

IAA COMMISSION II

Life Sciences Coordination Meeting

March 20, 2007, 08:30 – 11:30

Location: Immeuble Aeroclub de France
6, rue Galilee, 75016 Paris
Members room 1

Summary minutes (draft)

1. **Welcoming** the participants **G. Horneck** briefly reported on activities since the last meeting in Valencia and outlined the objectives for the present meeting. **Ron White** asked for the floor to report on the board of trustees under topic 3. With that amendment, the draft agenda (annex I) for the meeting was adopted. A list of participants of the meeting is enclosed (Annex II).
2. Copies of the **draft minutes** from the last Commission II meeting in Valencia were handed to participants. Comments were requested to be sent to the secretary. Since no comments had been received, the minutes were approved. The final version of these minutes has been sent to all members of Commission II and is also available on the IAA website (<http://www.ianet.org/commissions/>).
3. **Reports by the Chair: Scientific Activities, Board of Trustees, Membership of Commission II, general news from IAA**
G. Horneck reported on the proposed changes of the By-laws. Copies of the new draft were distributed and members of Commission II were encouraged to comment and propose amendments, where necessary, in the next two weeks.
Regarding publication matters, **R. Gerzer** informed the Commission that the existing backlog of unpublished manuscripts had been reworked with the support of 3 ladies from Elsevier. It was proposed that the procedure be optimised, thus the time for publication could be reduced firstly to one year and afterwards to 0.5 years. By means of the electronic system from Elsevier, this target was expected to be reached in the proposed timeframe. There were still ongoing discussions with Mr Marec in favour of the IAA system. The proceedings of “Humans in space in Beijing” should be the first instance in which the electronic publishing system would be applied and fully operational. The impact factor of Acta Astronautica had meanwhile decreased to 0.2. The first manuscripts for review articles from Commission II had been delivered. The reported procedure for publication was intensively discussed. The review procedure would not be changed in principle, with one reviewer per article. In the opinion of Commission II, two reviewers per article should be requested as a minimum. The publication of 3 notes per year was welcomed. Transaction notes (max 4 pages) would also be rapidly reviewed in the future. The chair thanked Mr Gerzer for his support and very much appreciated his initiative in the IAA publication business.

R. White provided an overview on the work from the Board of Trustees. **Membership and awards:** All full members of IAA had to show dedication in finding new members to introduce younger candidates while respecting a balanced global geographical distribution.

Nominations: Life Sciences award: Gregoriev; **Book award:** Gitelson; **Napolitany award:** Bucky.

The Board of Trustees had a long meeting on strategic planning. The major item was the final report from the IAF/IAA synergy group. A lively discussion took place on the report and a good understanding of what should be brought forward was achieved. A small group has been appointed to prepare a revised version.

Regarding the situation in Life Sciences, a joint committee was proposed during the discussion with Mr Zimmermann. No competition is felt to be needed between IAF and IAA. The former joint initiative needed to be reinitiated. Thus, the chair of the commission would deal in future with IAF matters. Therefore, Commission II would continue work as a Programme committee for IAF dealing with life sciences.

The new membership of Commission II would take over in October 2007. **J. Rummel** would take over the chair for the upcoming 2 years. **G. Hornek** thanked all the members of Commission II for their support and cooperative work.

4. Study Group proposals/activities

4.1 Status/Progress report from Study Groups chairs

S 2.1 Mathematical Modelling & Physiological Simulation: The Digital Astronaut/Cosmonaut. **R. White** reported that the study group was still producing the version for the formal review. The report was available and would be forwarded for review according to the rules and procedures (annex III).

S 2.2 Artificial Gravity as a Tool in Biology and Medicine

Mr Paloski reported that the final report was available. Commission II proposed that the review team include one member from other sections (thus, also 4 and 3). The Chair took on the action point of checking with the other Commissions mentioned. Furthermore, support for publication of the report should be sought (annex IV).

