

Meeting of IAA Commission 1 on ‘Space Physical Sciences’

17 March 2014, (Monday) 13h30-16h00, 6 rue Galilee (Metro Boissière)

IAA Headquarters

Paris, France

Agenda

The agenda is contained in Appendix 1

Minutes

This agenda was adopted and the minutes of the meeting are as follows

1. Welcome:

The Chairman of Commission-1, J. N. Goswami, welcomed Commission-1 officials and other members of Commission-1 that were present and requested that everyone would participate in the deliberations of the meeting.

2. Self-Introduction:

All the officials of Commission-1 were present [i.e. J. N. Goswami (Chair, India), N. Smirnov (Vice-Chair, Russia), G. Vane (immediate past Chair, USA), S. McKenna-Lawlor (Secy., Ireland)], Other Commission-I members present were: T. Krimigis, (USA); G. Schwehm (Germany); R. McNutt (USA); M. Nakamura (Japan); A. Viviani (Italy); S. Schindler (Germany); R. Ramachandran (India); C. Maccone (Italy).

All of these persons introduced themselves and described their scientific areas of current interest.

3 Minutes of Beijing Meeting

A brief account of the discussion that took place at the Beijing meeting in September 2013 was presented by the Commission Chair. He noted that only **four** Commission members (including the Chairman and Secretary.) were present and that two other Academy members joined in the deliberations. The full minutes of the meeting were presented by the Secretary and approved by those present.

4 Study Group Activities (finalized studies, publication of Results)

S McKenna-Lawlor reported that her book arising from Study Group 1.5 on “*The energetic particle radiation hazard en route to and at Mars*” had been fully completed and submitted to the Academy in 2013 for approval for publication. No information was available as to when publication would take place. An action was taken by J. N. Goswami and G. Vane to raise the question of publication status with Jean-Michel Contant and the

SAC later in the day. *It was subsequently learned from G. Vane that the book has been fully approved for publication and congratulations forwarded to Susan McKenna-Lawlor.*

5 Study Group Activities (Status, progress reports)

An in-depth discussion on the current status of the approved study reports (SG1.5, 1.6, 1.8, 1.9, 1.10, 1.11, 1.12 and 1.14) followed and the committee made the following observations during these discussions with back-up recommendations.

Observations:

- (i) *The Study Group report SG 1.5, on “Particle radiation hazards en route to and at Mars” is now awaiting BOT approval, prior to publication.*
- (ii) *The current status of two Study Groups proposals (SG-1.6 & SG-1.11) were presented by the proposers of these studies (C. Maccone and R. Ramachandran). The absence of corresponding reports on the current status of the other study groups (as had been requested to be provided before the meeting by both the IAA office and the Chairman of Commission-1), was deemed to be a cause for worry.*
- (iii) *The separation of Commission-1 Study Group 1.13 from Commission-4 Study Group 4.16 (“Small satellites for extremely low cost planetary missions”) was discussed. Study Group 1.13 was initially proposed as a Commission-1 study with the focus on the planetary science that is enabled by the new generation of Cube-Sats and Cube-Sat-compatible scientific instruments. It was felt that a Commission-4 study focussed on spacecraft technology and engineering aspects would be more appropriate for Study Group 4.16. In subsequent discussions at the SAC and later, it was decided by IAA leadership to restore Study Group 1.13 to Commission 1 as originally proposed.*
- (iv) *A clear statement regarding publication policy with regard to study reports from an IAA perspective needs to be put in place - in particular for study SG 1.5.*
- (v) *Congratulations were offered to C. Maccone on the successful completion of the study he had led on the topic “Protected antipode circle on the Lunar far side”.*

Recommendations:

- (i) *The IAA office should be requested to send out a further request for a status report from each of the individual leaders of Study Groups 1.8, 1.9, 1.10, 1.12 and 1.14 since, for the Spring Meeting, they have neither submitted a report on the progress of their studies nor updated earlier information concerning study group membership.*
- (ii) *The IAA should issue guidelines concerning the time frame within which particular Study Group activities should be completed following the approval*

of a particular study group, as well as formulate the steps to be taken (including discontinuation) if there is an unreasonable delay in meeting the allocated milestones.

- (iii) *The study group SG 1.5 book, on “Particle radiation hazards en route to and at Mars”, should be published at an early date (unanimous declaration).*
- (iv) *An IAA publication policy for study group reports should be formulated which takes into account both current day expertise and the availability of modern methods of dissemination of information via the media, which techniques are now supplemental to printed documentation. The policy thus formulated should be circulated to all Commission Chairs and conveyed to Study Group Leaders and Members at the time of acceptance of a study proposal.*

6. Proposals for new Study Groups

The Chairman recommended that, in view of its already approved SEVEN study groups, Commission-1 should await the formal publication policy of the IAA before proposing any further study groups.

7. COSPAR (Moscow) Academy Day Technical Programme

G. Vane (past Chair of Commission-1) is organizing, in collaboration with Lev Zelenyi, the Moscow IAA COSPAR Academy Day program. He presented to Commission 1 the preliminary program (Appendix 2) and noted that all of the invited speakers listed had already confirmed their attendance. Other items may yet be added to this program.

8. 11th. IAA Conference on Low Cost Planetary Missions

It was confirmed by G. Vane that the next (11th) LCPM Conference will be hosted by the DLR in Berlin, Germany, from 9-11 June 2015. *Tilman Spohn* and Gregg Vane will act as co-chairmen. As previously reported at Beijing, *the International Planetary Probe Workshop (IPPW)* plans to hold its 2015 IPPW meeting at DLR in Koln, Germany during the following week, 15-19 June 2015, to avoid conflicting dates. Gregg and Tilman plan to meet in Washington in May, 2014, to put together a draft international program committee and top-level agenda for LCPM-11.

