

International Academy of Astronautics

Commission V Report on Meeting

**Paris
Monday 17, March 2014**

Attendance:

Corinne Jorgenson (Chair), Sergey Teselkin (Secretary), Christophe Bonnal, Max Grimard, Ciro Arevalo, David Finkleman, Oleg Ventskovsky, Ray Williamson, Jana Robinson, Marius-Ioan Piso, Oana Neagu, Isabelle Duvaux-Bechon, Sridhara Murthi, Christina Giannopapa

1. Welcome

After a welcome from the Commission V Chair Corinne Jorgenson, meeting participants introduced themselves.

2. Agenda Approval

The meeting's agenda was adopted as distributed by e-mail on 11 March 2014. It is available on the IAA website.

3. Adoption of Commission V Meeting in Beijing, China (September 2013)

The minutes of the previous Commission V meeting were adopted. It is also available on the IAA website.

4. IAA Cosmic Studies

4.1 Current Studies

4.1.1 International Cooperation on Space Weather (SG 5.9)

After the decision in the Scientific Activities Committee to change the study leadership, Susanna McKenna became Chair of the Study Group

5.9. The proposal of Sergey Teselkin to ask Leo Zeleny (Russia) to join the study leadership was discussed. It was also pointed out the possibility to find an appropriate leader in technical expert groups of IAA, for instance, in Commission 1. The political issues of the topic are connected with technical and scientific contents. The leadership team has still to be completed by the next meeting in September 2014 in Toronto (Canada).

4.1.2 Orbital Debris Removal: Legal, Political, Policy, and Economic Considerations (SG 5.10)

Ray Williamson presented the status of the study group. He highlighted that the new title of the study “Orbital Debris Removal: Legal, Political, Policy and Economic Considerations” was adopted, a change from the earlier version “Orbital Debris Removal and On-Orbit Servicing: Policy, Legal and Economic Issues”. The new study group members’ list is in preparation. The study group members met in September 2013 in Beijing and March 2014 in Paris. The most important present task is to identify study members. Here is draft out-lines of the report:

- Introduction (problems, why to do, servicing, space exploration sustainability, new technical approaches);
- Political and Policy issues;
- Economic issues (quotations, risks, orbital servicing etc.);
- Conclusions and recommendations.

The issue of nuclear- and radioactive debris in the study was discussed. It was decided to insist on “classical” approach not to include the nuclear/radioactive debris issue in the study.

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

Ciro Arevalo presented the status of the study and acknowledged the work of Sylvia Ospina as rapporteur of the study. The particularities of the study include: global scale, vast variety of approaches (regional-international, development-geography, political), unconsolidated expert communities. The expert list is going to be finalized. Recent communications with experts is suitable. The draft outline of the study report is structured in 3 Chapters: (1) Definitions, delimitations, conformations, (2) Politics, and (3) Status of Regional Cooperation.

It was proposed to analyze abstracts of IAA Symposium E3 at the IAC 2014. There are more than 25 abstracts on the topic. The expert list could be expanded. It was also pointed out the significance of the regional cooperation as a driver of global cooperation in space. Other noticed noticed the rising significance of the Global South nation's community also in the field of the space education and scholarships. Ciro Arevalo concluded the report with the information that the study group experts contributions in writing received in 2014 will be discussed and coordinated at the next study group meeting.

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

No one from the study group was present and the Commission received no status report or PowerPoint presentation, therefore no information was reported.

4.1.5 Reference report on Space Debris (SG 5.14)

Christophe Bonnal presented an overview of the study group activity. The study was proposed in September 2013, approved in January 2014 and a progress report was sent to the IAA Office in March. The first draft is expected in September 2014 in Toronto, the peer review is planned for March 2015 and the final publication in the Fall 2016. An intense discussion took place on IAA copyrights of the study publication. It was requested to coordinate this issue with IAA Office.

4.2 New study proposals

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

Marius-Ioan Piso, IAA Trustee and President Romanian Space Agency, presented the status and methodology of the study group. Co-authors include Peter Hulsroj and Sergio Camacho. This study topic was proposed in 2008 and due to the lack of progress cancelled in 2011. Nevertheless the topic was fully addressed at 1st IAA Conference on Space Systems as Critical Infrastructures in Mamaia, Romania 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 on 29-30 August 2013. Both IAA conferences were very successful. This topic was also on the agenda of the 3rd

GEOSS/GMES Copernicus Conference in Prague 10-11 June 2014. Therefore, the study was proposed again to commission V. To enrich the global dimension of the issue, it was proposed to invite more non-European study members. Corinne Jorgenson invited the study group leadership to present a table of content for the next meeting and once approved, the first draft could be planned for March 2015 with study outline could be presented.

4.2.2 Other study proposals

A wide discussion on new studies arose. Sergey Teselkin referred to the on-going commercialization reforms in Russian space industry invited Commission members to talk on status of global space commercialization. Isabelle Duvaux-Bechon talked on methodology and scope of space science mission preparation. Ray Williamson discussed the contribution of space technology in global economy development (global energy, food, sustainability). Cristina Giannopapa also proposed some new ideas on future study groups. Corinne Jorgenson asked that these proposals be sent by email so the commission can further investigate the proposed topics.

5. IAA Conferences and Symposia

5.1 3rd IISL-IAA Space Law and Policy Symposium

Max Grimard presented the status of the symposium. The scope of the conference is to illuminate the status of space data sharing and dissemination for climate change and disaster management. It will be discussed on technical and legal level. It will take part 2-3 days in December 2014 in Srivandram, India. The event will invite governmental, agency, academy and high-school representatives. A wide discussion on space, atmospheric, maritime data combination will be organized.

5.2 IAA Symposia at IAC

5.2.1 12th Symposia on Space Debris (A6- IAC, Toronto)

Christophe Bonnal presented the status of the 12th IAA Symposium on Space Debris in Toronto, which is very successful with a high number of paper presented (224 abstracts, it means 70% of rejection). As usually the symposium addresses the complete spectrum of technical issues of

space debris: measurements (47 abstracts), modeling and risk assessment in space and on the ground (36), reentry (29), hypervelocity impacts and protection (24), mitigation (18) and standards, and Space Surveillance.

5.2.2 27th IAA Symposium on Space Policy, Regulations and Economics (E3-IAC, Toronto)

On behalf of the Symposium Coordinators, Corinne Jorgenson presented the status of symposium with the following sessions: (1) Regional cooperation in space: policies, governance and legal tools, with co-chairs *Ciro Arevalo Yepes* , *Elisabeth Back Impallomeni* (31 abstracts); (2) International Space Exploration Policies and Programs with co-chairs *Nicolas Peter* and *Pascale Ehrenfreund* (18 abstracts); (3) The space economy: what are the socio-economic impacts with co-chairs *Claire Jolly* and *Joan Harvey* (26 abstracts); (4) Assuring a Safe, Secure and Sustainable Space Environment for Space Activities with co-chair *Ray Williamson* (23 abstracts). The 29th IAA-IISL Scientific-Legal Roundtable will be on the theme “Controlling the eyes in the Sky: Preventing abuse in space data” (7 abstracts). The roundtable will address this issue from an interdisciplinary perspective.

5.3 IAA Conferences

Discussion took place on potential new IAA conferences in the scope of the commission.

6. IAA Heads of Space Agencies Summit: Follow-on Activities

Corinne Jorgenson reported on the successful 2014 IAA Heads of Space Agencies Summit on Space Exploration.

7. Date, Place Next Meeting & Adjourning

The next Commission V meeting will take place on 27 September 2014 in Toronto, Canada.