

Restoring the Dixon Observatory

“Astronomy changed the way I see everything. It makes life feel both more mysterious and more meaningful.”

—SEBASTIAN LAGUNA '25

Chris Meehan and David Dahari in the Dixon Observatory they worked together to restore

Photo by Jennifer Schulten

The domed Dixon Observatory—instantly recognizable on Berkshire’s campus—has been introducing students to the cosmos since it was gifted to the School in 2000 by former science teacher Tom Dixon and Cynthia Dixon. The School’s original observatory had formerly been housed in a trailer for portability, and it was located where Spurr Dormitory is now. The Dixon Observatory was a revelation, although it fell out of use during the COVID-19 pandemic.

In 2023, Chris Meehan began quietly modernizing and restoring the observatory. Meehan, Berkshire’s academic technology coordinator, also teaches environmental science and serves as the Astronomy Club’s faculty advisor with astronomy and physics teacher David Dahari.

“We spent countless hours working to restore it, including over the summer and during breaks,” Meehan says. “Students joined in to help us as well. Now, it’s fully functional again and better than ever, and that’s really exciting.”

The cleanup included removing boxes and furniture, as well as old computers and monitors—technology that had become outdated only two decades after being considered cutting-edge at the time.

“We had to figure out how everything worked, mechanically and electronically,” Meehan says. The ad hoc team rewired the entire Observatory; replaced the computer, camera, and cabling; and sourced a donated servo drive to control the precise movements of the telescope and dome for astronomical observation and imaging.

One of the biggest challenges was updating the Observatory’s shutters, which roll back to reveal the night sky. The control system for the shutters—two

motors and eight sensors—had become inoperable, so the only way to open the shutters was via hand crank.

“It was difficult to use because we were always fighting the motor, and it would take us ten minutes to open the shutters,” Meehan says. “We realized we needed to rebuild the system.”

Because outsourcing the job was costly, Meehan and Dahari set about designing and engineering their own solution. “We built it ourselves,” Meehan says, who leaned on former engineering teacher Corinne Rywalt for advice on how to design the Arduino-based shutter controller.

“The system allows each shutter to be opened and closed independently via physical buttons, with integrated sensors and failsafes to automatically stop the motors when the shutters reach their fully open or closed positions,” Meehan explains. “I also added a rain sensor that triggers automatic closure in case of unexpected rain.”

Student Astronomers

Gabe Dahari '25

Project: Young stellar objects

Gabe drew from NASA archived data to detect the dusty disk signatures around newborn stars, and took a census of young stars in the galactic plane.

Sahar S. '26

Project: Astrophotography

Sahar utilized the Dixon Observatory to collect data on emission nebulae and star-forming regions.

Hemin Khalid '25

Project: Extrasolar planets in habitable zones

Using online data, Hemin detected and classified the planets orbiting nearby stars.

The dazzling Northern Lights visible in the night sky above the Observatory



Figuring out innovative and economical solutions comes with the territory of running and maintaining an observatory. “We had to puzzle through some of the DIY fixes that we inherited in the Observatory,” Dahari says. “It’s not like you can find a manual for all of it. The process of working through it together with each other and the dedicated students was super fun. It was frustrating at times, but very rewarding. And I think the students appreciated the fact that there was no solution for this until we all came up with one together.”

Meehan says the Observatory is an incredible teaching tool across the sciences. “There’s physics and chemistry in astronomy, and there’s even biology when we start talking about the chances of alien life,” he says. “There’s light, sound, and radio waves, and by analyzing the color spectrum we can even figure out what distant stars and planets are made of. Astronomy offers a fascinating, hands-on application of concepts that, in the past, were taught only through textbooks. The Observatory lets students experience these ideas firsthand, making science feel more real and impactful.”

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