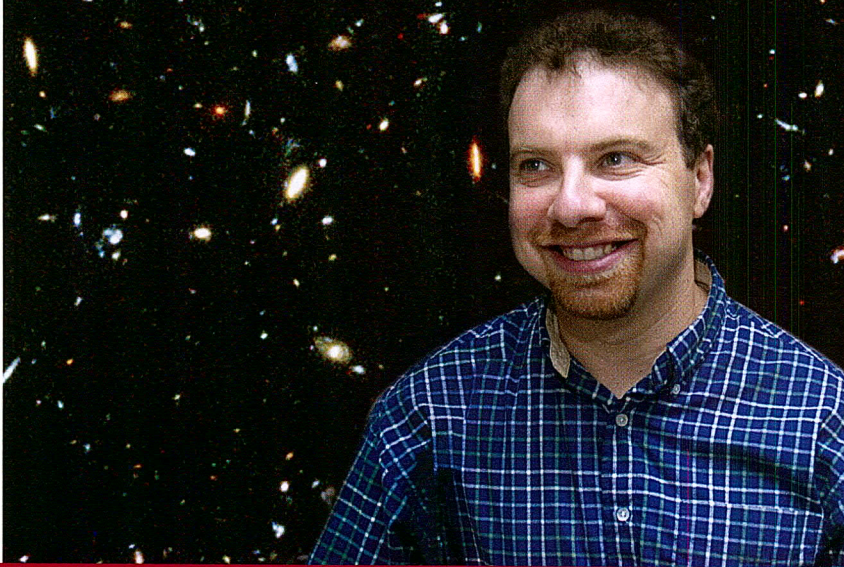


physics.osu.edu

While still a Harvard postdoc in 1998, Riess discovered a new kind of force in the universe, one that pushes it outward, faster and faster, in all directions. Riess had found what came to be called "dark energy," the anti-gravity force that makes up nearly three-quarters of the universe. It got the attention of astrophysicists everywhere. Scientists were well-aware of dark matter—unseen particles making up about 22 percent of the universe, but the rest was a mystery. Dark energy was the missing piece that made everything else click into place.



The Ohio State University
Department of Physics
presents the
50th Annual Smith Lecture

Thursday, May 10, 2012

8:00 pm

**100 Independence Hall
1923 Neil Avenue**

Adam G. Riess, Nobel laureate

Krieger Eisenhower Professor of
Astronomy and Physics
Johns Hopkins University

Senior Member of the Science Staff at the
Space Telescope Science Institute

Supernovae Reveal an Accelerating Universe

Riess received the 2011 Nobel Prize for Physics for his discovery of dark energy (shared with two others) and the accelerating expansion of the Universe through observations of distant supernovae. His research involves measurements of the cosmological framework with supernovae (exploding stars) and Cepheids (pulsating stars). In 1998, his study for the High-z Team provided the first direct and published evidence that the expansion of the Universe was accelerating and filled with Dark Energy; which, with the Supernova Cosmology Project's result, Science Magazine called the Breakthrough Discovery of the Year.

In 2002, he led the Hubble Higher-z Team to find 25 of the most distant supernovae known with the Hubble Space Telescope, all at redshift greater than 1, culminating in the first significant detection of the preceding, decelerating epoch of the Universe. This helped confirm the reality of acceleration. NASA called his characterization of the time-dependent nature of dark energy the #1 Achievement of the Hubble Space Telescope to-date.



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