

**International Academy of Astronautics**  
**6, rue Galilee, 75116 Paris**  
**<http://www.iaaweb.org>**

**Commission 5**  
**Report on Meeting**

**Paris, France**  
**Tuesday 23 March 2010**  
**9:00-11:00**

**Summary of the Commissions Members Meeting (08:30 – 09:00)**

The following information was provided by Dr. S. Konyukhov, Vice-President for Scientific Activities and Dr. Jean-Michel Contant, Secretary General, IAA.

The publication resulting from the Cosmic Study on Near-Earth Objects had been distributed at the 2010 session of the Scientific and Technical Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space. The study had been very well received by the Subcommittee and will contribute to the outcome of the 2009-2011 work plan of the Committee.

An update on the on-going preparation for the Washington Summit of Heads of Space Agencies (17 November 2010) was presented. Although the Summit is an initiative of IAA, there is uneven participation from members of the IAA Commissions in the four Working Groups that are preparing the outcome documents for the Summit. (4 in WG 1, 0 in WG 2, 7 in WG 3 and 8 in WG 4). To date, eight heads of space agencies have responded positively to the invitation to the Summit. Mary Snitch, Lockheed Martin, indicated that the programme for the Summit called for the Heads of Agency to meet in the morning of 17 November in closed session to discuss the recommendations of the IAA Report. The Heads of Agencies would present the results at a working lunch. Activities for the afternoon were still being planned.

There are quite a few IAA activities distributed around the world. However, areas in the world where we need to concentrate are Latin America – Pacific Region (there are ongoing contacts in Malaysia, Thailand that need to be followed up).

A study of the use of space in the reconstruction of Iraq is being considered (at request). The study on the reconstruction of Afghanistan carried out a few years ago is a precedent.

Commissions are invited to propose how the new Secretariat offices in India, and soon to be established, in China could be fully used to support IAA activities.

The IAA would send a letter to IAF, as done annually, regarding the proposed IAA Symposia to 2011 IAC.

Commissions were invited to overview the IAA conferences under auspices of IAA to strengthen the participation of the Commissions, for instance by participating in the program committees of the conferences, involving the regional representatives and inviting other Commissions to support the events.

The Permanent Committee Roundtable is part of Commission V and focuses on the IAA-IISL Scientific-Legal Roundtable.

The IAA web site has the following pages [iaa.studies.org](http://iaa.studies.org) and [iaa.conference.org](http://iaa.conference.org) that can be used as tools to support those activities.

## **Summary of the Meeting of Commission V**

### **1/ Attendance**

Sergio Camacho, Chairman  
Max Grimard, Co-Chairman  
Corinne Jorgenson, Secretary

Werner Balogh, Claire Jolly, Mary Snitch, Oleg Ventskovsky, Kazuto Suzuki. Nicola Rohner-Willsch, Clay Mowry, Marc Haese, Gerard Brachet, Richard Tremayne-Smith, Janusz Zielinski, Bertrand De Hauteclocque, Ray Williamson, Geir Hovmork, M.Y.S. Prasad.

### **2/ Adoption of the Agenda**

The agenda was adopted.

### **3/ Adoption of the Minutes of Commission V Meeting in Daejeon**

The Minutes, available on the IAA web site, were adopted.

### **4/ IAA Symposia/Conferences**

#### **4.1 IAC**

##### **4.1.1 Review of IAC 2009 Daejeon**

As usual, there had been a number of no-show papers but as it was low in most sessions, the extra time was used by other speakers and discussion. However, a number of Chairs and Rapporteurs did not show up and had to be replaced. For Sessions E3.2 and E3.4, none of the Chairs could attend and had to be replaced. It was recommended that time slots of when authors would be available to answer questions on papers presented in the Poster sessions should be advertised.

