

Commission 4 Space Operation and Utilization

Minutes of Meeting

Saturday 19 October 2019 - 13h00-16h00
Washington DC, USA

1. Welcome

Commission Chair

Chair of Commission 4 R. Laufer opened the commission 4 meeting, welcomed all commission 4 members, ex-officio members and interested participants and friends of commission 4 (see list of participants in the addendum of this document).

The chair welcomes the members of the commission leadership for the 2019-2021 period: he congratulates P. Gasbarri for being appointed as new vice chair now and he welcomes R. Mugellesi-Dow as the new secretary of commission 4 - he also congratulates R. Mugellesi-Dow for just being elected full member of the academy. The chair thanks M. Ovchinnikov to agree to a second term as past chair due to former chair A. Tsuchida's resignation.

The chair provided a brief report of the restricted commission plenary meeting (just preceding the commission 4 meeting) lead by secretary general J.-M. Contant:

- IAA leadership is pleased with the number of cosmic studies remaining at around 40 studies at any time over the past five years - commission 4 ranging at six studies or more (placing second behind commission 3).
- IAA leadership proposes more dialogue between commissions - especially at the time of review of studies and publications.
- IAA leadership reminds in the technical reports from chairs and rapporteurs of conferences and symposia to be compiled by the office for publication - availability shall be via the IAA website.

2. Adoption of the Agenda

Commission Chair

The proposed agenda was adopted by the commission and its members. No changes or additions to the agenda were requested.

3. Adoption of the Minutes of Commission 4, Paris, March 2019 meeting

Commission Chair

The chair expresses his apology that the minutes of the March 2019 commission 4 meeting in Paris are not available yet via the IAA website - adoption of the minutes will be requested at a later date.

4. IAA Cosmic Studies

All

4.1 Current Studies

Study Group 4.17 Chair or representative: Cappelletti/Graziani
Space Systems for Biomedical Research

More participants have expressed interest in the study group; the draft report for review will be presented during the Spring Meetings in March 2020.

Study Group 4.19 Chair or representative: Holm/Horikawa/Coradini
Promoting Global Space Knowledge & Expertise in Developing Countries

A survey has been finalized and more universities have been involved; the survey addressed three types of audience: retirees, people that need to use data or create apps, and startups/SMEs. It has been proposed to hold a 90 min workshop to suggest best practices. The survey should be early complete January 2020 and IAA could promote it. Different topics have been discussed with representatives from African regions and from African Union. In March 2020, the results of the survey will be incorporated in the web site, the database and a list of experts; at IAC2020 a draft report of the study should be ready.

The proposal was made to continue the study in the form of permanent committee to have a formal presence in IAA. This will provide permanent continuation of the study. This approach is encouraged by commission 4 and its members.

Study Group 4.20 Chair or representative: Bao Weimin/Contant
Space Information Application in Earthquake Emergency Response

No response was received so far. The chairs need to be contacted to check the status of the activity which maybe will be closed.

Study Group 4.22 Chair or representative: Teofilatto/Filatyev
Through Optimization of Aerospace Trajectories

The report has been delayed in the planning, therefore, it will be sent in the next days. P. Gasbarri has joined the group, as well as I. Mazzini from Thales Alenia; the draft report will ready for the Spring Meetings in March 2020.

Study Group 4.24 Chair or representative: Mugellesi-Dow
Knowledge Management for Space Applications

The project with the Mexican Space Agency has been described in handout delivered to the Commission 4. The results of the project will be presented during the Spring Meetings in March 2020.

Small Satellite-related study groups via IAA Permanent Committee on Small Satellites

Study Group 4.21 Chair or representative: Belokonov/Schilling
Distributed, Networked, Smart, Cooperating Small Satellite Formations

The study is progressing, a draft report will be finalized and ready by the Spring Meetings in March 2020.

Study Group 4.23 Chair or representative: McKnight/Hanada/Da Silva/Martinez
Post-Mission Disposal for Micro and Smaller Satellites: Concepts and Trade Studies

The study was successfully closed and completed. Publication took place after Spring Meetings in March 2019; the review has been completed after the meeting and it is already available on the IAA web site. The results were presented at UN-COPUS meeting in June 2019 as well presented at the

Berlin SSEO conference in May 2019. Congratulations were expressed to the authors for this achievement.

4.2 *New Studies Proposals*

Study Group 4.25 Chair or representative: Xue Huifeng/Gao Yufeng
Research on Space Information Sharing Technology with Satellite Integrated Network
The proposal was already reviewed and requests for changes were made concerning a more international membership. The focus of the study has been reviewed and now it is centered on the Global Satellite Data Sharing mechanisms. The proposal has been sent with the updated form and second chair to commission 4 for review and was accepted and approved by commission 4.

