

# Astronomers start testing infrared camera at world's largest telescope

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University of Florida astronomers are testing a new infrared camera this summer at the world's largest telescope that will allow researchers to look for planets outside our own solar system and better explore hidden black holes at the centers of galaxies.

The commissioning of CanariCam, a high-tech, heat-sensitive camera, started in late June at the site of the biggest optical-infrared [telescope](#) in the world. Gran Telescopio Canarias, or Grantecan, is located at 7,438 foot-altitude on the island of La Palma, in Spain's Canary Islands off the northwest coast of Africa.

CanariCam, created by a team of astronomers and engineers led by UF astronomy professor Charles Telesco, had a cost of \$3.2 million, financed by the Spanish government, and will allow researchers to peer through obscuring interstellar dust with unprecedented accuracy.

The process of installing an instrument on a telescope and verifying the full functionality of all its operational modes isn't an easy task.

"Any frontline research instrument is one of a kind. In order to be at the forefront of science, you can't do what others have done already. You must incorporate the newest materials and technologies and push them further than anybody has done before," Telesco said.

Despite the challenges, more than 50 percent of the capabilities of CanariCam have been fully tested on the telescope and should be

finished next month. It will then be ready for use by the general scientific community starting in March 2012.

Internationally known for its expertise in designing, building and using state-of-the-art astronomical instrumentation on some of the world's largest telescopes, the University of Florida is a 5 percent partner in the Grantecan telescope, also known as the GTC, which was inaugurated in 2009. UF is developing and using instruments such as CanariCam to maximize the telescope's scientific productivity for all its users. In return, the Florida team has access to the telescope for its own projects.

“Currently there are only three infrared instruments installed on 8-to-10 meter class telescopes in the world. The unique specifications of CanariCam, combined with the mighty 10.4 meter (34.12 feet) mirror of the GTC, will be a cutting-edge scientific tool,” Telesco said.

Some bodies or regions of the universe do not emit visible light but infrared radiation, which is detected by CanariCam. This capability will spearhead research exploring planets outside our solar system and regions where planets and stars are forming. Also, the fact that infrared radiation can pierce easily cosmic dust clouds means that CanariCam would be able to see objects that are totally obscured at visible wavelengths.

Provided by University of Florida

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