RBJ Rochester Business Journal

Friday, Feb 15, 2019

RIT professor participates in project aimed at universe's origins

By: Diana Louise Carter February 15, 2019

The bad news in space this week is the little rover that could has officially pooped out on Mars.

The good news is NASA announced it has set aside $242 million for a new project that could explain t of the universe, such as how it was created. And a professor at Rochester Institute of Technology is o researchers who are behind the project.

Michael Zemcov, an assistant professor at RIT, will take on the job of designing ways to translate data SPHEREx mission. SPHEREx stands for Spectro-Photometer for the History of the Universe, Epoch of R and Ices Explorer.

Michael Zemcov
(Elizabeth Lamark, RIT)

All that is to describe the building of a telescope that will launch in 202 goals: determining the expansion of the universe, gaining insights into t how galaxies were formed, and answering questions about key molecul the formation of galaxies.

"We're basically mapping the entire sky," Zemcov said, using the infrare light spectrum.

"SPHEREx picks up where our eyes leave off. …It's a pretty complete vie done anything like that — so comprehensive." This big picture will perh which of many existing theories about the formation of the universe is c

"If you have a good enough map of where everything is, you can figure there," Zemcov said.

The SPHEREx telescope is designed to transmit data for two years, but rover and other projects are any example, well-built space projects may continue to function and prov after their original expiration date.

"I'm very excited by the opportunity to help explain if and how inflation happened, and to understand it," said Zemcov. "There are hundreds of models for inflation right now and they all describe different may have happened. Being able to constrain what actually happened would teach us new things abou fundamental physics of the early universe that we have no access to otherwise. For me that's really e I don't see a better way to get at it right now."

Zemcov came to RIT from CalTech, where he worked with the primary investigator of SPHEREx, Jame

Zemcov said the telescope for this project would be dwarfed by the giant James Webb Space Telescop still being tested before it can be launched. The Webb telescope will provide great detail, he noted, w with lenses less than 8 inches across, will provide less detail and a more comprehensive picture.

"As soon as we get ball rolling, we will start in with the team to build data analysis. The big show is w space," Zemcov said. "The problem is, it's a fire hose of data. We have to be ready for that by the tim

NASA administrator Jim Bridenstine said, "I'm really excited about this new mission. Not only does it e United States' powerful fleet of space-based missions dedicated to uncovering the mysteries of the ur critical part of a balanced science program that includes missions of various sizes."

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