Fédération
Aéronautique
Internationale

Agenda

of the Annual Meeting of the

FAI Astronautic Records Commission

To be held in Lausanne, Switzerland
on 21 April 2006

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FEDERATION AERONAUTIQUE INTERNATIONALE

FAI ASTRONAUTIC RECORDS COMMISSION (ICARE)

MEETING TO BE HELD AT THE FAI HEADQUARTERS
24 AVENUE MON REPOS, 1005 LAUSANNE, SWITZERLAND
FRIDAY 21 APRIL 2006, STARTING AT 09h15

A G E N D A

1 WELCOME BY THE PRESIDENT

2 ROLL-CALL

3 APPROVAL OF THE MINUTES OF THE LAST MEETING (30 April 2004)
- Matters arising from those Minutes (attached).

4 GENERAL CONFERENCE

a. Report on Paris FAI Centenary General Conference

5 ASTRONAUTICS ACTIVITIES AND PROJECTS

a. Progress report by FAI and Delegates from Member countries.

6 FAI SPORTING CODE

SECTION 8 (ASTRONAUTICS). *No proposals for change received*

- Length travelled along trajectory: Where does a distance flight start?.From the point on the earth directly below which the launch occurred, or from the point in the air where the performance began (the launch).

- What is a spacecraft? Does this term include balloons? Section 8 paragraph 2.2. refers to the term "Vehicle" but gives no definition of this.

The ICARE President will present the findings of his review of rules 4.2.1.4. and 5.2.1.4.

M. Christian Marchal will make a proposal for a record for distance travelled outside the atmosphere (above 100 km).

7 PROPOSALS FOR FAI AWARDS

a. Gold Space Medal: No nominations .
b. Yuri Gagarin Gold Medal:Nomination from USA for year 2005 attached
c. Komarov Diploma: Nomination from USA for 2005 attached.
d. Korolev Diploma: Nomination from USA for 2005 attached.
e. Other nominations

8 INTERNATIONAL ASTRONAUTIC FEDERATION

Report on the 2005 IAF Congress and nomination of FAI delegate to the 2006 IAF Congress.

9 PRESENT WORLD RECORDS – REPORT

10 ANY OTHER BUSINESS

11 ELECTIONS

12 DATE AND PLACE OF NEXT ICARE MEETING

United States of America
Nomination for the Fédération Aéronautique Internationale
Yuri A. Gagarin Gold Medal

Nominee: **The Crew of Mission STS -114**

Colonel Eileen M. Collins, USAF (Retired)	Commander
Colonel James M. Kelly, USAF	Pilot
Mr. Soichi Noguchi	Mission Specialist 1
Dr. Stephen K. Robinson, Ph.D.	Mission Specialist 2
Dr. Andrew S.W. Thomas, Ph.D.	Mission Specialist 3
Captain Wendy B. Lawrence, USN	Mission Specialist 4
Dr. Charles J. Camarda, Ph.D.	Mission Specialist 5

Affiliations: The crew consists of six NASA astronauts and one JAXA astronaut

Suggested Citation:

For the successful completion of groundbreaking work in on-orbit thermal protection system inspection and repair accomplished during mission STS-114.

Justification:

The crew of STS-114 was launched aboard the Space Shuttle Discovery on July 26, 2005, from the Kennedy Space Center, Florida. The 14-day mission was the first Space Shuttle flight following the loss of the Space Shuttle Columbia two-and-a-half years earlier. Following a successful launch and prior to entry into the Earth's atmosphere, the crew of STS-114 performed a multitude of tasks which were dedicated to gaining a full understanding of the condition of the Space Shuttle's thermal protection system while
on-orbit. These tasks laid the groundwork which will allow all future Space Shuttle missions to accurately know the condition of their thermal protection system prior to entry.