##### **4.1.2 Status of E3 Symposium for IAC 2010 Prague**

###### *E3.1 New developments in national and international space policies and programs*

The Chair, Mr. K. Suzuki was present and reported that a very high number of abstracts (35) had been submitted. More than 20 abstracts looked like they would result in very good papers but only about 12 could be accommodated in the time slot for Session E3.1 He therefore wanted to examine the possibility of accommodating some papers in other E3 sessions. Mr. Suzuki proposed some possibilities on moving some papers to use the time not used by presented papers in Sessions 3.2 and 3.4. Mr. Grimard mentioned there is some flexibility in the composition of the symposium and Commission V could propose in the E3.2 time allotted, a half session for space weather and half session of E3.1. Mr. Suzuki also noted that as Session E3.4 had only 7 papers, it might be held before or after the E3.2 session, thus creating a full time slot during which up 11 additional papers submitted to session E3.1 could be presented.

### *E3.2 Policy and Economic Aspects of Space Weather*

The Chair Dr. Balogh was present and reported that 7 abstracts had been submitted and at the time of this meeting, 6 had been uploaded and confirmed. He indicated that some papers that could not be accommodated in Session E3.1 could be presented following the conclusion of session E3.2 to utilize the left over time (approximately one-and-a-half hours).

### *Session E3.3: The Space Economy in Figures*

The Rapporteur Ms. Jolly was present and reported that 16 abstracts were submitted and that the Chairs planned to accept 13 abstracts as there is a probability to end up with 10 papers at the Symposium.

### *E3.4 Protecting the Environment of Celestial Bodies*

The Rapporteur Dr. Haese was present and reported that 7 abstracts have been submitted, all of them being acceptable. The session topic is related to the recently concluded IAA study on Protecting the Environment of Celestial Bodies. As most papers were being presented by members of the Study Group, Mr. Grimard suggested to transform the session into a roundtable.

### *E3.5 25th IAA/IISL Scientific-Legal Roundtable: The new age of small satellite missions (Invited Papers only)*

The Rapporteur Mrs. Rohner-Willsch was present and reported that Chairs of the session had invited 5 persons to present at the roundtable; the 3 authors of papers on legal issues had confirmed and the 2 authors on scientific issues are expected to confirm soon. This year, it is the 25<sup>th</sup> anniversary of the roundtable and at this occasion the IAA and IISL plan to publish an anniversary book. Dr. Contant and Dr. Schrogl are working on this project.

#### 4.1.3 Proposals for E3 Symposium for IAC 2011 Cape Town

This Symposium, organized by the International Academy of Astronautics, will provide a systematic overview of the current trends in space policy, regulation and economics, by covering national as well as multilateral space policies and plans. Specific focus for 2011: space policies for Africa, and Long Term Sustainability of Space Activities, the latter of which is related to the topics of two new IAA Cosmic Study project proposals by Commission V: Orbital Debris Removal and Space Weather. The symposium also integrates the 26<sup>th</sup> IAA/IISL Scientific-Legal roundtable, which will deal with Space Debris Remediation.

#### Coordinators :

Sergio Camacho

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Max Grimard

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As this will be the first time that the IAC is held in Africa, participants at the meeting agreed that African participation in the role of Chairs and co-chairs of the sessions was highly desirable.

## Proposed sessions

- *E3.1 National and International Space Policies and Programmes for African Development*

This session will provide a forum for the presentation and discussion of current space policies, programmes and initiatives that aim at supporting the development of Africa. Speakers from African countries and organizations will present their needs and plans, while others from non-African countries and international organizations are invited to present their space policies, programmes and initiatives that can support African development through international cooperation.

Chairs :

W. Balogh (TBC)

UN COPUOS – AUSTRIA

[werner.balogh@unoosa.org](mailto:werner.balogh@unoosa.org)

TBD (from an African country)

- *E3.2 International Space Exploration Policies and Programmes*

Space exploration is an important space policy domain that has been gaining momentum in recent years topping the space S&T policy agenda in many countries. Space-faring countries and international organizations have long been involved in human and robotic exploration but emerging space actors are increasingly getting involved in the field as well. International cooperation plans and partnerships are also increasingly leading to a new space exploration context. This session will provide a forum to reflect on the trends in space exploration and present the latest developments in the field.

