

International Academy of Astronautics

Commission V Report on Meeting

**Beijing, China
Saturday 21 September 2013**

Attendance:

Corinne Jorgenson (chair), Elisabeth Back-Impallomeni (Vice-Chair), Sergey Teselkin (Secretary), Max Grimard (Past Chair), Isabelle Duvaux-Bechon, Gerda Horneck, Geir Hovmork, Claire Jolly, Heiner Klinkrad, Werner Balogh, Bernhard Schmidt-Tedd, Henri Herzfeld, Oleg Ventskovsky, Ray Williamson, Liu Jizhong.

1. Welcome

This is the first meeting with the new commission V membership 2013-2015 with Corinne Jorgenson (USA), Chair, Elisabeth Back Impallomeni (Italy), Vice-Chair, Sergey Teselkin (Russia), Secretary and Max Grimard (France), Past Chair. The commission also welcomes two additional new members: Peter Martinez (South Africa) and Liu Jizhong (China).

2. Agenda Approval

The meeting's agenda was adopted as distributed by e-mail on 11 September 2013. It is available on the IAA website.

3. Adoption of Commission V Meeting in Paris (March 2013)

The minutes of the previous Commission V meeting were adopted, and available on the IAA website.

4. IAA Cosmic Studies

4.1 International Cooperation on Space Weather (SG5.9)

Due to the lack of progress, commission V proposed the study for cancelation, however, discussion took place at the Scientific Activities Committee (SAC) where the importance of the topic was highlighted and it was proposed to explore a change in study leadership. Commission V had an active discussion on potential new study leaders. Several names were proposed. The action item is to finalize the names of the study leaders by the next meeting in March 2014. Werner Balogh reported on the activities that took place within UNCOUOS on space weather.

4.2 Orbital Debris Removal: Legal, Political, Policy, and Economic Considerations (SG5.10)

This study is co-chaired by Stephan Hobe and Ray Williamson. An overview of the study was presented. Due to the constantly worsening space debris menace the risks the outer space becomes inaccessible is rising. Experts warn on a “run-away” situation. According to their estimations there are up to 5.000 tons of debris on orbit, 30 tons of them are radioactive. The most of space debris are upper stages. A detailed discussion on debris mitigation took place. Several ways of space debris removal were presented. The future approach was discussed including space traffic management, navigation and removal. The final report will be published in the near future.

4.3 Comparative Assessment of Regional Cooperation in Space: Policies, Governance and Legal Tools (SG 5.11)

Study co-chair Elizabeth Back-Impallomeni reported on the first actions of the study group. The most important issues to be fixed are the following: two-level approach (regional - international); definition of basic concepts as region, cooperation, space activities; geographic profile maps, list of regional experts, criteria and data base; role of bilateral and multilateral cooperation and agreements of developing countries with space nations as a present legislation basis. Contributions in writing received by 31 January 2014 will be discussed and coordinated at the next commission meeting in Paris.

4.4 Dynamics of Space Exploration: Strategies and Future Outlook (SG 5.12)

Gerda Horneck presented the report. The final report will be ready in September 2014 and reported in Toronto. Some additional work needs to be done such as China input to space, commercial and political aspects, etc. There were many questions and comments from commission members and meeting participants. The comments will be taken into account in the study final report.

4.5. Space Systems as a Critical Infrastructure (SG5.13)

This study topic was proposed in 2008 and cancelled in 2011 due to the lack of progress and reporting by the study leaders. As the IAA has organized two successful conferences on the topic, the 1st IAA Conference on Space Systems as Critical Infrastructures took place on 6-7 September 2012 and the 2nd IAA Conference on Space Systems as Critical Infrastructures organized with the UN-SPIDER's Regional Support Office in Romania, the Romanian Space Agency (ROSA), took place on 29-30 August 2013, the importance of the topic was highlighted and the study was proposed again to commission V. It is co-chaired by Marius-Ioan Piso, IAA Trustee and President ROSA. The commission chair will invite a representative to present the status and methodology of the study proposal.

4.6. IAA Proposed Studies

Upon the suggestion made by the commission chair and an idea circulating within the committee, the space debris permanent committee accepted to undertake a Cosmic Study on "Reference Report on Space Debris" chaired by Christophe Bonnal. The study proposal was approved by commission V.

5. IAA Conferences and Symposia

5.1 IAA Symposia at IAC

5.1.1 26th IAA Symposium on Space Policy, Regulations and Economics (E3-Beijing)

Jacques Masson and Elisabeth Back-Impallomeni are the co-coordinators of the IAA Symposium. However as Elisabeth Back-Impallomeni became commission co-chair therefore in order to comply with the rules of checks and balances, another co-coordinator had to be identified. Commission leaders approached Bernhard Schmidt-Tedd who agreed to fulfill this role. The 26th IAA Symposium on Space Policy, Regulations and Economics (E3) took place in Beijing with 4 sessions: (1) National Space Policies and Programs, and Regional Cooperation (2) International Space Exploration Policies and Programmes (3) Industrial Policies as Drivers of the Space Economy (4) Assuring a Safe, Secure and Sustainable Space Environment for Space Activities. The 28th IAA/IISL Scientific-Legal Round Table addressed "Space and the Polar Regions (Arctic and Antarctica)" (Invited Papers, E7.6).