The STS-114 crew performed new and complex thermal protection system inspection and repair tasks on an almost daily basis while on-orbit. Many of these inspection and repair tasks had never been previously performed and often involved equipment, including hardware and software, which had never flown in space. On Day One and immediately following shutdown of the Space Shuttle's main engines, the STS-114 crew obtained unprecedented hand-held video and hand-held high-resolution still photos of the external tank during a time-critical maneuver. Working as a cohesive team, the STS-114 crew maneuvered the Space Shuttle through 180 degrees of pitch in order to place the overhead windows in a position from which pictures could be recorded. While this maneuver was in progress, several crewmembers quickly unstrapped from their seats, retrieved cameras, and then expertly recorded magnificent pictures of the external tank as it promptly drifted away from the Space Shuttle. During most of Day Two, the STS-114 crew used the Space Shuttle's 50-

foot robotic arm to manipulate a sensor suite located on the end of a 50-foot boom in order to inspect the reinforced carbon-carbon which is part of the thermal protection system located on the nose and leading edges of Discovery. The data from this inspection was then downlinked to engineers who reviewed the data to ensure that the reinforced carbon-carbon had not sustained any damage during ascent. On Day Three, while approaching the International Space Station, the STS-114 crew deftly maneuvered the Space Shuttle through a 360-degree flip in order to expose the vulnerable belly of the Space Shuttle to the crew of the International Space Station. While the Space Shuttle's underside was visible to the International Space Station crew, they took a series of photos to document the condition of the delicate thermal protection system tiles which protect the Space Shuttle during entry. After completing the rendezvous and docking with the International Space Station, the crew continued inspecting the reinforced
carbon-carbon with the sensor package located on the end of the 50-foot boom.

Over the next nine days, the STS-114 crew performed three spacewalks. During these spacewalks, the crew successfully tested potential methods for repairing the Space Shuttle's thermal protection system should it be damaged on subsequent flights. In addition, and as a result of the photos which were taken by the International Space Station crew during the 360-degree flip maneuver, several potentially damaging protuberances were discovered on the Discovery's belly. With input from the STS-114 crew, a plan was developed by the Mission Control team to remove the protuberances. During the third and final spacewalk, an STS-114 member was placed on the end of the International Space Station's robotic arm and maneuvered to a position where he delicately removed the protuberances, eliminating the concern that the protuberances would energize the plasma flow to an unacceptable level during Discovery's entry.

In addition to the unprecedented activities focusing on Discovery's thermal protection system, the STS-114 crew also greatly enhanced the health of the International Space Station. They replaced a failed gyro used by the International Space Station to maintain attitude. They also delivered over 12,000 pounds of needed supplies and equipment and returned over 7,000 pounds of Station material. On August 9, at 5:12 a.m. Pacific Daylight Time, STS-114 landed at Edwards Air Force Base in California.

The STS-114 crewmembers, through their flawless execution of a complicated, dynamic, and critical mission, have laid the foundation for future Space Shuttle flights in order to continue construction of the International Space Station. The STS-114 crewmembers are most highly deserving of the prestigious Yuri A Gagarin Gold Medal.

U.S.A.
Nomination for the Fédération Aéronautique Internationale
Komarov Diploma

Nominee: **The International Space Station Expedition 11 Crew**

Sergei Konstantinovich Krikalev
John L. Phillips, Ph.D.

Affiliations: Sergei Konstantinovich Krikalev: Russian Cosmonaut, Roscosmos - RSC Energia
John L. Phillips, Ph.D.: NASA Astronaut

Suggested Citation:

For the successful completion of the eleventh expeditionary mission to live and work on board the International Space Station (ISS), and support of the first Space Shuttle visit to the ISS since the Columbia accident.

Justification:

The Expedition 11 mission began with the launch of Soyuz TMA-6 on April 15, 2005, from the Baikonur Cosmodrome in Kazakhstan. Onboard were ISS Russian Expedition 11 Station and Soyuz Commander Sergei Krikalev, NASA Flight Engineer and Science Officer, Dr. John L. Phillips, and European Space Agency astronaut, Roberto Vittori. Following an 8-day handover, the Expedition 10 crew, along with Roberto Vittori, returned to Earth on April 25, leaving behind Sergei and John to carry out the Expedition 11 mission. The Expedition 11 mission marked several milestones, including the arrival of the first Space Shuttle since November 2002, the arrival of 2 Progress vehicles, the repositioning of the Soyuz vehicle, one EVA, and numerous crew-tended payload experiments. The Expedition 11 crew returned to Earth in the Soyuz
TMA-6 on Tuesday, October 11, 2005, after having spent 193 days in space.