9 Fifth IAA Symposium on Search for Life Signatures

The fifth IAA Symposium on ‘Search for Life Signatures’ was scheduled to be held at the UNESCO Building in Paris from 20-21, March 2014. C. Maccone, in his capacity of Conference Organizer, provided Commission 1 with an historical account of SETI. Since 1960 radio telescopes have been employed to detect extraterrestrial signals near 1420 MHz (the emission line of neutral hydrogen) while optical searches have been pursued since 1990 (Passive SETI). In recent years signals had been deliberately transmitted into space to enhance the probability of contacting distant technological civilizations (Active SETI)

The goals of the Paris Symposium in 2014, against a background of the discovery since 1995 of, in excess of, 2000 extra-solar planets, is to discuss the strategies of both Passive and Active SETI with communities that will include experts: in the search for terrestrial type exo-planets; in the recognition of bio-signatures; and in other related disciplines in order to enhance the possibility of SETI signal detection success.

10 First IAA Symposium on Space Flight Safety

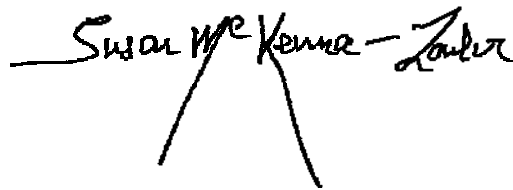
N. Smirnov reported that an IAA Conference on SPACE FLIGHT SAFETY, will be held in Saint Petersburg this Summer from 28-31 July, just prior to the COSPAR meeting in Moscow (2-10 August). The conference program is contained in Appendix 3. The Commission 1 Secretary will take responsibility for Topic 4.

Prof. Smirnov provided information on how to reach the venue on the Gulf of Finland and noted that the recommended hotel has on show two remarkable portraits.

11 Information on Acta Astronautica Special Issues Policy

N. Smirnov presented an account of his recent discussions with the Editor of Acta Astronautica concerning the policy of the journal regarding Special Issues. The privilege of publishing Special Issues is granted to Conferences and Symposia organized under the auspices of the IAA. The guidelines for arranging IAA meetings are published on the web site of the Academy.

As there were no items in AOB the Chairman thanked those present for their participation and closed the Meeting.

A handwritten signature in black ink that reads "Susan McKenna-Lawlor". The signature is written in a cursive style with a long horizontal line extending to the left and two long, sweeping lines extending downwards from the end of the name.

(Acad.) Susan McKenna-Lawlor

Commission 1 Secretary

Appendix 1

IAA Commission 1 ‘Space Physical Sciences’ Meeting

17 March 2014 (Monday) 13^h.30^m -16^h.00^m 6 rue Galilee (Metro Boissière)

IAA Headquarters, Paris, France

Agenda

1. Welcome – J. Goswami
2. Self-Introduction of Commission 1 members and all attendees – All
3. Minutes from Beijing meeting – Susan McKenna-Lawlor
4. Study Group Activities; finalized studies, publication of results –Susan McKenna-Lawlor
5. Study Group activities: status, progress reports –Study group leaders
6. Proposals for new Study Groups – J. Goswami
7. COSPAR Academy Day Technical Program – Gregg Vane and Lev Zelenyi
8. 11-th. IAA Low Cost Planetary Missions Conference (LCPM-11) – Gregg Vane.
9. Fifth IAA Symposium on ‘Search for Life Signatures’ – Claudio Maccone
10. First IAA Symposium on ‘Space Flight Safety’ - Nickolay Smirnov
11. Information on Acta Astronautica Special Issues policy – Nickolay Smirnov

Appendix 2

Scientific Program for IAA Academy Day Moscow, 2014

1. Quantifying Space – Quantitative Models for Space Weather
 - Maria Kuznetsova, GSFC, USA confirmed

2. Remote Sensing of CO₂ and CH₄ in the Earth's Atmosphere. From missions to Science – Remote sensing of Carbon Cycle Science
 - Charles Miller Caltech/JPL confirmed

3. Following the water in the Solar System – Mars, Europa, Moon, Mercury and beyond
 - Igor Mitrofanov, IKI Russia , confirmed

4. Rosetta: First Results from 67P/Churyumov-Gerasimenko
 - Gerhard Schwehm, ESA confirmed

5. Europa as an Abode for Life: Investigating Habitability with the Europa Clipper Mission Concept.
 - Robert Pappalardo, Caltech./JPL USA confirmed

Appendix 3

IAA Symposium on Space Flight Safety

First Announcement and call for papers

Space Flight Safety

1. Organizer: Scientific and Production Enterprise “Special Materials”
2. Sponsoring organization: “Technomash”, Russian Space Agency
3. Conference site and dates: Saint Petersburg, July 28-31, 2014 (prior to COSPAR 2-10 August 2014, Moscow)
4. Local organizing committee:

Mikhail Silnikov, Director General Scientific and Production Enterprise
“Special Materials” (Chair), Andrew Mikhaylin (Organizational Department),
Mikhail Chernyshov, St. Petersburg State Polytechnical University

5. Symposium Structure:
 - Theme of the symposium: Space Flight Safety
 - Topics

1. Fire safety of Space vehicles
2. Protection of Space structures from space debris collisions and micrometeoroids
3. Safety at launch place and during takeoff
4. Radiation hazards and safety
5. Supercomputer predictive modeling for ensuring Space program safety

1st announcement February 15, 2014

2nd announcement and preliminary Program May 1, 2014

Abstract Submission via e-mail deadline April, 15, 2014

All questions relevant to registration, abstract submission should be addressed directly to
Local Organizational department head Andrew Mikhaylin

mikhaylin@npo-sm.ru. Symposium web site: <http://sfs-2014.ru/>

The information is present on the IAA site as well