

# Star Struck

RUTGERS SCIENTISTS ARE USING A NEW TELESCOPE IN SOUTH AFRICA TO EXPLORE THE UNIVERSE

A telescope sensitive enough to detect objects as faint as the flicker of a candle on the moon is helping Rutgers astronomers reach for the stars.

For the first time, researchers will have a detailed view of the southern night sky, making it possible to track swiftly changing objects in the universe, says Ted Williams, professor of physics and astronomy in New Brunswick/Piscataway.

The \$20 million Southern African Large Telescope (SALT), the world's largest optical telescope, sits on a remote mountain-top about 220 miles inland from Cape Town. Its first images show newly born stars amid brilliantly glowing gas clouds, clusters of stars more than twice the age of our own sun, and another galaxy similar to our own Milky Way. Astronomers will combine these images with data from similar telescopes in Australia and Chile to build 24-hour views of the universe.

Rutgers, one of 11 international partners, contributed \$3.1

million for a time share in the telescope for the next decade. The university also teamed with astronomers from the University of Wisconsin-Madison to install a spectrograph, an instrument that breaks down light into colors, or

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wavelengths, and measures the movement of stars and their temperature and chemical composition. The instrument will help trace the history of nearby galaxies and provide insight into dust clouds and star clusters—two building blocks of the universe. Says Carlton Pryor, a professor of physics and astronomy, "This will speed our study of globular star clusters, which are the oldest identifiable objects in our galaxy and contain clues about how galaxies form."

The building that houses SALT includes a workshop, a visitor's gallery, and instrument and computer rooms.