As Commander of both the ISS and the Soyuz vehicle, Sergei Krikalev was responsible for the overall safety and mission operations of the crew. Dr. Phillips, as the U.S. Science Officer and Flight Engineer on the Soyuz vehicle, was responsible for all systems in the U.S. segment and the conduct of the U.S. science program. Both crewmembers were responsible for performing a spacewalk utilizing the Russian "Orlan" spacesuits.

During the Expedition 11 mission, Sergei and John supported the arrival and unpacking of two Russian Progress resupply cargo ships filled with food, fuel, water, and supplies. They also donned their spacesuits and relocated their Soyuz spacecraft from their Pirs docking port to the Zarya docking port in August to free up the Pirs airlock to support spacewalk activity from the Russian segment.

Sergei and John were onboard the Station when Commander Eileen Collins and the STS-114 crew launched on the Space Shuttle Discovery on the first post-Columbia mission. It marked the first time since the STS-113 mission in November 2002, that a Shuttle visited the Station. The two crews had nine days of joint docked operations.

The Expedition 11 crew's lone spacewalk was conducted in Russian Orlan spacesuits out of the Pirs docking module on August 18, 2005. The crew retrieved a variety of external experiments and installed a TV camera to support European ATV docking operations. The EVA lasted for
4 hours and 58 minutes. Sergei is a spacewalk veteran, having logged seven excursions outside the Mir Space Station. The spacewalk was the first for John.

This was the sixth flight into space for Sergei - more than any other Russian cosmonaut - and the second flight into space for John. It was Sergei's third trip to the International Space Station. He first flew to the ISS on the STS-88 mission, which attached the Unity Module to the first Station element, the Zarya Control Module. He was also the Flight Engineer on the first ISS Expedition crew in 2000. Sergei also made three previous flights to the Mir Space Station and has accumulated more than 800 days in space on his six flights - more than any other human. John's first mission was STS-100 in 2001, which delivered the Canadarm2 robotic arm to the Station. Dr. Phillips launched on his second mission to the ISS on his 54th birthday.

The success of the eleventh expedition, including the docked mission of STS-114, was an extremely important event in the history of the ISS Program and will contribute greatly to the future human exploration of the solar system. The crew of Expedition 11 showed that through teamwork, humans could continue to live and work aboard the ISS during this prolonged period of reduced logistical support. The hard work, adaptability, and tireless devotion to duty exhibited by the crew during this groundbreaking mission reflect most highly upon themselves, and demonstrate that they are very deserving of the Komarov Diploma.

U.S.A.
Nomination for the Federation Aeronautique Internationale
Korolev Diploma

Nominee: **The International Space Station Expedition 10 Crew**

Leroy Chiao, Ph.D.
Salizhan Shakirovich Sharipov

Affiliations: Leroy Chiao, Ph.D.: NASA Astronaut
Salizhan Shakirovich Sharipov: Russian Cosmonaut, Roscosmos - Gagarin Cosmonaut Training Center

Suggested Citation:

For the successful completion of the tenth expeditionary mission to the International Space Station (ISS), including unplanned operations with limited resources and continuation of the ISS mission with a two-person crew as a result of the Columbia Space Shuttle accident.

Justification:

The Expedition 10 crew launched to the ISS aboard Soyuz TMA-5, October 14, 2004, and returned to Earth on April 24, 2005, aboard the same Soyuz spacecraft, after having spent 193 days in space. Leroy and Salizhan conducted two space-walks during their mission, performed numerous in-flight repairs, and supported operational and logistical efforts required for the continuation of the ISS mission with a reduced crew complement.

