International Dark-Sky Association, light pollution harms wildlife. For instance, it can cause migrating birds to crash into illuminated buildings, and causing newly hatched sea turtles to mistake the glow of lights for the shimmer of the ocean's surface.

Light pollution also poses a silent threat to the health of humans, researchers say. Exposure to light at night disrupts the circadian rhythms that regulate sleep cycles. People working at night under bright lights or living in light polluted cities also face a higher risk of developing diseases such as breast and prostate cancer, according to the film.

Virani said the solution to light pollution is to turn off unwanted or unnecessary lights in the city or on campus, and replace fixtures that send light up to the sky with fully shielded fixtures that direct light down exactly where it is wanted.

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