

Planetarium produces first active stereo 3-D planetarium show about NASA's SOFIA mission

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NASA's SOFIA flies across the sky in a new 3-D production at The Planetarium at UT Arlington. Credit: UT Arlington

A new active stereo 3-D show at The Planetarium at UT Arlington will transform learning for students and planetarium visitors interested in exploring the mysteries of our galaxy and beyond.

The Planetarium, which is part of the UT Arlington College of Science, soon will begin public showings of "SOFIA 3-D," a short science film based on NASA's research and outreach mission, Stratospheric Observatory for Infrared Astronomy, or SOFIA.

The 3.5-minute film will also be shown prior to other future documentaries.

The NASA project has many goals, including the study of atmospheres of planets in the Solar System, such as Mars, and the study of comets. During its planned 20-year lifetime, SOFIA also hopes to inspire the development of new scientific instrumentation and nurture the education of young scientists and engineers.

"It has taken several years, but we are thrilled that we are finally able to introduce this significant film to the public," said Manfred Cuntz, a professor in the UTA Department of Physics and principal investigator on an \$88,000 grant from NASA, which among other activities funded the production of the film and equipment needed to install, test and produce content for the 3-D projection system.

"Studies of Mars are pivotal for many reasons, including that Mars may have harbored or is still harboring alien life. Comets are important because they represent the leftovers from the beginning of the Solar System, and may provide clues to the physical and chemical conditions within the nebula out of which our Solar System was formed," Cuntz said. "This aspect will also be helpful to the study of planet formation around stars other than the Sun, as well as to obtaining insight into the origin of life."

In 2009, planetarium staff developed "Unseen Universe: Vision of SOFIA," a full-length documentary, which is available to local schools free of charge. Read more [here](#).

"We are engaged in multiple SOFIA-related efforts at UT Arlington, and this film is directly aligned with our overall goal of enhancing and fostering science education," Cuntz said.

A software upgrade in 2012 provided a Digistar 5 projection system, which allows visitors to virtually fly from one location to another on Earth. The system also contains a comprehensive set of astronomical data.

The latest additions use active stereo glasses to project 3-D video on the immersive dome screen. The technology created several challenges for the development team to overcome. Creating content in 3-D required more powerful computers than previously used for content production.

Planetarium program coordinator Amy Barraclough and director Levent Gurdemir spent several months working to procure enough computers and hardware to begin rendering video in 3-D.

"Additional challenges with software compatibility had to be managed as well," Gurdemir said. "Content is now created on 16 virtual servers controlled by one master computer, and this all means an even stronger experience for patrons of all ages."

The film, "SOFIA 3-D" is expected to be available for public showings starting in December. Visit <http://www.uta.edu/planetarium/> for a schedule of current shows and programs available at the Planetarium.

Provided by University of Texas at Arlington

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