During the course of the Expedition 10 mission, the crew supported the docking and unpacking of two Russian "Progress" resupply vehicles. Progress 16 (16P) arrived at the ISS on December 25 and delivered 2½ tons of food, water, fuel, clothing, and other supplies to the space station. In the event that 16P had not successfully docked to the ISS, consumables would have declined to the point where the Expedition 10 crew would have had to return to earth, leaving the ISS unattended. 17P arrived at the ISS on February 28, carrying more than 2 tons of food, fuel, oxygen, water, spare parts, and personal items for the crew. Among the items being carried on the Progress was a new heat exchanger device to replace a faulty component in the U.S. airlock. Leroy successfully installed this heat exchanger which allowed for the resumption of EVAs in U.S. space suits.

The crew also successfully relocated the Soyuz TMA-5 from the Pirs Docking Compartment to the Zarya module. The repositioning of the Soyuz made Pirs available for use as an airlock for the two Extravehicular Activities (EVAs) conducted by Chiao and Sharipov. The first of these EVAs occurred on January 26. The primary tasks included installation of a small German robotic experiment and associated cabling and an antenna. The crew also installed scientific experiments and inspected/photographed environmental control system vents, looking for any contamination that could cause irregular operation. The second EVA occurred on March 28. The primary tasks of this EVA included installation of the final pieces necessary for the arrival of the European Space Agency's Automated Transfer Vehicle (ATV) and installation of Global Positioning System (GPS) antenna units and cables. Salizhan also deployed a foot-long, 11-pound Nanosatellite toward the aft end of the Station,

while Leroy photographed its departure. During its time in space, this satellite is expected to help develop small satellite control techniques, monitor operations, and develop new attitude system sensors.

These two EVAs marked the fifth and sixth EVAs for Leroy. He completed two EVAs on STS-72 (12 hours, 57 minutes) and two on STS-92 (13 hours, 16 minutes). These EVAs were the first for Salizhan. The pair logged almost 10 hours of EVA time during the two Expedition 10 excursions.

Despite the limited ability to transfer experiment hardware and samples to and from the ISS, a significant amount of experiments were conducted during the course of Expedition 10, primarily by NASA Science Officer, Leroy Chiao. These included Life Sciences experiments such as, Advanced Diagnostic Ultrasound in Microgravity (ADUM), which has helped to develop strategies for diagnostic telemedicine, and acceleration experiments, including Space Acceleration Measurement System (SAMS) II, and Microgravity Acceleration Measurement System (MAMS), which help to characterize accelerations that may affect ISS experiments and lead to new methods of stabilization in future spacecraft. Leroy conducted the Dust and Aerosol Measurement Feasibility Test (DAFT), which is designed to test the effectiveness of a device that counts ultra-fine dust particles in a microgravity environment, and which may be a precursor to the next generation of fire detection equipment for space exploration vehicles. Leroy also photographed numerous sites that were scheduled as part of the Crew Earth Observations (CEO) experiments and participated in "EarthKAM" in which middle school students control a digital camera mounted in a window on ISS. Both crewmembers participated as subjects in numerous Life Sciences experiments which examine the effects of spaceflight on human physiology.

Dr. Chiao has flown three previous Shuttle flights, in addition to the Expedition 10 mission, and has an accumulated time in space of approximately 230 days. As ISS Commander, Leroy was responsible for the overall safety and mission operations of the crew, in addition to being responsible for the American systems and many of the scientific experiments performed during the increment.

Salizhan previously flew on one Shuttle flight, in addition to the Expedition 10 mission and has an accumulated time in space of approximately 200 days. He was responsible for the operation and maintenance of all Russian systems and payload experiments, and was also the commander of the Soyuz TMA-5 for the crew's launch to ISS and their safe return to Earth.

By their exemplary service as the ISS crew during a difficult and dynamic time for the ISS Program, the crew ensured the future of the ISS as a manned outpost in space. They demonstrated outstanding international cooperation, exhibited an incredibly high level of skill and productivity, and successfully completed their demanding mission. The Expedition 10 crewmembers are most highly deserving of the Korolev Diploma.