

Triton Fun Company

Science Newsletter February 2010

# Science Newsletter

## February 2010

### End of an era – The space shuttle prepares to stand down

J. Bartlett

#### Special points of interest:

Space shuttle manifest  
Triton Fun stuff  
Superfluous questions

The space shuttle program has been an exciting adventure in America's space program since 1981. The program is winding down with the objective of retiring the shuttle in 2010. There are currently five more flights in the shuttle manifest with lots of science experiments and space station building to go before it finishes.

Here is the manifest as of February 2010. The last 5 flights are:

**STS-130:** Endeavour (OV-105) will loft Node 3, also known as Tranquility, and the Cupola, which is a robotic control station with seven windows with a great view that will serve as an observation deck. Six windows around the sides of the module and a window in the center will provide a 360 degree view around the space station. At least three spacewalks are planned to install the node. This launch took place on February 8<sup>th</sup>, 2010 and is currently in orbit with six astronauts. STS-130 will also transfer the Pressure Mating Adaptor 3 from the Harmony node to the newly added Tranquility node and make improvements in the water purification systems. The new nodes and hardware added will make the International Space Station 90 % complete.

**STS-131:** Discovery (OV-103) will deliver a Multi-Purpose Logistics Module loaded with science racks for transfer to laboratories aboard the International Space Station. Three spacewalks will be conducted to attach a spare ammonia tank assembly to the outside of the station and to return a European experiment from outside the Columbus module. The mission will be historic: 7 astronauts, 3 of the 7 are women. Launch is currently scheduled for April 5<sup>th</sup>, 2010.

**STS-132:** Atlantis (OV-104) will arrive at the ISS with an Integrated Cargo Carrier and Russian-built *Mini Research Module* (MRM). The MRM will be permanently attached to the bottom port of the Zarya module. The Russian module will also carry U.S. cargo. Three spacewalks are planned to stage spare components outside the station, which includes batteries, a boom assembly for the Ku-band antenna and spares for the Canadian *Dextre* robotic arm extension. A radiator, airlock and robotic arm for the Russian Multi-purpose Laboratory Module are also included in the flight payload. The last scheduled launch of Atlantis is slated for May 14th, 2010.



**Space shuttle Discovery**  
Beautiful landing !

**STS-134:** Endeavour (OV-105) will launch the Express Logistics Carriers 3 and the Alpha Magnetic Spectrometer (AMS) to the International Space Station. Spare parts to be delivered include two S-band communications antennas, a high-pressure gas tank, additional parts for Dextre and micrometeoroid debris shields. This flight, the last scheduled launch of Endeavour, is scheduled for July 29th, 2010.

And the final officially scheduled flight is **STS-133:** Discovery (OV-103) will deliver Express Logistics Carrier 4 and a final shipment of critical spare components to the Station. The last scheduled mission is currently slated for launch on Sept. 16th, 2010.

We are always looking for **contributors** to the Science Newsletter. If you would like to write an article about a science subject you are excited about, or contribute a superfluous question, or if you would like to be on our **mailing list** for future newsletters, please e-mail us at:

[info@tritonfun.com](mailto:info@tritonfun.com)

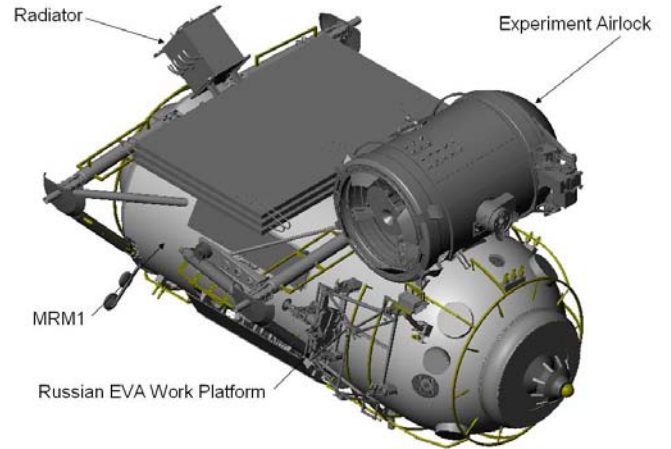
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Space shuttle: *continued*  
Photos/Info: NASA/PWR

Shuttle toys:



Cupola to be attached to the ISS during STS-130



Russian Mini Research Module



Diagram of the ISS showing location of the Russian Mini Research Module (MRM) in the Russian segment

## Images from STS-130 currently on-orbit:

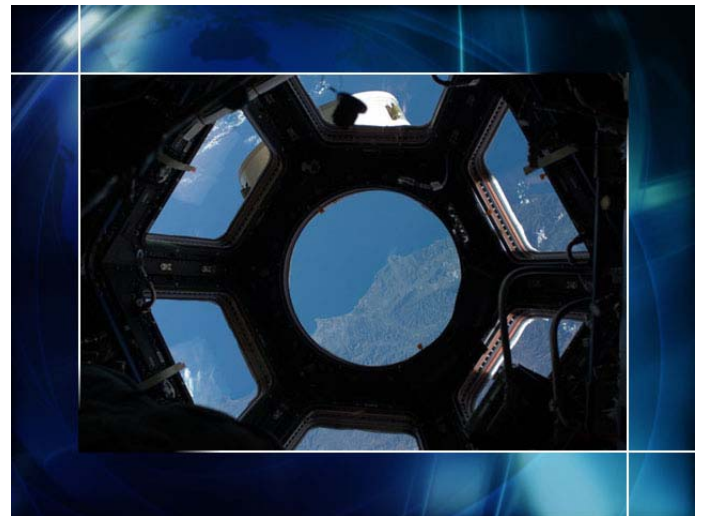


### What a view !

(left) Astronaut Nick Patrick looks out of a window on the cupola, the newly installed observation deck on the International Space Station;

(center left) An astronaut works outside of the cupola, its windows still with protective covers;

(center right) A spectacular view of Earth from the cupola windows



### White House to space

President Obama made a call to the International Space Station on Feb 17, 2010 along with middle school children who asked questions of the astronauts in the combined shuttle and ISS crews currently in orbit on STS-130



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\*\* Send us your superfluous questions for a future issue ! They can be on any subject. The funnier, the better. M.D., our editor, appreciates the help and will send you a free Triton Fun coffee mug as compensation for your question. Or write an article for us and be read by professional and amateur astronomers and scientists in the U.S. and Canada ! \*\*

## Superfluous Questions:

1) In the TV show *Bonanza*, what actor who was later in *Star Trek* guest-starred in at least 1 episode ?

- a) Leonard Nimoy    b) George Takei    c) DeForest Kelley    d) William Shatner

2) Jay Leno's middle name is *what* ?

- a) Harry    b) Thomas    c) Steven    d) Douglas

3) Canadian William Shatner attended *what* university ?

- a) Laurentian University    b) University of Toronto    c) University of Quebec    d) McGill University

4) Ichthyology is the study of what ?

- a) mammals    b) insects    c) fish    d) bacteria

→ ANSWERS in next months issue of the Science Newsletter ! ←---

\*\* ANSWERS to January's Superfluous Questions: 1. b) Albert    2. c) green    3. b) Montana    4. b) New York Mets