



Science In Our Lives

NASA Telescope Opens A New Window

(NAPSA)—The future of telecommunications on Earth is beginning to take shape in outer space.

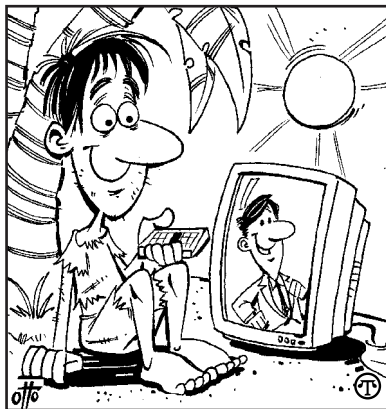
A new NASA facility, located in Southern California, is soon to be the home of a different kind of eye-on-the-sky. An optical telescope will track fast, low Earth-orbiting satellites and deep-space probes both day and night.

Until recently, the majority of communication with satellites—both in orbit around the Earth and in deep space—has relied upon giant radio telescopes similar to those used by radio astronomers to study the most distant objects in the cosmos. Unfortunately, the laws of physics severely limit the amount of information—scientific data or images—that can be received at a given wavelength of light and radio waves are among the most limited.

However, a laser beam—the essential element of optical-based communication—can transmit more information than a radio signal.

That's one reason behind an increasing demand for research facilities that rely on optical technology—instead of a radio signal—both for space exploration and to communicate with Earth-orbiting satellites.

It's projected that in the next decade the new facility—called the JPL Optical Communications Telescope Laboratory (OCTL)—will both communicate optically with Earth-orbiting probes and undertake the research and devel-



Optical communications may soon get even better thanks to NASA's new Optical Communications Telescope Laboratory.

opment needed to support early interplanetary communications.

This development also has implications for everyday life on Earth. For example, optical-based satellite communications systems can offer increased bandwidth. This translates to sharper images—whether they are broadcast from Mars or from distant locations on Earth.

It may also mean that access to a variety of high-definition television channels will be as much of a reality in the Amazon or the Australian Outback as it will be in Los Angeles or New York.

JPL—the Jet Propulsion Laboratory—is managed by the California Institute of Technology and is NASA's lead center for robotic exploration of the solar system.

To learn more, visit the Web site at spacescience.nasa.gov.