TeamViewer

Case Study

UNIVERSITY OF DALLAS

Opened in 1956 through the stimulus of the Sisters of Saint Mary of Namur and a group of dedicated laypeople in partnership with the Diocese of Dallas, the University of Dallas is a Catholic institution welcoming students of all faiths. Offering a comprehensive list of bachelor's, master's, doctoral, and continuing education programs, the university attracts highly motivated students from around the world.

Located in Irving, a city of over 200,000 with six global Fortune 500 headquarters, the university's campus is an oasis in the middle of the vibrant Dallas/Fort Worth metro area.

Challenges

- Enable collection of multitudes of data to search for new exoplanets
- Increase student access to robotic telescopes in a variety of locations to collect data
- Create opportunities for multiple students to use remote telescopes and collaborate in their studies and discoveries
- Increase interest in high school students in STEM courses

Solution

From helping astronomy students decipher the secrets of the universe, to encouraging future generations to become curious about the wonders of the heavens, TeamViewer has opened the eyes and minds of countless stargazers. TeamViewer even helped students discover a rare new star.

TeamViewer Enables Students to Reach for the Stars

The Physics Department of the University of Dallas supports many opportunities for undergraduates and high school students to learn more about astronomy and the universe.

During the summer undergraduate astronomy and astrophysics research program, students receive grants from the university to dive deeper into their field of study and enhance their knowledge of stars and exoplanets while developing real-world research skills, which are used in their 35-page thesis written by the end of the semester.

In order to accumulate all the data needed for this advanced semester of study, students must collect and review hours of image data captured for astronomical phenomena using telescopes.

For the first three years of the program, students had limited access to this data since the collection was done manually — usually involving spending many nights on top of a mountain with only a telescope and their data.

This caused a variety of problems for the summer research semester, including having to deal with poor weather conditions and collecting only as much data as each person could collect in such a short period.

To provide students with access to the data and opportunities for them to fulfill their academic dreams, the university needed a better way for them to gain the insights and information they needed to complete their summer thesis and graduate to the next level of academia.

TeamViewer Helps Gather Galaxies of Information

In 2016, while working with other universities and telescope sites, the professors decided to use a remote access solution. This enabled students to gather data from a variety of locations — no matter what the weather was like in Dallas — without having to spend all night on a mountaintop.

After researching a variety of solutions and weighing the features with the costs, the university picked TeamViewer as their solution of choice.

And it's no wonder they decided to go with TeamViewer. Renown theoretical physicist and cosmologist Stephen Hawking used used TeamViewer to access his telescope remotely.

"Well, the first couple years, I noticed distinctly that we were able to get much more data doing it remotely than having the students sit on the mountaintop and taking the data," explains Arthur Sweeney, adjunct professor, laboratory manager, and engineer.

In fact, TeamViewer enabled the undergraduates to acquire so much data that they have more than they need. Since making TeamViewer a standard part of this program, as well as other programs in the department, the University of Dallas has become one of the first colleges to implement remote telescope operations into its undergraduate research and courses.

A New View of the Stars

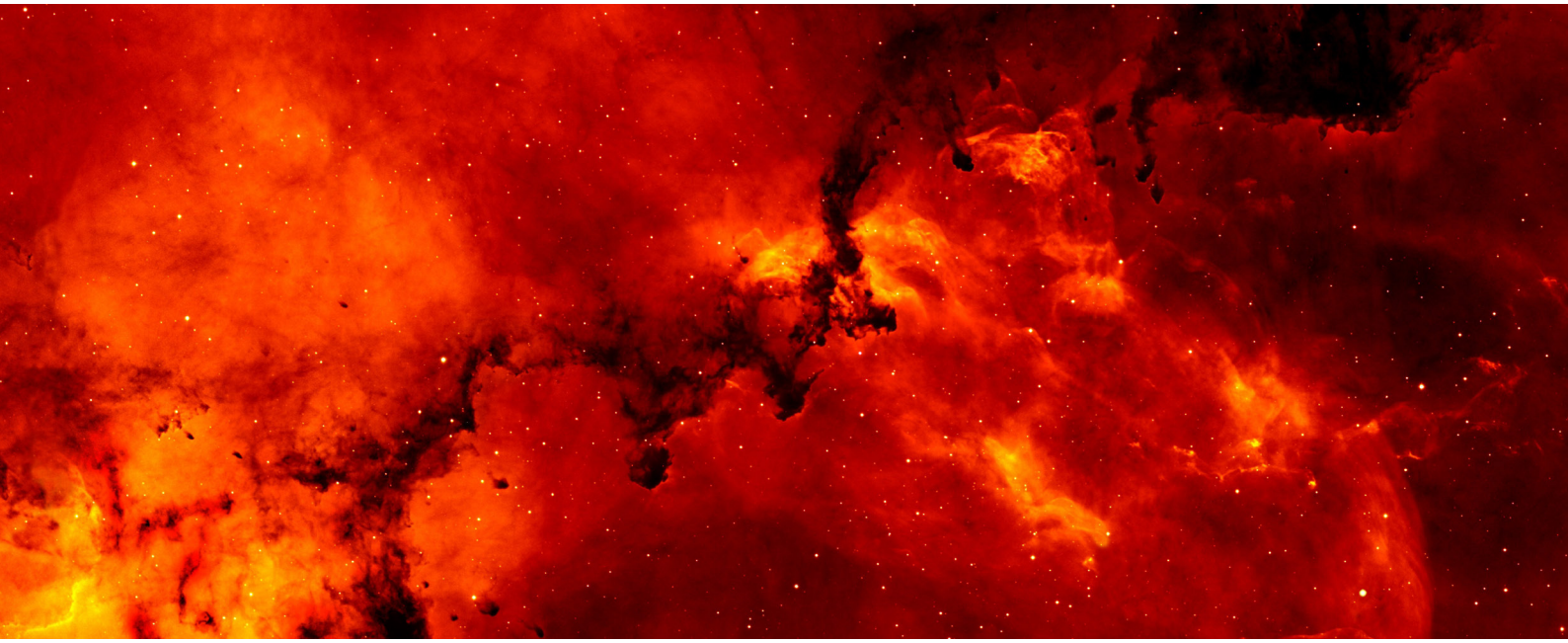
The University of Dallas has partnered with the University of North Texas to share observatory information remotely. This enables the students from each university to access each other's telescopes and captures a plethora of useful data for their theses.

