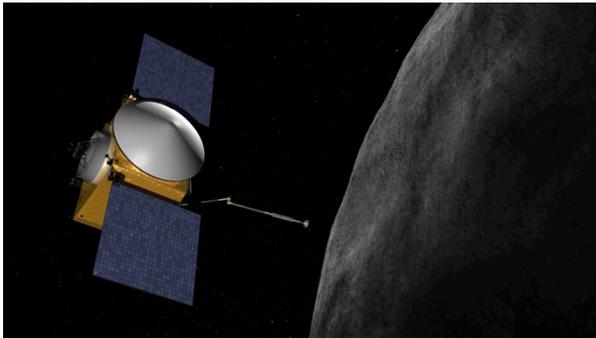


**YORK UNIVERSITY
DEPARTMENT OF EARTH AND SPACE SCIENCE AND
ENGINEERING
and
CENTRE FOR RESEARCH IN EARTH AND SPACE SCIENCE**

S E M I N A R

**Dr. Dante Lauretta
University of Arizona**

The OSIRIS-REx Asteroid Sample Return Mission



ABSTRACT

Asteroids are direct remnants of the original building blocks of the terrestrial planets. Carbonaceous asteroids are an important source of water and organic matter to the Earth. The Space Studies Board of the US National Research Council has identified sample return from a carbonaceous asteroid as a high priority mission. NASA New Frontiers program selected the OSIRIS-REx mission for implementation in 2011. The OSIRIS-REx mission will return samples from an organic-rich asteroid of a type not available in our meteorite collections. This type of material might have seeded Earth with the organic molecules that led to life. In addition, the OSIRIS-REx mission will provide ground truth for ground-based and space-based telescope spectra, investigate resources potentially available for humans to use in space, and help understand how to mitigate against asteroid impacts.

BIOGRAPHY

Dante Lauretta is a professor of planetary science at the University of Arizona's Lunar and Planetary Laboratory. His research interests focus on the chemistry and mineralogy of asteroids and comets as determined by laboratory studies and spacecraft observations. This work is important to understand the chemistry of the early solar system, the origin of organic molecules that may have led to the origin of life, and the initial chemistry of the Earth and other planets. He is an expert in the analysis of extraterrestrial materials, including lunar samples, meteorites and comet particles. Dr. Lauretta was selected as a Kavli fellow of the National Academy of Sciences in 2008, and received the Antarctica Service Medal of the United States of America in 2010 for his service as a member of the 2002-2003 Antarctic Search for Meteorites. He is currently serving as the principal investigator for OSIRIS-REx.



Refreshments will be served at 3:15 p.m. in Room 103 Life Sciences Building.

DATE: Thursday, October 9th, 2014
TIME: 3:30 p.m.
LOCATION: Room 103, Life Sciences Building