

International Academy of Astronautics (IAA)
Agenda of meeting - Study Group 3.24 "Road to Space Elevator Era"
8th meeting in Paris, France on March 20th, 2017



Date: Monday, March 20th, 2017

Time: 10:00 – 12:00

Place: IAA Meeting room

Chair: Akira Tsuchida (CM2), Co-chair: Peter Swan, Ph.D. (M4), David Raitt, Ph.D. (M4)

Secretary: Ms. Sakurako Takahashi

Agenda:

1. Opening Remarks – Mission Overview Akira Tsuchida
 - A theme, "Research and Development of Revolutionary Low Cost Space Transportations for Space Infrastructure Constructions", is officially listed as one of the big scientific research items by Science Council of Japan. The description (though in Japanese) is shown in Appendix 2 (Space Elevator part is pages 5-6). It consists of Space Plane and Hybrid Space Elevator as a future low cost space transportation system. Total research cost is estimated to be about 700M US\$ for 10 years, which includes 200M US\$ for Space elevator research.
2. Self-Introduction - see the list of attendees in Appendix 1
3. Report prepared for Commission III meeting/SG3.24 Akira Tsuchida
 - Presentation charts were prepared and explained as shown in Appendix 3.
 - All study group members are responsible for listing up their research items for critical technology to accomplish space elevator development as a part of the final report. A leader or POC is assigned to each group and he/she should work with his/her group.
 - The biggest progress made in last year was that there were several on-orbit verification experiments performed in Japan. Space Elevator Tether deployment experiment named STARS-C satellite was deployed from the ISS last December. Another satellite named STARS-E which will have a tiny tether climber experiment in space will be launched in 2018. Before its launch, STARS-E's parabolic flight test on

Contact Information:

Mr. Akira Tsuchida (CM2/IAA) tsuchida.akira@gmail.com

Ms. Sakurako Takahashi takahashi.sakurako@jamss.co.jp



an airplane is planned in 2017.

- One member in outreach area of our study group, Mr. Shuichi Ohno, who leads Japan Space Elevator Association, input a great idea for potential IAA event named GSPEC. This will be held in 2017-2020 in the US as a climber challenge on ballooned tether up to 20km from the ground. The current idea includes: the climber shall bring a robot up to the top and the robot shall return to the ground by itself. The detailed condition of the competition should be determined.
- The leadership members of the study group discussed and agreed that this GSPEC event should appeal to the Commission III to get an approval of IAA sponsorship.
- The GSPEC event is planned to be held at the Blackrock Desert, Nevada, US. There is one concern that it might be difficult to gather many people as an IAA event and to have a side workshop there. The detail of how to implement the event should be discussed continuously. (Later on the same day, a GSPEC promotion video was presented at the Commission III meeting, and the Commission III leaders concurred to hold the GSPEC as one of the IAA Events. Whenever the date and the details of the event are fixed, SG3.24 will inform them to announce this event on the IAA website.)
- Our Co-chair, Dr. Peter Swan, mentioned that he can help Mr. Ohno/JSEA if they need to get any sponsorship in the US or to access US government authorities. He also suggested posting the GSPEC promotion video on YouTube so that he can show and explain to many people in the US. Since Mr. Ohno could not make to come to the meeting, the Chairman will make a contact.

4. Current Status

Akira Tsuchida

- The Chairman explained the current discussion among SG3.24 leadership members and with universities in Japan. As an example, working spreadsheet which was made

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by Nihon University (Prof. Yoshio Aoki, a member of SG3.24) was shown and reviewed. They will have monthly workshops in Japan and provide their result as an IAC2017 manuscript in the Symposium D4.3.

5. Space Elevator Feasibility Prediction Index

Peter Swan

- The Co-chair explained the draft of SEFPI. This version is still just his idea and no one from the study group has reviewed it yet. We will continue to discuss this index and this will be one of the main topic at the next meeting.

6. Discussions and questions

- Prof. Lu Yu/China (past chair of IAA Commission III) stated that it is a good time to have the first Space Elevator workshop in China. Our study group member from China will inform the leadership team of the details later.

7. Next meeting schedule

- Co-chair suggested holding our next meeting on Saturday, Aug. 26th, in Seattle during the ISEC (International Space Elevator Consortium) Space Elevator conference. Leadership of SG3.24 approved.

8. Others

- Ms. Sakurako Takahashi, the secretary of SG3.24, informed that she has a new assignment to be a JAXA Flight Director of the ISS starting this April. Since she needs to focus on the training/certification program for a while, Dr. Hatsumi Ishida is assigned as a new secretary of SG3.24.
- Dr. Ishida is currently working in JAMSS as a flight controller of the ISS. Her specialty is Earth and Planetary Science. She studied the origin and evolution of early solar system based on the results of mineralogical and isotopic measurements of primitive meteorites.

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Appendix 1: List of Attendees

Name	E-mail	Country
Peter Swan	dr-swan@cox.net	USA
Roger Lenard	rxlenard@gmail.com	USA
Lu Yu	luycalt@163.com	China
Wang Xiaowei	wangxwbuaa@163.com	China
Seishiro Kibe	kibe_seishiro@yahoo.co.jp	Japan
Hiroki Matsuo	Vpresident-hm@iaamail.org	Japan
Yuichiro Nogawa	nogawa.yuichiro@gmail.com	Japan
Akira Tsuchida	tsuchida.akira@gmail.com	Japan
Hatsumi Ishida	ishida.hatsumi@jamss.co.jp	Japan
Sakurako Takahashi	takahashi.sakurako@jamss.co.jp	Japan

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