Chairs :

Nicolas Peter

European Space Agency HQ – FRANCE

[Nicolas.Peter@esa.int](mailto:Nicolas.Peter@esa.int)

Pascale Ehrenfreund

George Washington University – USA

[pehren@gwu.edu](mailto:pehren@gwu.edu)

- *E3.3 Status and transformation of the international space industry*

This session aims at providing a picture of the situation of space developments in emerging space-faring countries in terms of economic models (e.g. PPP with more private actors' involvement in space operations), new markets (e.g. telecom, remote sensing) opening up for space industry actors, and technology transfers (e.g. joint ventures).

Chairs :

C. Jolly

OECD – FRANCE

[Claire.JOLLY@oecd.org](mailto:Claire.JOLLY@oecd.org)

TBD from an African country

- *E.3.4 Assuring the Long-Term Sustainability of Outer Space Activities*

The long-term sustainability of space activities is a matter of common concern for all current and future space actors. The increasing number of countries and private operators operating space systems and the growing amounts of space debris raise important questions about continuing to operate spacecraft in Earth orbit over the long term. Frequency management to prevent interferences, and influence of space weather are other critical issues

This session, which will support the activities of the Working Group on the Long-Term Sustainability of Outer Space Activities of the United Nations Committee on the Peaceful Uses of Outer Space, will explore the policies guidelines and application of the legal provisions of the outer space treaties that will be needed to assure long-term sustainability.

Chairs:

Peter Martinez

South African Astronomical Observatory - SOUTH AFRICA

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Agnieszka Lukaszczyk

Secure World Foundation – USA

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- *E3.5. 26th IAA/IISL Scientific-Legal Roundtable: Towards Space Debris Remediation (Invited Papers only)*

Space debris mitigation has received a global recognition and regulatory framework through the 2007 Space Debris Mitigation Guidelines of UNCOUOS. The next step in securing a space environment, where the threat through space debris is limited to the greatest extent, is putting in place space debris remediation measures. Building on the results of an IAA study on this topic technical, policy and regulatory aspects will be investigated in this interdisciplinary roundtable composed of selected experts in the respective fields.

Chairs:

Kai-Uwe Schrogl

European Space Policy Institute (ESPI), AUSTRIA

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Wendell Mendell

National Aeronautics and Space Administration (NASA), UNITED STATES

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Rapporteur:

Nicola Rohner-Willsch

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## **4.2 Heads of Space Agencies Summit, Washington, D.C.**

On the occasion of its 50<sup>th</sup> anniversary, a “Heads of Space Agencies Summit” will be held on 17 November 2010 at the Ronald Reagan Building and International Trade Center in Washington DC with the primary support of Lockheed Martin Corporation and supporting sponsorship from EADS Astrium and Space News. As of Friday 26 March, 10 Space Agencies have formally responded they will participate in the Summit, and the IAA is working with additional Space Agencies. A “Save-the-Date” communication has been sent to all Academicians at end of February, inviting them to the event. The Summit day and black tie gala is free to all Academicians and the Academy is working with several airlines to offer discounts.

The IAA Board of Trustees has identified four main topics: Climate Change / Green Systems, Disaster Management / Natural Hazards, Planetary Robotic Exploration and Human Spaceflight.

The attempt is to reach a broad consensus on international cooperation and coordination at the highest level in those four areas and eventually consider new concrete initiatives of cooperation. It is intended to avoid any duplication of on-going efforts (e.g., Global Exploration Strategy, Group on Earth Observations) but rather to foster closer international coordination across the four topics areas to strengthen the effectiveness and support of global space activities. In order to prepare the Summit, each theme is addressed by one IAA study group led by a Chair, Co-Chair(s) and Rapporteur(s).

