

# stage beginning in December 2003

## *Two NASA engineers explore the Red Planet*

**M**any people dream of exploring Mars, but for Johnson Space Center Space Scientists Doug Ming and Dick Morris, those dreams are becoming reality.

Ming, a soil mineralogist, and Morris, a physical chemist, are members of a small team that will operate two Mars Exploration Rovers (MERs) from Earth. The vehicles were launched last summer to two regions of Mars to study minerals and search for evidence of liquid water that may have once existed on the Red Planet. The rover named Spirit launched June 10, while the second rover, Opportunity, launched July 7.

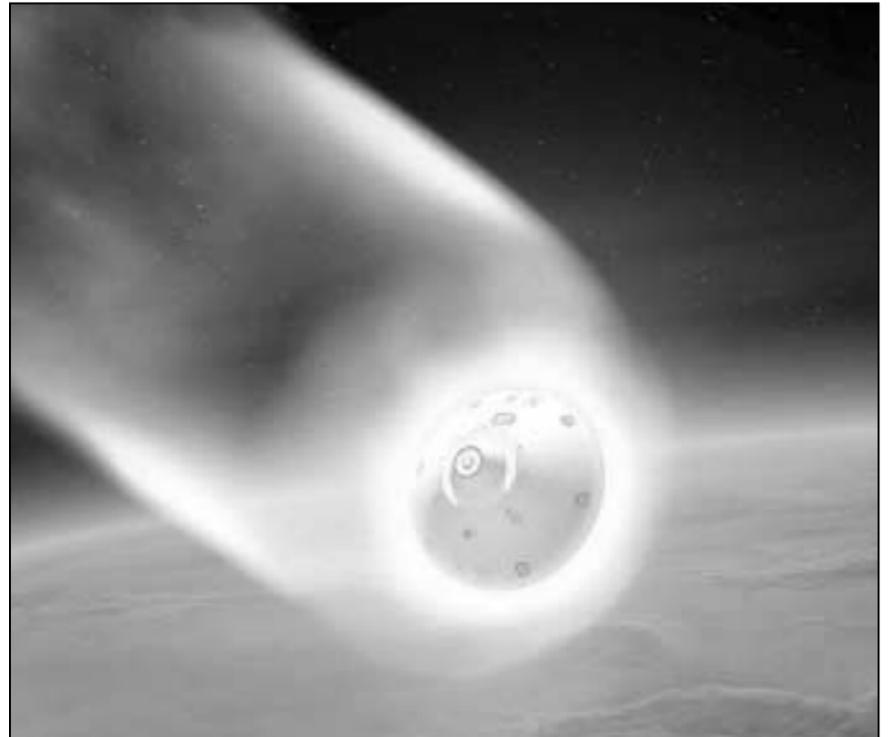
"JSC's long history of working with minerals and the Center's large collections have allowed us to become familiar with lunar rocks, meteorites and cosmic dust," Ming said. "That expertise will be helpful in interpreting and analyzing Mars samples."

Ming and Morris, along with other researchers, chose to study the selected regions of Mars because of land formations that seemed to be shaped by water and the presence of a certain mineral – hematite – that usually forms under wet conditions.

The MERs have better capabilities than some previous Mars rovers. For example, unlike the Sojourner rover that traveled about 100 yards in 12 weeks, the MERs are expected to travel up to 10 times that distance in their three-month mission.

"Operating this rover is like playing a video game," Morris said. "We will be looking at images that the rover sends back, and when we see something that might have scientific significance, we can go examine it."

Spirit and Opportunity are scheduled to land on the Red Planet on Jan. 3 and Jan. 24, respectively, and then begin their exploration.



(Above) The aeroshell protects the Mars rover from fiery temperatures as it enters the Martian atmosphere.



An illustration of one of the Mars Exploration Rovers on the Red Planet.



### FOR MORE INFO

To learn more about the Mars Exploration Rovers, go to <http://marsrovers.jpl.nasa.gov/home/index.html>.

To learn more about Beagle 2, go to [www.beagle2.com](http://www.beagle2.com).

# Expedition 7: Big success for smaller crew

By Melissa Davis

From a 40th birthday celebration that had people all over the globe wearing Hawaiian shirts to the world's first marriage in space, the Expedition 7 mission had many memorable moments highlighted at the crew's welcome home event Nov. 24 at the Gilruth Center at Johnson Space Center.

Through it all, however, it was never forgotten that Commander Yuri Malenchenko and Flight Engineer Ed Lu turned adversity into accomplishment as they kept a human presence in space following the Space Shuttle *Columbia* accident on Feb. 1, 2003.

The International Space Station Program Office and the International Partners determined that the Space Station would be occupied by only two crewmembers until the resumption of Shuttle flights because of limitations on consumables.

Space Station Manager Bill Gerstenmaier said the Expedition 7 crew was a "phenomenal team to keep Space Station flying."