Study Group 4.26 Chair or representative: Mengu Cho
Cubesat Interface

The proposal concerns of the standardization of the cubesat interfaces, in particular the electrical and mechanical ones. The study group has a well organized management and should promote international collaboration for cubesat. Study should be completed in 3 years, input to ISO draft is foreseen in 2021. The proposal has been accepted and approved by commission 4.

5. IAA Conferences

All

5.1 *Current IAA Conferences*

5.1.1 IAA Stand-Alone Conferences

IAA Space Flight Safety Symposium, Saint-Petersburg, Russia, 23-26 September 2019
Program Committee Chair or representative: N. Smirnov
Contact the organizers to report on the outcomes – report was not provided

Small Satellite-related conferences via IAA Permanent Committee on Small Satellites

12th IAA Symposium on Small Satellite for Earth Observation, Berlin, Germany, 06-10 May 2019.
Program Committee Chair or representative: M. Hetscher
Rainer Sandau reported the feedback. 300 participants from 35 countries

13th IAA Low-Cost Planetary Mission,
Toulouse, France, 03-05 June 2019
Program Committee Chair or representative: L. Suchet / P. Bousquet
Contact the organizers to report on the outcomes – report was not provided

2nd IAA Latin American Symposium on Small Satellites
Buenos Aires, Argentina, 11-16 November 2019
Program Committee Chair or representative: R. Sandau / L. Gratton
Rainer Sandau reported on the symposium.

5.1.2 IAA Symposia at IAC

51st IAA symposium on Safety, Quality and Knowledge Management in Space Activities, Washington DC, USA (IAC D5)
Program Committee Chairs or representatives: J. Holm / R. Mugellesi-Dow

Small Satellite-related symposia via IAA Permanent Committee on Small Satellites

25th IAA symposium on small satellite mission, Washington DC, USA (IAC B4)

Program Committee Chairs or representatives: A. Da Silva Curiel / J. Guo

The meeting of the B4 program committee during the IAC will take place on Tuesday, October 22, 2019, 13:00-14:00, in room 156.

19th UN/IAA workshop on Small Satellite at the Service of Developing Countries, Washington DC, USA (IAC B4.1)

Program Committee Chairs or representatives: Hui Du / Sias Mostert

Part of the B4 symposium – see report and program committee meeting above.

5.2 New Conferences proposals

All

1st African Regional Symposium on Small Satellites

Rainer Sandau reported that the proposal is to held the conference after the Spaceops in May 2020. Venue is Stellenbosch. Preparation are already ongoing. The website of the symposium is iaa-africa2020.co.za. The proposal was endorsed by Commission 4.

4rd Latin American Cubesat Workshop

Antonio Prado from INPE proposed the workshop on 2-6 August 2020; the timeline is that in February 2020 abstracts should be submitted and the papers ready by June 2020. The location is near Sao Paulo. The Commission 4 endorsed the workshop.

Finnish Satellite Workshop

The symposium will take place in January 2020 symposium and held by the university of Alta near Helsinki. It is proposed to have a special IAA session with IAA involvement and discussing collaboration towards a regional symposium for 2021. The proposal was endorsed by Commission 4.

Upcoming small satellites and cubesat conference will be held 28-31 January 2020 in Rome, 31 November 2019 is the deadline for the abstracts

Spanish Small satellites Forum was discussed. It addressed cubesat and nanosatellites, about 100 people participated from all over the world; in September 2019 it was published in the small satellites serie

6. Report from the IAA Permanent Committee

Committee Chairs

IAA Permanent Committee on Small Satellites

Co-Chairs: Alex da Silva Curiel, Rene Laufer, Rainer Sandau

Co-Secretaries: Marco D'Errico, Fabio Santoni

See reports on study groups and conferences as well as under other business.

A meeting of the permanent committee on small satellites during the IAC will be within the meeting of the B4 program committee on Tuesday, October 22, 2019, 13:00-14:00, in room 156.

7. Other Business

All

Activities with Estonia and the European Astrobiology Institute / Nordic Astrobiology Network in Juli/August 2019 as well as in September 2019 in collaboration between Estonian Universities in the area of small satellites. Contribution to the activities in Estonia in the context of IAA will continue next year.

8. Adjourn

Commission Chair

The chair expressed his gratitude to all commission 4 members and meeting participants and in particular all presenters and his fellow commission 4 officers for their ongoing efforts. He concluded the meeting of commission 4 in Washington D.C. and invited everyone to the next meeting in March 2020 in Paris at the beginning of the week of the Spring Meetings 2020.

List of Participants:

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