S 2.4 Psychology and Culture in Long Duration Space Missions

N. Kanas confirmed the availability of the study group report. All issues raised in the Commission meeting in Valencia had been settled. A full formatted version of the report was available for review (Action chair) following publication in Acta Astronautica (annex V).

S 2.5 Astrobiological Studies of Solar Systems

J. Rummel could not join the Commission meeting due to a conflict of dates. The study was for the time being on hold. The situation requires further clarification (annex VI).

S 2.6 Medical Safety Guidelines for Passengers on Commercial Orbital Space flights

R. Gerzer confirmed that this report was in the last phase of finalisation and final presentation was envisaged at the next meeting of the Commission (annex VII).

S2.7 Integrative Physiology in Long-duration Space Flight: Nutritional Aspects

M. Heer explained that the situation of the study was open and needed urgent clarification (annex VIII). In the following discussion the members of the Commission raised some concerns about missing activities in some groups. Clarification was

needed at the next meeting. The Commission recommended not to proceed with new study proposals till the ongoing ones had been successfully finished or clarification reached of those studies still on hold.

5. Programme preparation activities

5.1 Status for the 16th Human in Space Symposium, Beijing, 20 – 24 May, 2007

A comprehensive presentation on the status of preparation was given by **Professor Zhuang** (annex IX). In the following discussion, several issues for urgent action were raised. The main issues were: finalisation of the list of panellists; checking need and capabilities for interpretation; identifying the chair for keynote speeches; distribution of the complete programme to all organisers; provision of information to each accepted author on the details of their talk by email and, in parallel, to co-chairs.

For the envisaged electronic publishing, necessary requirements and rules needed to be transmitted to authors. Professor Gerzer needed the abstracts as soon as possible in order to prepare the electronic publication process. The written manuscript needed to be uploaded during the meeting. Uploading to the Elsevier website needed to be done. In addition, 2 hard copies for the co-chairs had to be delivered during registrations. The final manuscript should be delivered at the end of June 2007 (action for final clarification with R. Gerzer and Professor Zhuang),

G. Horneck reported that all abstracts had been accepted for poster presentation. She thanked the local organisers for their encouraging work. The next Humans in Space symposium is scheduled for 2009. A call for proposals would be issued before Hyderabad. The decision on the venue (Moscow or in USA) for the next Humans in Space symposium would be taken at Hyderabad. (IAA website to check).

5.2 Status for 58th IAC in Hyderabad

The **Chair** reported that 70 abstracts had meanwhile been received. The details would be settled in the meeting of the programme committee the next Thursday.

The Commission proposal for a highlight lecture was unfortunately not accepted by SAC (action cross-check with Nair). **R. Gerzer** informed the Commission that he had skipped the telemedicine lecture.

5.3 Status for the 59th IAC 2008 in Glasgow, Scotland

The **Chair** informed those present that 6 sessions in Life Sciences had been proposed. The type of sessions would be discussed at the meeting of the programme committee the next Thursday. One session should be dedicated to the risk of exploration missions. No proposal had yet been forwarded for a plenary.

5.4 Programme proposal for the 59th IAC , Seoul, South Korea

The topic was not discussed.

6. Next meeting and work between meetings

- Comments on the proposal of By-laws within 2 weeks from now to the chair
- Next meeting of Commission II during the Academy in Hyderabad

7. Any other business

No topics raised.

IAA COMMISSION II

Life Sciences
Coordination Meeting

March 20, 2007 08:30 – 11:30

Location: Immeuble Aeroclub de France
6, rue Galilee, 75016 Paris
Mezzanine room (tbc)

Draft Agenda

- 1.) Welcome/ Introduction
- 2.) Review of minutes from last Commission II meeting in Valencia
- 3.) Reports by the Chair: Scientific Activities, Board of Trustees, Membership of Commission II, general news from IAA
- 4.) Study Group proposals/activities
General overview
Status/Progress report from Study Groups chairs
S 2.1 Mathematical Modelling & Physiological Simulation: The Digital Astronaut/Cosmonaut
S 2.2 Artificial Gravity as a Tool in Biology and Medicine
S 2.4 Psychology and Culture in Long Duration Space Missions
S 2.5 Astrobiological Studies of Solar Systems
S 2.6 Medical Safety Guidelines for Passengers on Commercial Orbital Space flights
S2.7 Integrative Physiology in Long-duration Space Flight: Nutritional Aspects