While the event was one filled with smiles and laughter as the memories of Lu's birthday and Malenchenko's wedding were recounted, the bravery of the two men was not forgotten.

It was noted that Lu and Malenchenko were the first Space Station residents in history to ever launch and return in a Soyuz. In addition, this was also the first two-person crew to live there. They spent 186 days and nights on the Space Station without receiving visitors between the time they said goodbye to the Expedition 6 crew in May and when they welcomed the Expedition 8 crew in October.

Though they were alone on the Space Station for most of the 76 million miles they traveled, Lu said they never felt alone. "You were flying with us," he told the audience.

JSC Center Director Lt. Gen. Jefferson D. Howell, Jr., told Malenchenko and Lu that they were always in the hearts of those back on Earth who "supported you, rooted for you and prayed for you. We're just so happy to see you, and we're proud of you."



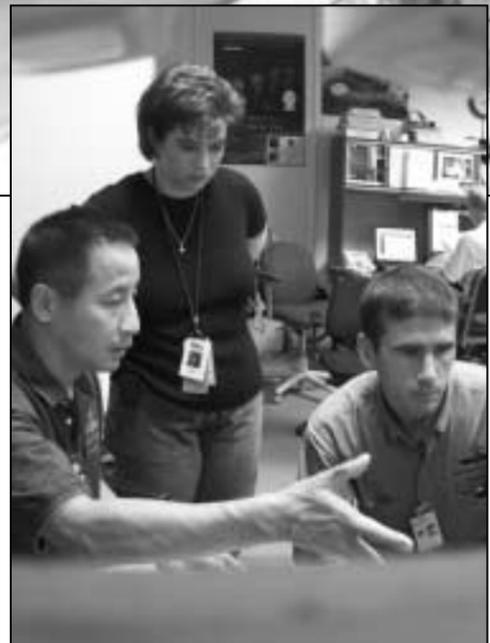
## PREFLIGHT

Pictured above, Cosmonaut Yuri Malenchenko (left), Expedition 7 Commander, and Astronaut Ed Lu, NASA International Space Station Science Officer and Flight Engineer, take time out from practicing launch procedures in a Soyuz capsule simulator as part of their training at the Gagarin Cosmonaut Training Center in Star City, Russia.

jsc2003e28142

Lu and Malenchenko use the virtual reality lab at the Johnson Space Center to train for their duties on the Space Station. They were assisted by United Space Alliance trainer Heidi Jennings.

jsc2002e2757 Photo by David DeHoyos



## MISSION

Mission Control (above) celebrates Lu's 40th birthday Hawaiian style.

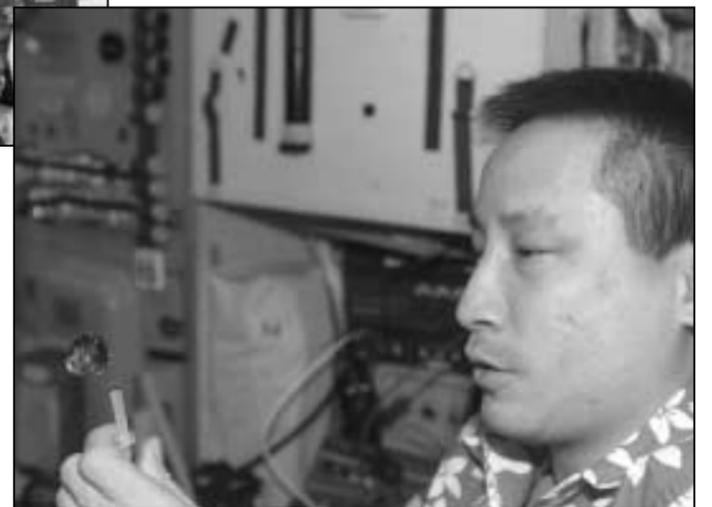
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Lu and Malenchenko (above right) make their mark in history as the first two-person crew to live aboard the Space Station.

iss007e05293

Lu squeezes a bubble out of a tube in the Zvezda Service Module on the Space Station.

iss007e17995





**POSTFLIGHT**

Pictured above, Lu and Malenchenko are seated in their chairs after extraction from the Soyuz TMA-2 spacecraft after their landing in Kazakhstan on October 27, 2003.

jsc2003e61401 Photo by Bill Ingalls

Close-ups of Lu (top) and Malenchenko after their landing are shown at far right.

jsc2003e61404 (top) jsc2003e61408 Photos by Bill Ingalls



**WELCOME HOME**

Lu and Malenchenko enjoy a warm welcome home at the Gilruth Center at Johnson Space Center.

jsc2003-63950 (top) and jsc2003-63951 (right) Photos by James Blair



# Space Flight Awareness Awards honor Space Station contributors

By Kendra Ceule

**S**pace Flight Awareness (SFA) honored dozens of Johnson Space Center employees on Nov. 20 for their contributions to the International Space Station. The SFA Awards were presented in the Teague Auditorium just before the Space Station's 5-Year Anniversary Celebration at Space Center Houston.

