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The James Webb Space Telescope Takes a Starring Role at the Nation's Capital

Washington, D.C. is sharing in the excitement of NASA's future James Webb Space Telescope mission as a full scale model of this Northrop Grumman-built space observatory is displayed on the National Mall.

The telescope is being exhibited May 10-12 as part of Public Service Recognition Week, and has attracted a steady flow of visitors since the 80-ft.-long model took shape in front of the Smithsonian National Air and Space Museum and within view of the Capitol building.

Mission team members from NASA and Northrop Grumman are on hand to answer questions from the public, including program experts who are manning a booth appropriately titled: "The scientist is in."

With its development on schedule for a June 2013 launch, The James Webb Space Telescope will peer at greater distances into the universe than ever before, observing the creation of stars and galaxies billions of years ago. It will build on the breakthrough discoveries of NASA's precursor spacecraft, including Northrop Grumman's Chandra X-ray Observatory – which recently witnessed the brightest stellar explosion ever recorded.

A press briefing on the James Webb Space Telescope program brought many U.S. and international reporters to the National Mall on May 10 to hear more about the mission's scientific goals and its current development status.

"As prime contractor, Northrop Grumman is proud to be leading this important mission, which includes the valuable participation of Europe and Canada," Jeff Grant, Northrop Grumman Space Technology's Senior Vice President, told at the press conference attendees. "We have committed our company's full resources to provide a truly innovative spacecraft, which includes the largest deployable space telescope ever launched, and a sunshade that unfurls to the size of a tennis court."

Northrop Grumman program manager Martin Mohan outlined some of the innovations required for the telescope's highly intricate pointing and viewing as it operates nearly a million miles from Earth.

"This mission requires the development of many new technologies – in reality, new inventions – that range from the extremely large to the very tiny," Mohan explained. "For example, its 21-ft-diameter mirror is made of 18 individually-controlled Beryllium segments, providing nine times the collecting area of NASA's current Hubble Space Telescope, but at half the weight. The mirror's surfaces are formed to an accuracy of 20 nanometers, which is 1/2000th the thickness of a human hair."

Mohan also noted the giant sunshield's importance in keeping the telescope's instruments at extremely cold temperatures to detect faint infrared light and heat signals from distant stars. Comparing this five-layer deployable structure to store-bought sun lotion, Mohan said the shield will provide an equivalent Sun protection factor (SPF) of 1.2 million – meaning less than one millionth of the Sun's light and heat will ever reach the telescope's delicate instruments.

Matt Mountain, director of the Space Telescope Science Institute in Baltimore, Maryland, spoke about the many discoveries waiting to be made once the James Webb Space Telescope takes up its observation post in space, well beyond the Moon.

“It will, for the first time, allow us to look deeper into a universe that is far more mysterious than we could have imaged only a few decades ago,” Mountain said. “More intriguing still is what it might tell us about planets outside of our own solar system. When this observatory was first conceived just over a decade ago, we knew of only a handful of extra-solar planets; today we've found more than 200. The James Webb Space Telescope may help us to the threshold of one of the great questions of our time: might there be life around other stars?”

Edward Weiler, director of NASA's Goddard Space Flight Center, told reporters the James Webb Space Telescope program has met every cost, schedule and technical milestone for the past 20 months, and it will offer an excellent value for astronomers, scientists and researchers around the world. “This observatory will be about half the cost of the Hubble Space Telescope, while being 10-100 times more capable.”

For more information on the James Webb Space Telescope, see the [Space Technology](#) sector on our website.