Discussion on new proposals (tbc)
- 5.) Programme preparation activities
General
Status for the 16th Human in Space Symposium, Beijing, 20 – 24 May, 2007
Status for 58th IAC in Hyderabad
Status for the 59th IAC 2008 in Glasgow, Scotland
Programme proposal for the 59th IAC
- 6.) Next meeting and work between meetings
- 7.) Any other business

Participants Commission II meeting
 Paris, 20 March 2007, 08:30 – 11:30

First name	Surname	Affiliation
INESA	KOZLOVSKAYA	Chair of Department of Physiology Institute of Biomedical Research, Russia
FENG YUAN	ZHUANG	Lab. of Space Life Sciences, Beijing Univ. of Aeronautics + Astronautics
RUPERT	GERZER	DLR Cologne
PETER	GRAEF	DLR
BERNHARD	KOCH	DLR Cologne
NICK	KANAS	Dept. of Psychiatry Univ. of California, San Francisco
VINCENT	BOLES	The Aerospace Corp. GM, Advanced Systems & Technology
ANDREA	BOESE	DLR, Aerospace Medicine, Cologne Radiation Biology, Cologne
RONALD	WHITE	USRA, Houston
GERDA	HORNECK	DLR
KARLHEINZ	KREUZBERG	ESA, Paris
JINGWEN	HE	Beihang Univ.
JEAN-MICHEL	CONTANT	IAA
ÅKE INGEMAR	SKOOG	IAA
JEAN-PIERRE	HAGNERE	ESA

IAA Study Group Status Report

Responsible Commission: Commission 2. Life Sciences

Study Number and Title: 2.1 Mathematical Modelling & Physiological Simulation:
The Digital Astronaut/Cosmonaut

Short Study Description: The overall goal of this IAA Study Group is to develop an Academy-endorsed, community-based publishable report on the issues, problems and benefits of an international program to develop a mathematical modelling and simulation system focused on the physiological and medical problems of space travellers.

Progress in past six months: An early draft of the report has been prepared and is awaiting further contributions from some volunteers.

Website Study Information up to date? See schedule below.

Issues requiring resolution? None

Product Deliveries on Schedule?

Current Schedule:

- | | |
|----------------------------------|----------------|
| • Report Outline | Completed |
| • First Draft | March 2007 |
| • Individual Contributions | April 2007 |
| • Second Draft | June 2007 |
| • First Internal Review | July 2007 |
| • Completed Report to Commission | September 2007 |

Study Team Member Changes? Remove Guy Fogleman

Name of person providing Study Group Status (Study Group Chair): R. J. White

Status Report Date: March 13, 2007

IAA Study Group Status Report

Responsible Commission: *Commission 2 – Life Sciences*

Study Number and Title: *SG 2.6 - Medical Safety Guidelines for Passengers on Commercial Orbital Space Flights.*

Short Study Description (repeat from Study Group Proposal):

To identify and prioritize minimum medical requirements to preserve the health and promote the safety of paying passengers who intend to fly onboard orbital commercial space vehicles. The definition of these recommended medical requirements will be influenced, among other things, by the various operational and environmental stress factors that represent risks (actual and potential) to the occupants of commercial space vehicles. Actual risks include exposure to high acceleration (supersonic and hypersonic speeds) and deceleration (atmospheric re-entry) forces, to microgravity or weightlessness (acute and repetitive/chronic effects), to solar and cosmic radiation (acute and repetitive/chronic), to noise and vibration, to unfamiliar motion (space motion sickness), to a sealed cabin environment (cabin air quality), and to circadian desynchronization (jet lag) and fatigue due to the extremely rapid crossing of time zones. Of particular concern are the effects of exposure (short-term and repetitive) to microgravity on the cardiovascular, neurological, endocrinological, musculo-skeletal, and gastro-intestinal systems on both healthy and diseased passengers. Other potential risks include exposure to very low or absent barometric pressure, to temperature extremes (heat and cold), and to a unique cabin environment influenced by the effects of microgravity on the distribution of contaminants (biological, chemical, particulates, etc.) suspended in the air. Another very significant issue will involve the required criteria to grant waivers to individuals with pre-existing medical conditions. These conditions have the potential of becoming aggravated or exacerbated by exposure to environmental and operational stressors such as acceleration, microgravity, and solar/cosmic radiation.