#### **4.3 IISL-IAA Symposium “Space Law and Policy 2010”, Washington D.C.**

Mr. Mowry reported on this one-day event which is focused on practitioners. The program committee—Dr. Schrogl, Mr. Mowry, Mrs. Jorgenson and Mr. Baseley-Walker—is finalizing the program. Speakers include representatives from NASA, ITU, UNCOPUOS and the first panel is a General Counselor panel from satellite operators that will address slots, frequency coordination issues, etc.

#### **4.4 Other IAA Symposia**

The participants in meeting noted that the IAA website contains a listing of all IAA conferences, symposia and other events for 2010 and did not discuss them further.

### **5. Study Group Activities**

#### **S5.5 Space Debris Environment Remediation (Klinkrad, Johnson)**

The participants in the meeting were informed that the study was progressing well and on schedule.

#### **S5.6 Protecting the Environment of Celestial Bodies (Hofmann, Rettberg)**

The participants in the meeting were informed that the study had been finished in mid February 2010 and that the draft study had been submitted for peer review. S. Camacho informed the meeting that he would establish the peer review group and request the Board of Trustees through SAC, to approve the publication of the final draft study once all comments by the peer review group had been incorporated. In view of the time required for the review, the Board would consider the final draft of the study intersessionally. It is expected that the entire process can be concluded in time for the publication to be presented during the IAC in Prague.

#### **S5.7 Launch Regulations and Policies (Hertzfeld, Jorgenson)**

The participants were informed that on 19 March, H. Herzfeld, Chair, Study Group on Cosmic Study on International Launch Regulations, sent an email indicating that he had only received the draft of a chapter from among all that had been agreed by members of the Study Group, As the lack of submission of agreed inputs has persisted over several months, he recommends that the Study be terminated. In view of the circumstance, the Chair of Commission V supports the recommendation that this Cosmic Study Group be terminated.

#### **S5.8 Space Systems as Critical Infrastructures (Piso)**

The participants were informed that no reply has been received yet from the Chair of Space Systems as Critical Infrastructures and that the Chair of Commission V would seek to determine its status in the coming months.

New Study Group proposals to be presented for SAC approval:

A proposal for a new Study Group on International Cooperation on Space Weather has been submitted to the Secretary General on 26 February 2010 for SAC Approval. The Co-chairs would be D. Baker, W. Balogh, L. Paxton. W. Balogh would also act as Secretary. The study would be carried out in cooperation with Commission I. The study would be associated with Session E3.2 at the AC in Prague. The Commission endorses the proposal.

A proposal for a new Study Group on Orbital Debris Removal: Policy, Legal, Political and Economic Considerations, has been submitted on 15 March 2010 to the Chair, Commission V and distributed to Members of the Commission. The Co-chairs would be Stephan Hobe, and Ray A. Williamson. The Commission endorses the proposal and proposes that the study is associated with Commission 4.

## **6. Report on related publications in Acta Astronautica**

In Acta Astronautica, the number of articles from the areas of policy, regulations and economics is slowly increasing in the regular issues of the journal. Efforts are made to initiate contributions, which are not derived from IAC papers. Initiating articles is also done with the view of having contributions, which are not too specialized but would be of interest to the primary readers of Acta, which are engineers and scientists. What is not yet accomplished is to have overview articles. This should only be launched, when there is a reasonable expectation of having such overview articles (for policy, regulations and economics) on a regular basis for a number of years. It is also encouraged to have contributions derived from study groups of Commission V (e.g. a summary of the now completed study on planetary protection, or the results from the done work so far in the now dissolved study group on launch regulations and policies).

## **7. Report to the Scientific Activities Committee and to the Board of Trustees**

The Chair and Co-chair will report on items that require SAC approval and on highlights of the meeting.

Note: The two proposed Study groups indicated above were approved by SAC at its meeting.

## **8. Next Meeting**

The next meeting of Commission V will be held in Prague, Czech Republic, on Sunday 26 September 2010.