# NOVA TAKES VIEWERS ON THE ULTIMATE JOURNEY—TRAINING AND TRAVELING WITH NASA ASTRONAUTS FOR THE *ATLANTIS* MISSION TO HUBBLE TO SAVE THE WORLD'S MOST BELOVED TELESCOPE

## *HUBBLE'S AMAZING RESCUE*
## Premieres Tuesday, October 13 at 8pm ET/PT on PBS
## www.pbs.org/nova/hubble

BOSTON, MA—The best-known scientific instrument in history was dying. After nearly 20 years in space and hundreds of thousands of spectacular images, the Hubble Space Telescope's gyroscopes and sensors were failing, its batteries running down, and some of its instruments were already dead. The only hope to save Hubble was a mission so dangerous that in 2004 NASA cancelled it because it was considered too risky.

Scientists and the general public alike stubbornly refused to abandon the telescope, and a new NASA administrator revived the mission. Premiering Tuesday, October 13 at 8pm ET/PT on PBS, ***Hubble's Amazing Rescue*** takes viewers behind the scenes on a riveting journey with the team of astronauts and engineers charged with saving the famous " orbiting observatory" against all odds.

According to Paula Apsell, Director of the WGBH Science Unit and NOVA's Senior Executive Producer, "Hubble has been our eye on the universe." Through the years, the Space Telescope has revealed the birth and death of stars and shed light on the mystery of black holes. Apsell continues, "*Hubble's Amazing Rescue* shares the story of incredibly brave people who risk everything to save the telescope so that we can continue to receive remarkable images and expand our understanding of the universe and our place within it."

Hubble had been serviced four times before, including the famous 1993 repair mission that had corrected its blurred vision. But all previous missions had been "replacements," not true "repairs." Astronauts undid latches, removed a module, and replaced it with a new one. This mission would be different. Two of Hubble's instruments—a camera and a spectrograph—had died, and no replacements existed. To revive them, astronauts would attempt procedures never tried before in space: opening up electronic assemblies, getting "into the guts," and performing delicate tasks previously thought impossible in order to make intricate repairs.

In his latest film for NOVA, Rushmore DeNooyer weaves together the compelling story of this dangerous 12-day mission and its five pressure-filled spacewalks.

Spacewalks are exhausting. Astronauts must work in cramped quarters and darkness while wearing a clumsy spacesuit. Suits are pressurized and stiff; every movement takes concentrated effort. The work is hardest on the hands; moving fingers is like squeezing

*more*

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a tennis ball. After eight continuous hours of exertion, it's not uncommon to have your fingernails turn black and blue and fall off. And it would all have to be done in weightlessness, where everything floats and nothing stays where you put it. In space, a single screw floating loose into Hubble could ruin the telescope forever. "At first it sounded like this would be impossible," recalls lead spacewalker Mike Massimino. Mission Director Chuck Shaw says "They're actually opening stuff up and going inside—it's like neurosurgery."

For two years leading up to launch, filmmakers followed the mission closely, with unprecedented access to every aspect of the endeavor, from NASA's training facilities for flight preparation to the historic mission itself. DeNooyer and his production team followed astronauts Scott Altman, Andrew Fenstel, Michael Good, John Grunsfeld, Gregory Johnson, Michael Massimino, and Megan McArthur as they trained extensively for the mission—experiencing virtual weightlessness at the Neutral Buoyancy Laboratory at the Johnson Space Center in Houston and practicing best procedures for the crucial spacewalks.

Following the May 2009 launch from the Kennedy Space Center in Florida, the crew traveled 5,276,000 miles in 197 Earth orbits. NOVA viewers see Hubble pulled from its own orbit by *Atlantis*' huge robotic arm and moved into the shuttle's payload bay, where it is housed during nearly 37 hours of painstaking repairs. The *Atlantis* crew followed a meticulously crafted script, two years in the making, in order to stay on schedule—each spacewalk carefully timed based on oxygen supply and physical strength.

After all tasks were completed, Hubble was gently released back into space, now 10-to-70 times more powerful than when it was first launched—reaffirming its role as a vital scientific resource. While *Hubble's Amazing Rescue* documents the end of space shuttle missions to the world-famous telescope, it also excites viewers about new images, information, and insights that will emerge from the powerful upgrades. DeNooyer, a veteran NOVA producer, describes Hubble as "a time machine that shows us how the universe looked when it was still young."

The much-anticipated first images from the newly repaired Hubble are expected in September and will be included in *Hubble's Amazing Rescue* prior to its premiere on October 13, 2009.

For more information, visit **www.pbs.org/nova/hubble**.

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Now in its 36th season, NOVA is the most-watched primetime science series on American television, reaching an average of five million viewers weekly. The series remains committed to producing in-depth science programming in the form of hour-long (and occasionally longer) documentaries, from the latest breakthroughs in technology to the deepest mysteries of the natural world. NOVA airs Tuesdays at 8pm ET/PT on WGBH Boston and most PBS stations. The Director of the WGBH Science Unit and Senior Executive Producer of NOVA is Paula S. Apsell.

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NOVA is closed-captioned for deaf and hard-of-hearing viewers and described for people who are blind or visually impaired by the Media Access Group at WGBH. The descriptive narration is available on the SAP channel or stereo TV and VCRs. To order NOVA direct from WGBH Boston Video, visit shop.wgbh.org or call 800.949.8670.

**Production Credits**
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