

# NASA Selects OSIRIS-REx As Next New Frontiers Mission

*Lockheed Martin to Build Asteroid Sample Return Spacecraft*

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DENVER, May 25, 2011 [/PRNewswire/](#) -- NASA has selected the University of Arizona to lead a sample-return mission to an asteroid. The OSIRIS-REx team is led by Dr. Michael Drake, Director of the University of Arizona's Lunar and Planetary Laboratory. NASA Goddard Space Flight Center in Greenbelt, Md. will manage the mission for NASA. Lockheed Martin (NYSE: LMT) will build the spacecraft.

The OSIRIS-REx mission is budgeted for approximately \$800 million, excluding the launch vehicle.

The target asteroid – named 1999 RQ36 after the year it was discovered – measures 575 meters (one-third of a mile) in diameter. 1999 RQ36 is a time capsule from the early solar system rich with organic compounds that may have seeded life on Earth.

"OSIRIS-REx will explore our past and help determine our destiny," said Drake. "It will return samples of pristine organic material that scientists think might have seeded the sterile early Earth with the building blocks that led to life. Such samples do not currently exist on Earth. OSIRIS-REx will also provide the knowledge that will guide humanity in deflecting any future asteroid that could collide with Earth, allowing humanity to avoid the fate of the dinosaurs."

OSIRIS-REx stands for Origins, Spectral Interpretation, Resource Identification, Security - Regolith Explorer. Scheduled for launch in 2016, the OSIRIS-REx mission will return the first samples ever taken from a special type of asteroid holding clues to the origin of the solar system and likely organic molecules that may have seeded life on Earth. OSIRIS-REx will also investigate an object potentially hazardous to humanity. 1999 RQ36 has a one-in-1,800 chance of impacting the Earth in the year 2182.

Spending over a year exploring 1999 RQ36 before acquiring samples, OSIRIS-REx will provide geologic context essential to expanding our understanding of the asteroid-comet continuum. The mission will provide near live coverage of 1999 RQ36 operations and sample return to Earth. Samples will return to Earth in the year 2023.

The return to Earth of pristine samples with known geologic context will enable precise analyses that cannot be duplicated by spacecraft-based instruments. Pristine carbonaceous materials have never before been analyzed in laboratories on Earth.

Lockheed Martin will design and build the OSIRIS-REx spacecraft, asteroid sampling system and the sample return capsule from its Space Systems Company facilities near Denver. In addition, the company will operate the flight system from its Mission Support Area from launch until the asteroid samples are returned.

"The design of the OSIRIS-REx spacecraft draws from the flight-proven Mars Reconnaissance Orbiter and sample return capsule of Stardust," said Joe Vellinga, program manager for OSIRIS-REx at Lockheed Martin Space Systems Company. "This heritage brings known performance, reliability and cost to the mission."

The OSIRIS-REx instrument suite includes: the OSIRIS-REx Camera Suite (OCAMS) by the University of Arizona; the OSIRIS REx Visible-Infrared Spectrometer (OVIRS) instrument by NASA Goddard; the OSIRIS-REx Thermal Emission Spectrometer (OTES) by Arizona State University; and the OSIRIS-REx Laser Altimeter (OLA) by the Canadian Space Agency.

The team includes the University of Arizona, NASA Goddard Space Flight Center, Lockheed Martin, Arizona State University, KinetX, the Canadian Space Agency, NASA Johnson Space Center, NASA Ames Research Center, NASA Langley Research Center, along with science team members from across academia.

NASA New Frontiers is a program to explore the solar system with frequent, medium-class spacecraft missions that will conduct high-quality, focused scientific investigations designed to enhance our understanding of the solar system.

Headquartered in Bethesda, Md., Lockheed Martin is a global security company that employs about 126,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and

sustainment of advanced technology systems, products and services. The Corporation's 2010 sales from continuing operations were \$45.8 billion.

More information about the OSIRIS-REx mission can be found at:<http://uanews.org/osiris-rex>

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