

World's largest telescope to make first observations Friday

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This is a view of the unfinished primary mirror of the Gran Telescopio Canarias in Spain's Canary Islands. The telescope, the world's largest, is set to make its first observations at a "first light" ceremony July 13, 2007. Under construction since 1990, the telescope and its 34.1 foot mirror is set to be completed next year. The University of Florida contributed \$5 million to the \$175 million project and owns a 5 percent share of the telescope, the only U.S. institution with such an ownership share. Credit: University of Florida

The world's largest telescope will take its first peek into the heavens this week, ushering the University of Florida into the top ranks of the "big observers," as one astronomy professor put it.

The Gran Telescopio Canarias, or GTC, under construction in Spain's Canary Islands for the past seven years, will hold its "first light" opening

ceremony Friday. UF, which contributed \$5 million to the project and owns a 5 percent share, is the only U.S. institution with a stake in the massive telescope.

“This is one of the largest international projects that the university is involved in, and first light is certainly a big step for a small department,” said Stan Dermott, astronomy department chairman and one of four UF astronomy faculty members who will attend Friday’s ceremony.

The roughly \$175 million GTC is not yet complete. Only 12 of the 36 mirrors that together will compose its 34.1-foot primary mirror have been installed, Dermott said. The rest are expected to be mounted this year, with the telescope’s grand opening — to be presided over by King Juan Carlos I of Spain — set for next summer. Only after that date will scientific-quality observations begin.

All that said, enough of the mirror is assembled to allow telescope operators to make initial test runs, he said. So at 10 p.m. Greenwich Mean Time Friday (6 p.m. EDT), Prince Felipe, heir to the Spanish throne, will train the telescope on Polaris, the North Star, for a ceremonial observation to be attended by about 300 people.

Besides Dermott, the UF contingent will be astronomers Charlie Telesco, Rafael Guzman and Anthony Gonzalez, as well as Tom Walsh, UF director of sponsored research. “This will be the first demonstration that the telescope can produce a focused image of a star,” Dermott said.

The Spanish government is the main owner of the GTC, with UF and two institutes in Mexico as partners. As a result of its participation, UF astronomers will be allotted 20 nights of telescope time annually for observations. A UF-designed and built infrared imager and spectrometer, meanwhile, will be one of the first instruments mounted on the telescope when it opens for scientific observation next year.

“We are not just passive partners in this project,” Dermott said. “We are the world’s leader in developing astronomical instruments, and our instrument, CanariCam, will be one of the first instruments used on the GTC.”

Dermott said UF’s participation in the GTC effectively makes it one of a handful of institutions with guaranteed access to the world’s most powerful telescopes. That will open the door to a wide range of research not only at the GTC but elsewhere as well.

”Already we are forming scientific teams that will involve other telescopes to take part in surveys of the distant universe,” he said. “For example, Rafael Guzman is leading a team that will investigate the origin of galaxies. In a sense, we have joined the club of big observers now.”

Funded in part by the Spanish government with a \$6.5 million grant, Guzman’s team of 40 astronomers from the U.S., Spain, France and England is conducting a survey called GOYA, or Galaxy Origins and Young Assembly.

Source: University of Florida

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