Progress in past six months:

- *Our study group met for the first time in conjunction with the 77th Annual Scientific Meeting of the Aerospace Medical Association (AsMA), May 2006, at the Caribe Royal Hotel in Orlando, Florida, U.S.A.*
- *The first draft of our proposed guidelines was produced based on the discussions from our first meeting. This draft was distributed to all study group members on September 5, 2006, with instructions to review the document and provide comments and suggestions back to the Co-Chairs by September 29, 2006.*
- *The 2nd face-to-face meeting was held in conjunction with the 57th International Astronautical Congress (IAC), Valencia, Spain, October 2-6, 2006. Additional comments and suggestions were made at this meeting to revise our proposed guidelines.*
- *A revised draft report was distributed to all study group members on January 10, 2007, with instructions to review the document and provide comments and suggestions back to the Co-Chairs by mid-April, 2007.*
- *Our study group (SG 2.6) is scheduled to meet again in conjunction with the 78th Annual Scientific Meeting of the Aerospace Medical Association (AsMA), May 2007, at the Sheraton Hotel, in New Orleans, Louisiana, U.S.A.*

Website Study Information up to date? (Study Group Membership, Study Plan and Schedule): *Yes.*

Issues requiring resolution? (recommend approach): *At this point there are no special issues requiring resolution.*

Product Deliveries on Schedule? (If modified explain rationale): *Yes, our study group was approved by the IAA on November 2005. We indicated that we would require 1 to 2 years to complete the task depending upon the time-availability of the study group members.*

Study Team Member Changes? (List any Study Team Members that you wish to discontinue, and provide names plus contact coordinates of any Members you wish to add on the second page of this Study Update form.) Note: Complete contact information including email, tel. and fax must be provided for all additions. Only Members with complete contact information will be listed and receive formal appointment letters from the IAA Secretariat.) *None of our Study Group members has received a formal appointment letter from the IAA Secretariat.*

Name of person providing Study Group Status (Study Group Chair or Co-Chair): *Dr. Melchor J. Antuñano (Co-Chair)*

Status Report Date: *March 8, 2007*

Study Team Membership Changes

Effective Date: *March 8, 2007*

Add:

Name: *Petra Illig, M.D.*

Current-email address: petra.illig@gmail.com or airspacedoc@alaska.net

Tel: (907) 245-4359

Fax: (907) 245-2212

Mailing address: *5011 Spenard Road #102, Anchorage, Alaska, 99517, USA*

Name: *Jancy McPhee, Ph.D.*

Current e-mail address: jancy.c.mcphee1@jsc.nasa.gov

Tel: (281) 244-6434

Fax: (281) 483-2888

Mailing address: *NASA JSC, 2101 NASA Parkway, Mail Code: SK, Houston, Texas 77058, USA*

Name: *William Paloski, Ph.D.*

Current e-mail address: william.h.paloski@nasa.gov or
wpaloski@victory.clearworks.net

Tel: (281) 244-5315

Fax: (281) 534-6020

Mailing address: *NASA JSC, Human Adaptation and Countermeasures Division, 2101 NASA Parkway, Mail Code: SK, Houston, Texas 77058, USA*

Study group: Integrative Physiology: Nutritional Aspects

Members of the study group:

Dr. Natalie Baecker
Prof. Gianni Biolo
Dr. Stephane Blanc
Dr. Martina Heer
Dr. Irina Larina
Prof. Joanne Lupton
Dr. Akiko Mitsumoto
Prof. Peter Stein
Prof. Howard Parsons

The first meeting of the study group was held during the IAC 2006 in Valencia.

