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Star Attraction

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Star Attraction

Forty years after its construction, the Mark Evans Observatory continues to bring faculty and students closer to the night sky.

Story by RACHEL HATCH

Humankind has long been fascinated with the night sky and the celestial objects that draw our gaze. The Mark Evans Observatory on Illinois Wesleyan's campus has offered a glimpse into that mysterious realm for generations of faculty and students.

As part of Homecoming in October, the University's Physics Department celebrated four decades of the observatory with tours, as well as a reception honoring two emeriti physics professors — Ray Wilson and Lew Detweiler — who helped foster a love of the stars for generations of students.



“There were three professors who truly represented the backbone of building the Physics Department,” says current department chair and Professor of Physics Narendra Jaggi. “Two of them are still with us today. And so we decided to celebrate them.” The third professor, former department chair Gary Kessler, died in 1995.

At Homecoming, Jesse Schaar '10, left, and Daniel Larocca '13 toured the observatory. (Photo by Marc Featherly)

“Their impact is unquestionable. Ninety percent of our curriculum is based on what they created. They brought in most of our department's equipment, and have been the linchpin in maintaining it. They have spent a lifetime teaching and fortifying this department,” says Jaggi.

More than 100 alumni attended the physics events at Homecoming. The number impressed Jaggi and others in the department. “When we saw what a great impact the department has made on alumni, it re-energized our longtime goal of improving equipment. The first priority, of course, is to update the telescope in the observatory.”

Completed in 1970, the Mark Evans Observatory, like space exploration itself, offered hope in a turbulent time. Even the building of the observatory brought excitement to campus. On March 18, 1969, astronaut Frank Borman — commander of the *Apollo 8* space mission that was the first manned flight to orbit the moon — attended the University Founders' Day to lay the observatory's cornerstone and to receive an honorary degree.



Astronaut Frank Borman caused a buzz of excitement when he came to campus to lay the new observatory's cornerstone.

“He piloted his own jet into Bloomington,” then-University President Robert S. Eckley recalled in his memoir, *Pictures at an Exhibition: Illinois Wesleyan University: 1968-1986*. “He generated more interest and excitement than any other visitor to the campus during my years at Wesleyan.” Though Borman was not the main speaker for Founders’ Day, Eckley noted that he “captivated the audience and the campus” by offering a message of hope during a time when racial tension and war gripped the nation. “For a man who just returned from circling the moon, nothing was impossible,” wrote Eckley.

The same impetus that brought Borman to the moon also inspired the construction of the Evans Observatory. Wilson came to Illinois Wesleyan in 1962, five years after

the launching of the Soviet Sputnik satellite that kicked off the race into space between America and the Soviet Union.

“I was about to go and get my doctorate [in astronomy] at the University of Arizona,” says Wilson, “and I remember President [Lloyd] Bertholf looking at me and saying, ‘Well, I guess we need to get the observatory working again.’”

Illinois Wesleyan had been home to an observatory since 1894, when University friend C.A. Behr of Chicago donated an 18.5-inch reflector telescope. Crafted in England by George Calver, it was ranked as the eighth largest telescope in the United States at that time.

To house the instrument, the University built a small, decagon-shaped observatory, named for Behr, which became the third building on the main campus block.

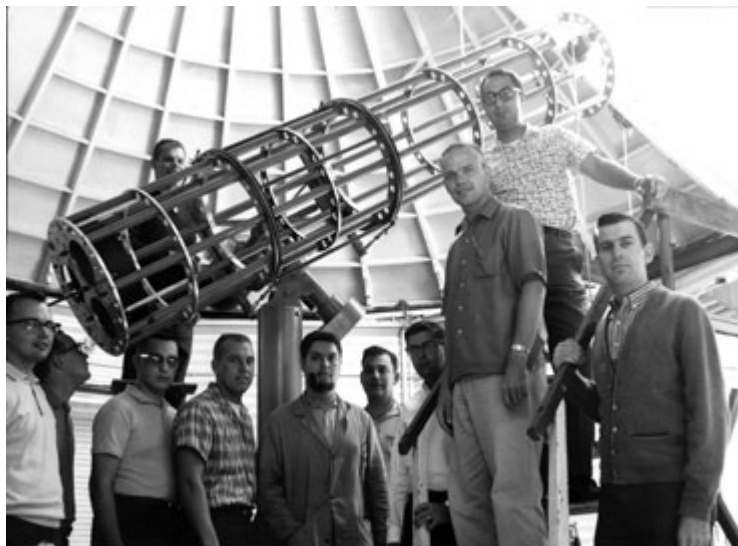
In the 1950s, administrators decided to move the Behr Observatory to allow room for construction of Shaw Hall. “It was small enough to move with a crane,” says Wilson. When the time came, movers hoisted the entire building off the ground, thinking the telescope had been secured. It had not. “The telescope was destroyed — all except the mirror,” Wilson says.

By the 1960s, the space race had launched more than rockets. Students flooded into astronomy classes with renewed interest in the science of space. “There was a time when I was teaching classes of 120 in the auditorium of Sherff Science Hall,” says Detweiler, who joined Wesleyan’s faculty in 1968. Near the conclusion of his tenure as IWU president, Lloyd Bertholf agreed that a new building was needed to replace the badly deteriorated Behr Observatory in order to meet growing student interest in astronomy.

While funds were sought to build the observatory, physics faculty and student Barry Beaman '65 set to the task of constructing a new telescope, using the original 1894 mirror. "It was quite a sight," says Detweiler of the finished product. "Of course, you needed a ladder to reach the eyepiece because it was so tall."