5.1.2 27th IAA Symposium on Space Policy, Regulations and Economics (E3 - Toronto)

The 27th IAA Symposium will take place in Toronto. The Call for Papers is out with the following sessions: (1) Regional cooperation in space: policies, governance and legal tools, with co-chairs Ciro Arevalo Yepes , Elisabeth Back Impallomeni (2) International Space Exploration Policies and Programmes with co-chairs Nicolas Peter and Pascale Ehrenfreund (3) The space economy: what are the socio-economic impacts? with co-chairs Claire Jolly and Joan Harvey (4) Assuring a Safe, Secure and Sustainable Space Environment for Space Activities with co-chair Ray Williamson. The 29th IAA-IISL Scientific-Legal Roundtable will be on the theme of: "Controlling the eyes in the Sky: Preventing abuse in space data." The roundtable will address this issue from an interdisciplinary perspective.

5.1.3 11th IAA Symposium on Space Debris (A6-Beijing)

Heiner Klinkrad presented the status of the 11th IAA Symposium on Space Debris which is very successful with a high number of paper

presented. This symposium addresses the complete spectrum of technical issues of space debris: measurements, modelling, risk assessment in space and on the ground, reentry, hypervelocity impacts and protection, mitigation and standards, and Space Surveillance. It is coordinated by Nicholas Johnson, Christophe Bonnal and Mark Matney.

5.2 IAA Conferences

5.2.1 8th IAA Symposium on “Future of Space Exploration: Towards The Stars”, Turin, Italy, 3-5 July 2013

The goals of this 8th symposium on the human and robotic exploration beyond the Moon were more ambitious than ever. Thanks to a renewed commitment of the International Academy of Astronautics, the areas of interest have been widened and there was a larger attendance. The aim was to promote an exchange of ideas and experiences among those interested in the various scientific, technological, human and ethical aspects of outer solar system and interstellar exploration and to propose new missions. Papers regarding the motivations and human aspects of deep space exploration were welcome, and papers dealing with advanced concepts and new ideas were encouraged. The lessons learned and role of the International Space Station as a stepping stone to space exploration was also warmly solicited. Results from this symposium will be presented to the next Heads of Space Agencies Summit organized by the IAA in January 2014 in Washington DC.

5.2.2 3rd IISL-IAA “Space Law and Policy” Symposium

Corinne Jorgenson mentioned the discussion for the 3rd IISL-IAA Space Law and Policy Symposium is underway. In the context of the IAA Heads of Space Agencies Summit, the IAA is involved in activities related to Climate Change and plans to organize several preparatory events on the subject. This Symposium would be on this topic and would also address the legal aspects of climate change. After the United States and France, the idea is to have this 3rd Symposium in India and repeat the very successful IAA-IISL conference that took place in India a few years ago. The location would be Trivandrum.

6. IAA Heads of Space Agencies Summit on Exploration

As announced, the International Academy of Astronautics is conducting two major events in Washington D.C., United States, the IAA Space Exploration Conference on 9 January 2014 and the Heads of Space Agencies Summit on Exploration (Planetary Robotic and Human Spaceflight Exploration) on 10 January 2014 where 32 Heads of Space Agencies and their delegations will gather, in company with policy makers, government representatives, distinguished scientists, and leading Academicians from all over the world for an unprecedented Summit on Exploration and discuss new fresh ideas on international cooperation. In addition, this IAA Summit will be taking place in cooperation and conjunction with the governmental International Space Exploration Forum, a policy dialogue on space exploration at minister-level hosted for the first time by the US Department of State.

January 9: Space Exploration Conference

On January 9, the IAA will kick off the pre-Summit activity with a one-day Space Exploration Conference. Six parallel sessions will take place on planetary robotic and human spaceflight exploration where papers will be presented. In this program there will be presentation of 16 projects and IAA studies. In the evening, the International Academy of Astronautics will have the privilege to commemorate this unique and historic event with a Reception and Gala Dinner that will bring together both communities: Ministers and their delegations, and Heads of Space Agencies and their delegations as well as government officials, distinguished scientists, Summit participants and special guests.

January 10: Heads of Space Agencies Summit on Exploration

The second day will be the Heads of Space Agencies Summit where Agencies leaders will engage in an interactive dialogue and discuss the Summit Declaration follow-on implementations and new fresh ideas on international cooperation. The Heads of Space Agencies Summit will conclude with a Press Conference open to international media that will announce outcomes on the topics of planetary robotic and human spaceflight exploration.

7. Date, Place Next Meeting & Adjourning

The next Commission V meeting will take place on 17 March 2014 at the IAA Headquarters in Paris, France.

The meeting adjourned.