OSIRIS-REx Mission Team Wins 2022 Swigert Award for Space Exploration

By Daniel Stolte, University Communications - January 19, 2022
The NASA and University of Arizona OSIRIS-REx asteroid sample return mission team has been selected to receive the 2022 John L. "Jack" Swigert Jr. Award for Space Exploration [2] by the Space Foundation, a nonprofit organization that advocates for space exploration and space-inspired industries.

The award will be presented April 4 during the opening ceremony of the 37th Space Symposium [3] in Colorado Springs.

"I am enormously grateful to the Space Foundation for this honor," said Dante Lauretta [4], University of Arizona professor of planetary sciences and principal investigator of the OSIRIS-REx [5] mission. "The OSIRIS-REx team represents the pinnacle of human achievement. Team members have diverse backgrounds, skillsets and expertise. Together, we overcame numerous challenges to successfully collect a massive sample from asteroid Bennu. The best times are ahead of us, and the team is busy preparing for the analysis of these scientific treasures from outer space."

The OSIRIS-REx spacecraft launched Sept. 8, 2016, from Cape Canaveral Air Force Station and reached near-Earth asteroid Bennu in 2018. The spacecraft spent more than two years near the asteroid, which is one-third of a mile (500 meters) wide.

Repeatedly breaking records for the closest orbit ever flown around a celestial body, the spacecraft gathered information about Bennu's size, shape, mass and composition while monitoring its spin and orbital trajectory.

On Oct. 20, 2020, the OSIRIS-REx spacecraft extended its sample collection arm and made contact with Bennu in a clear spot in a crater in the asteroid's northern hemisphere. Bennu's surface turned out to be much rockier than expected based on ground-based observations.

"The OSIRIS-REx team has shown that, time and again, they are equal to the challenges inherent in exploration," said Thomas Zurbuchen the associate administrator for science at NASA Headquarters in Washington, D.C. "This team's efforts now provide the chance to unlock new discoveries about our solar system's beginnings, as this sample of asteroid Bennu will be studied for generations to come."

With the sample of dust and rock stowed inside the spacecraft's sample return capsule, OSIRIS-REx left the asteroid on May 10, 2021. The sample is scheduled to return to Earth in September 2023, with the capsule touching down at the Utah Test and Training Range. Following initial identification and processing at the Johnson Space Center, a team led by Lauretta will begin detailed analysis of the sample at UArizona.

Since Bennu is likely an extraterrestrial accumulation of the leftover material dating back to the birth of the solar system, the pristine material OSIRIS-REx will return to Earth is expected to hold unprecedented clues about the history of the solar system, including the possible origins of the ingredients that gave rise to life on Earth.
The John L. "Jack" Swigert Jr. Award for Space Exploration recognizes extraordinary accomplishments by a company, space agency, or consortium of organizations in the realm of space exploration and discovery. The award honors the memory of astronaut John L. "Jack" Swigert Jr., one of the inspirations for the creation of the Space Foundation.

A Colorado native, Swigert served with retired U.S. Navy Captain James A. Lovell Jr. and Fred Haise on the legendary Apollo 13 lunar mission, which was aborted after the perilous rupture of an oxygen tank while the spacecraft was on its way to the moon. People around the world watched as NASA overcame tremendous odds and returned the crew safely to Earth. In that spirit of accomplishment, the Swigert Award is presented annually at the Space Symposium by the Space Foundation.

"The OSIRIS-REx team has raised the bar when it comes to extraordinary accomplishments in the realm of space exploration and discovery," said Space Foundation CEO Tom Zelibor. "The team has laid the groundwork for forging the next generation of scientists, astronomers, geologists and more. That is historic on so many levels and further transforms the exploration of space for the betterment of all of humanity."

The Space Foundation [6] is a nonprofit advocate organization dedicated to offering a gateway to information, education and collaboration for space exploration and space-inspired industries that define the global space ecosystem. Driven by a partnership model, Space Foundation operates three divisions that unite the entire spectrum of stakeholders — business, government, education and local communities — through corporate membership, sponsorship, fundraising and grants.

UArizona researchers also were honored with the John L. "Jack" Swigert Jr. Award as part of NASA’s Phoenix Mars Lander team [7] in 2009. UArizona's Peter H. Smith was principal investigator for the Phoenix Mars Mission. The lander surpassed its original three-month mission, lasting five months in the Martian northern plains and digging up scientific "firsts" along the way, including the first confirmation of water on the Red Planet.

NASA's Goddard Space Flight Center provides overall mission management, systems engineering and the safety and mission assurance for OSIRIS-REx. Lauretta is the principal investigator, and the University of Arizona also leads the science team and the mission's science observation planning and data processing. Lockheed Martin Space Systems built the spacecraft and is providing flight operations. Goddard and KinetX Aerospace are responsible for navigating the OSIRIS-REx spacecraft. OSIRIS-REx is the third mission in NASA's New Frontiers Program. NASA's Marshall Space Flight Center manages the agency's New Frontiers Program for the agency’s Science Mission Directorate.

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