One third of the \$90,000 needed to construct the new observatory was provided by Nan Morgan Evans in memory of her late husband, Mark, who had been a longtime member of Illinois Wesleyan's Board of Trustees. University funds and federal and foundation grants paid for the remaining costs.

When it came to locating an architect for the observatory, the University looked to Mark and Nan Evans' son, Orme. In his original plan, Evans designed the telescope base to rest on a pyramid shape that would descend into the lower floors of the three-story observatory. Later, a consultant suggested creating a column instead of a pyramid, noting it would be similar to those used on interstate overpasses. The column would be anchored into the ground under the observatory.



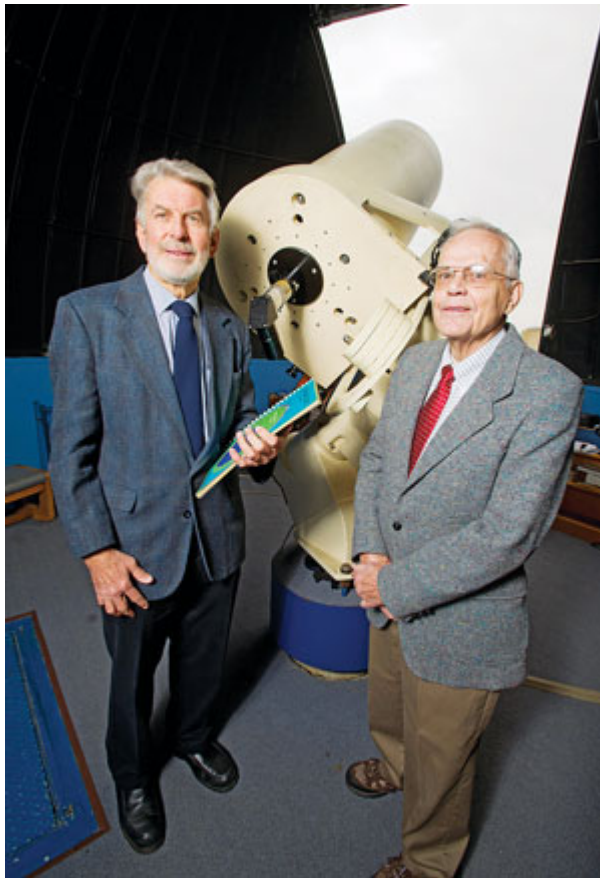
Guests check out the Calver telescope rebuilt by IWU faculty and students in the late 1960s. At center, smoking a pipe, is Gary Kessler; Detweiler is on the far right.

Walking into the first floor of the Evans Observatory today, one can see a large block of bricks that surrounded that very column. "Takes up a lot of space, doesn't it?" says Detweiler, knocking lightly on the dark brick. "It wasn't supposed to be this big around." At one point during construction, Detweiler and Kessler brought a small telescope to the observatory to test the steadiness of the column. "What bothered us was not so much that it wobbled, but that it continued to wobble like a pendulum for about a minute," he says, waving his hand slowly back and forth to show the movement.

As it turned out, the consultant and the construction crew had not communicated fully, says Detweiler, leading the crew to construct a column exactly like an interstate overpass, complete with the flexibility to absorb constant shocks. "Movement on a highway overpass, good. Movement for a telescope, not so good," says Detweiler with a smile. The remedy came with pouring more concrete around the column, expanding the width of the bottom by six feet.

Truly secure this time, the Evans Observatory opened for classes in the fall of 1970. Just one year later, instructors were dismayed to discover that the telescope's mirror from 1894 was finally seeing wear. "There is a precision process to creating a mirror for a telescope," Wilson explains. "Temperature changes can affect it over time, and slowly render it useless." The Physics Department applied for a federal grant from the College Science Improvement Program. The grant, coupled with

funds from the University, enabled the purchase of a new 16-inch Cassegrain telescope for around \$16,500 in 1971.



At Homecoming, more than 100 alumni joined a reception honoring Detweiler and Wilson. (Photo by Marc Featherly)

Wilson and Detweiler have noted a fluctuation in class sizes over the years, from 120 students each semester during the height of the space race to a much more personal 20 students today. Each semester, students still march up the narrow spiral of the metal staircase that leads to the Cassegrain telescope in the Evans Observatory dome.

Professor of Physics Linda French and Assistant Professor Thushara Perera now teach astronomy classes on campus. “Students really like that experience of seeing the stars through the telescope,” says French, who noted several students have conducted research at the observatory that helped propel them to graduate school.

The local community also takes in the view of the night sky through the observatory, which the department opens to the public during major celestial events. French recalled when the planet Mars was closer to the Earth than it had been in 60,000 years. “In just one night more than 400 people viewed the polar caps and markings on Mars through the telescope,” she says. “There was a line down two flights of stairs and out the front door. We stayed open until every person had seen the planet, and this continued for several nights.”

The Physics Department is hoping student and public interest continues with the proposed improvements to the observatory. “We would like to find the funds to have a new telescope in place in a few years,” says Jaggi. French noted the current telescope and building are sorely in need of upgrades. “Things have not really changed in 40 years. Right now, the dome leaks, and we need to set garbage cans out to catch the rainwater,” she says. “Our telescope does not record data. These days even amateur telescopes can talk to computers and download data for comparison. We’d love to have something like that to demonstrate how technology facilitates our field.”

Jaggi hopes changes would open doors for students. “One can think of a completely different way to study astronomy,” he said. “Just think, remote access to the telescope would mean homework is more than performing equations. An instructor could say ‘access the telescope with your laptop, and point it here.’ There are countless possibilities.” Possibilities, perhaps, as countless as the stars.