

Asteroid Aspirations

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A recent grant from NASA will enable the Arkansas Center for Space and Planetary Sciences at the University of Arkansas to continue its work creating missions to asteroids and exploring the possibilities and chemistry of water on Mars as part of the nation's space effort.

The center received a grant of \$1 million from NASA for its operations.

"We are very grateful to the university and to our congressional delegates for making this possible," said Derek Sears, director of the center and University Professor of chemistry and biochemistry in the J. William Fulbright College of Arts and Sciences.

The present NASA award will support the work of several University of Arkansas faculty, students and their collaborators. One of these projects concerns the development of a sample collector for the Hera near-Earth asteroid sample return mission that the center has proposed to NASA.

The Hera spacecraft will carry a collector designed, developed and built at the University of Arkansas by Sears, engineering professor Larry Roe, and chemistry and biochemistry professor Robert Gawley, as well as space center graduate Melissa Franzen, who was recently the first student to graduate with a doctorate from the new space and planetary sciences program. Physics professor Claud Lacy and his student, Kathy Geitzen, are studying potential target asteroids for Hera using ground-based astronomy.

In addition to supporting space and planetary research at Arkansas, these

new funds will support the education programs of the space center at the graduate and undergraduate level. The space center is about to start a new program to engage undergraduate honors students in space and planetary research.

The public face of the space center is provided by numerous outreach efforts, public lectures, summer teacher's workshops, a monthly newsletter called Space Notes and a popular magazine called Meteorite. The space center is also working with the physics department to reopen the university's planetarium, hopefully sometime this fall.

“We hope that the rich and varied programs of the space center will enrich the lives of faculty and students at the university, and bring something to the citizens of the state,” said Rick Ulrich, the new deputy director of the space center. “Furthermore, we aim to create a new center of excellence for the nation's space exploration efforts – a center located in the nation's heartland that is focused on the analysis of returned samples from space.”

The center has a grant from the W.M. Keck Foundation that supports the laboratory for space simulations, which houses the largest environmental chamber in a university setting. These funds support the research of professors Sears, Ulrich and Roe and their students, Julie Chittenden, Katie Bryson, Lisa Billingsley and Brendon Chastain, on the behavior of water on and below the surface of Mars, and recently these measurements were extended to include the behavior of methane, a gas that can be produced by certain living organisms and recently has been detected in the Martian atmosphere.

Source: University of Arkansas, Fayetteville

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