On hand to present the awards were Space Station Program Manager Bill Gerstenmaier, Associate Administrator for Space Flight Bill Readdy, Deputy Associate Administrator for Space Flight Gen. Michael Kostelnik and Manager of the Space Station Program's External Relations Office Brian Kelly.

Awards were presented to the individuals and teams listed below.

## Individual Leadership awards

The SFA Leadership Award recognizes outstanding leaders who exemplify and demonstrate the following characteristics: loyalty, accountability, diversity, excellence, respect, sharing, honesty and integrity. The recipients were:

**Susan L. Creasy**

Manager, ISS Mission Integration and Operations Office

**Mark S. Geyer**

Manager, ISS Program Integration Office

**William C. Panter**

Manager, ISS Avionics and Software Office

**Charles J. Precourt**

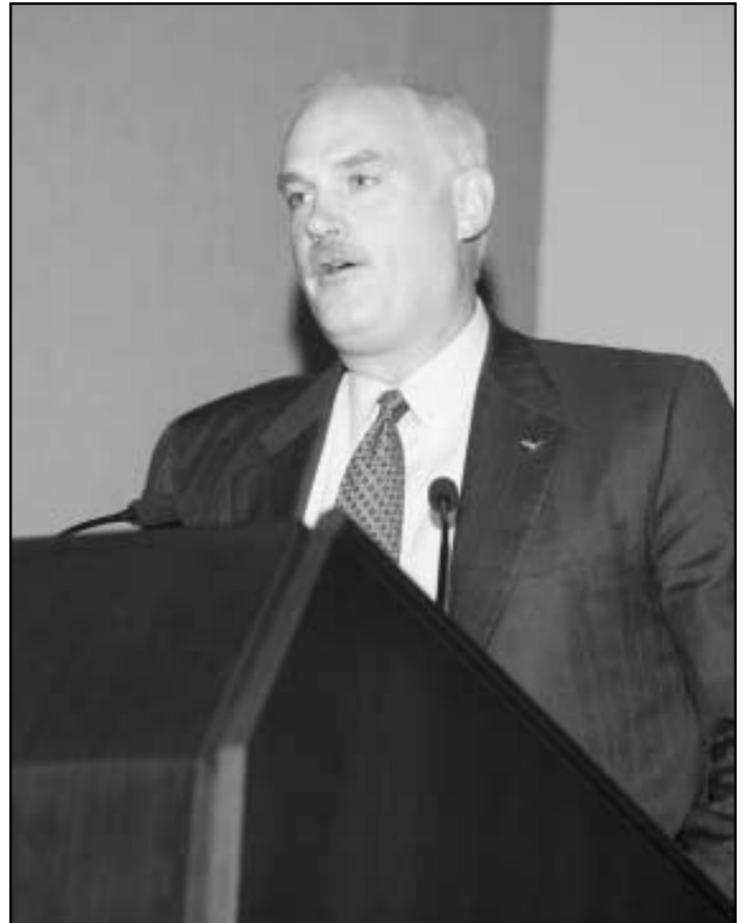
Deputy Manager, ISS Program

**Michael T. Suffredini**

Manager, ISS Operations Integration

**John "Tip" Talone**

Director, ISS Payload Processing Directorate



Bill Readdy, Associate Administrator for Space Flight, addresses the award winners and guests at the Space Flight Awareness Awards ceremony.

jsc2003e63652 Photo by James Blair

## Program Team Awards

Team awards were given to the following groups:

**ISS Continuing Flight/Continuous Improvement Implementation Plan Team**

**Program Integration and Control (Contract A) Source Evaluation Board**

**Mission Integration Contract (Contract B) Source Evaluation Board**

**Cargo Mission Contract (Contract C) Source Evaluation Board**

**USOS Acceptance and Vehicle Sustaining (Contract F-Extension) Acquisition Team**

**Russian Pre-Launch and Post-Landing Team**

**International Space Station Replan Team**

To see more photos from this event, go to <http://www.jsc.nasa.gov/jscfeatures/articles/000000090.html>



SPACE CENTER

## Roundup

The Roundup is an official publication of the National Aeronautics and Space Administration, Johnson Space Center, Houston, Texas, and is published by the Public Affairs Office for all space center employees. The Roundup office is in Bldg. 2, Rm. 166A. The mail code is AP121. Visit our Web site at: [www.jsc.nasa.gov/roundup/weekly/](http://www.jsc.nasa.gov/roundup/weekly/) For distribution questions or to suggest a story idea, please call 281/244-6397 or send an e-mail to [roundup@ems.jsc.nasa.gov](mailto:roundup@ems.jsc.nasa.gov).

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