"It's about the research, but it really gets the students more involved and excited in astronomy," says Richard Olenick, professor of physics at the University of Dallas.

Using telescopes in other parts of Texas, students have greater opportunities to capture and review data no matter the weather conditions of where they are physically located, since they can remote into an observatory that has clear skies — perfect for stargazing.

Since working with TeamViewer, students have been able to compare and combine the data they have gathered and analyzed with historical information, creating an opportunity for them to get real-life experience sharing their findings with their professors and other academics through papers and publications.

The ability to remotely access other telescopes has not only changed their study and research methodologies, but also enabled even greater discoveries.



"In the three years since we first started using TeamViewer, we've discovered a new type of rare star," shares professor Olenick. "We used the remote observatory to line up and review all the data to help us write our paper."

And this discovery wouldn't have happened without TeamViewer's remote capabilities.

"If we had had to take students out somewhere on a mountaintop to do the data collection and observations, we would not have made this important discovery, since the data was not collected during our summer term," explains Olenik. "Students didn't have time with their standard course load to be physically in the observatory, but with TeamViewer, they could monitor the stars' activity and examine data right from here."

And the TeamViewer Windows interface and compatibility with other software platforms greatly simplified the students' in-depth exploration without any hassle.

"When we connect through TeamViewer, we're connecting to a computer, but we're also running about five other software packages simultaneously on that other computer," says Sweeney. "We never have a problem with TeamViewer and these specialty software programs which makes it a big positive for us. TeamViewer seems to be pretty darn bug-free, which is great."

TeamViewer Bridges the Gap on Earth

Professors Olenik and Sweeney have been able to expand students' horizons even outside of Dallas. Whether teaching a class in Dallas or North Carolina, Olenik has helped students enrich their knowledge and expertise by accessing telescopes in remote parts of West Texas.

The TeamViewer remote capabilities have also enabled exceptional high school students to take part in astronomy research.

"This past summer, I was mentoring two high school students — one in College Station, Texas, three hours outside of Dallas, and one in Louisiana," explains Sweeney. "The students would hook up to a remote observatory on the Red River in Gainesville, Texas, and a remote observatory in West Texas every clear night and take data using TeamViewer."

Thanks to the intuitive TeamViewer interface, it was easy for professors Olenik and Sweeney to teach the students during class time how to initiate remote sessions, so that they could run the observatories on their own. That helped students get about 90 percent of their learning done in the classroom and the final 10 percent at night.

"It would be virtually impossible for these students to go to the observatory in person," remarks Professor Sweeney. "But once they know how to use TeamViewer and the other programs we use in the observatory, the skies — and beyond that — are no longer the limit, no matter where they are."

The great divide in where students may be located means multiple students may need to access the telescope at the same time, both during class time and when collaborating on research projects.

One of the key features that sets TeamViewer apart from its competition is its ability to allow more than one user to access the observatory remotely at a time. This feature is priceless to the students of the university's physics department.

Engaging Future Scientific Exploration

Youth from elementary to high schools are focusing more and more on developing Science, Technology, Engineering, and Mathematics (STEM) skills. To meet this demand with future college students, the University of Dallas Physics Department has been conducting outreach activities with schools to draw more attention to astronomy, as well as other science-focused curricula.

With the exploding usage of robotic telescopes and the general growth of robotics in science, it only makes sense to introduce students to robotic observatories.

"Many educational foundations and organizations use robotic observatories and astronomy projects just to bring young people into the STEM area," says Sweeney. "Robotic observatories are another way of getting young people excited about astronomy."

To further extend research capabilities, the team has obtained permission from NASA to access and collect data using the Kepler Space Telescope, a satellite telescope. "The Kepler Telescope gives us unprecedented clarity in the data," states Professor Olenik. "We submit proposals to NASA for targets, and if they deem it scientifically worthwhile, they will collect the data and let us have it, which is a great benefit for our research."

Once the data has been collected from Kepler, the professors and students are required to follow up with Earth-based telescopes to re-examine and follow up on the data.

“That’s where TeamViewer has been great,” explains Olenik. “TeamViewer allowed us to tell NASA that we can do follow-up observations from Earth on their satellite data. Without TeamViewer and that ability, we wouldn‘t have been able to apply to NASA to do that work.”

From helping astronomy students to decipher the secrets of the universe to encouraging future generations to become curious about the wonders of the heavens, TeamViewer has opened the eyes and minds of countless stargazers.

“We couldn’t do what we do without TeamViewer” remarks Professor Olenik. “It’s simple to use and opens the doors to so many possibilities for our students. It’s just great.”

TeamViewer

TeamViewer is a leading provider of global connectivity solutions for remote access, support, and team collaboration. TeamViewer’s flagship product has been activated on more than 1.8 billion devices to support over 40M sessions on any given day.

For more information about TeamViewer, visit: www.teamviewer.com

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