

# Rice, HMNS pioneer portable, "immersive" planetarium

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**RICE,**  
**HMNS PIONEER PORTABLE, "IMMERSIVE" PLANETARIUM**  
NASA Education Effort Aims to Reach Millions with Inflatable Planetarium  
Road Shows

Researchers

from the Rice Space Institute, in partnership the Houston Museum of Natural Science, are leading a NASA-funded project to develop portable technology that will allow exciting new "fully immersive" planetarium programs to be shown across the country inside inflatable, classroom-sized domes.

"Immersive

Earth" is a five-year, \$3.1 million project that brings together six museums, two universities, and three companies to create and distribute full-dome digital planetarium shows nationwide.

The project's

portable dome prototype recently started appearing at some Houston-area schools.

This week,

the dome will be at Annunciation Orthodox School, 3600 Yoakum Blvd., on Weds., April 28 from 8 a.m. to 2:30 p.m. Interviews and photo shoots must be scheduled in advance by calling either Valerie Greiner or Peggy Haney at 713-470-5650.

"Our

planetarium shows are truly immersive because they present the viewer with images, in front, behind, above and on both sides of their seat," said institute director Patricia Reiff, professor of physics and astronomy at Rice and the principal investigator on the "Immersive Earth" grant. "People love these shows, and they are a great vehicle to teach Earth and space science, but unfortunately full-sized planetariums require six projectors, working in concert with six different computers."

"Immersive

Earth" aims for a wider audience through the development of a small, fully portable system that uses an inflatable dome and single-projector display.

The "Immersive

Earth" grant will also pay for the creation of three new programs:

"Earth's Wild Ride," which is already in production, "Earth in the Balance" and "Earth in Peril."

A prior grant

from NASA helped create the first "full-dome" multimedia planetarium programs and the first immersive theater in the U.S., the Burke Baker Planetarium at HMNS. Unlike wide-screen theater systems that are designed to project film images into a viewer's peripheral vision, full-dome programs combines traditional planetarium content like starfield projections with digital animation sequences that fully immerse viewers with action on all areas of a domed screen.

"The

public loved our early productions — 'Powers of Time,' 'Force 5,' and 'Night of the Titanic,'" said Reiff. "But the technology was so sophisticated that we could only reach people through 40-odd planetariums nationwide."

Dubbed "Globe

Theatre," the original full-dome technology uses a half-dozen projectors to simultaneously display six individual, interlaced frames on a planetarium dome. The new system will use a single "fisheye" projector to display the same type of immersive images on a more intimate dome.

Dr. Carolyn

Sumners, the project's co-director, the Director of Astronomy and Youth Education at HMNS and adjunct professor of physics and astronomy at Rice, has led in the development of content for these new portable systems. Tony Butterfield, the Museum's lead animator, has coordinated the physical design of this new experience. Dr. Sumners' research indicates that students are more engaged and more likely to master complex concepts after an interactive program using full-dome projections

in a planetarium — either the museum's Burke Baker Planetarium or a portable dome.

#### Other participants

in the program include both the Carnegie Museum of Natural History and Carnegie Mellon University in Pittsburgh, the Lodestar Planetarium in Albuquerque, the Oregon Museum of Science and Industry in Portland, the Louisiana Arts and Science Center in Baton Rouge, and the Smithsonian Museum of Natural History in Washington, D.C., Sky-Skan Inc., Homerun Pictures Inc. and iMove Inc.

#### More information

is available at <<http://earth.rice.edu>>.