An outline of the structure of the study report was presented and discussed. It was agreed that the respective chapters should be structured according to physiological systems rather than nutrients. Each chapter then should discuss the state of the art and future research on nutrients which affect that system (malnutrition or supernutrition) or which even may have the potential to function as countermeasure when applied as functional food or as a supplement.

It was agreed that key responsible persons for each chapter of the report according to their expertise should be selected. These experts are either taken from the study group or be contacted by study group members. As a first step, a final outline for the position paper (including the responsible authors) should be finished by May 2007 ('Humans in Space'-Meeting in Beijing).

It was agreed that the position paper should be finished by October 2008.

Upon the availability of the study group members further meetings will be held during future IAC and/or Humans in Space meetings.

Sincerely, Martina Heer

IAA Study Group Status Report

Responsible Commission: *Commission II - Life Sciences*

Study Number and Title: *S 2.4 - Psychology and Culture in Long Duration Space Missions*

Short Study Description (repeat from Study Group Proposal):

Overall Goal: To write a position paper addressing the key issues related to psychological and cultural factors that affect long duration space missions.

Intermediate Goals: Identify the issues; review the literature; propose presentations at scientific meetings, including IAA-IAC symposia and Humans in Space symposia; hold study group meetings at those conferences; draft the position paper.

Progress in past six months:

The paper is now complete and has been submitted to the IAA. It has been formatted as a possible publication for Acta Astronautica, pending approval from the IAA.

Website Study Information up to date? (Study Group Membership, Study Plan and Schedule): *The paper does not yet appear on the website. The membership list is very outdated – it does not take into account the changes that we previously reported. The final membership list should be the same as on the author list of our submitted paper. The Grade also does not show the current IAA membership status (for example, Kanas became a Member, and Sandal and Ritsher became Corresponding Members)*

Issues requiring resolution? (recommend approach): *None.*

Product Deliveries on Schedule? (If modified explain rationale): *Yes.*

Study Team Member Changes? (List any Study Team Members that you wish to discontinue, and provide names plus contact coordinates of any Members you wish to add on the second page of this Study Update form.) Note: Complete contact information including email, tel. and fax must be provided for all additions. Only Members with complete contact information will be listed and receive formal appointment letters from the IAA Secretariat.)

Name of person providing Study Group Status (Study Group Chair or Co-Chair):

Kanas (Chair) and Ritsher (Secretary)

Status Report Date: *12 September, 2006.*

Study Team Membership Changes

Effectivity Date:

Discontinue: *These two members had job changes and dropped out of the committee.*

Name *Allard, Terry*

Current email address *Unknown*

Name *Siegel, Bette*

Current email address *Unknown*

IAA Study Group Status Report

Responsible Commission: Commission 2: Life Science

Study Number and Title: 2.5 Astrobiological Studies of Solar Systems

Short Study Description To write a position paper addressing the key issues related to an exobiology/astrobiology strategy for the exploration of this solar system and extra-solar planetary systems. Embodied will be new concepts and a synthesis developed by the Study Team based on existing roadmaps for astrobiological study, explicit reference to international capabilities and interests, and a timeline for accomplishment of astrobiology objectives implicit in the strategy.

Progress in past six months: Organized Study Group along disciplinary lines and provided writing assignments. Provided layout for overall report and took suggestions from the group on improving overall report content. Study Group work on my part was delayed due to NASA commitments, but prospects are good for improvement.

Website Study Information up to date? (Study Group Membership, Study Plan and Schedule): No

Issues requiring resolution? I will be back to only doing one job in about a month!

Product Deliveries on Schedule? (Delayed due to NASA exigencies)

- | | |
|----------------------------|---------------|
| • Report outline | Completed |
| • Individual Contributions | December 2006 |
| • First Review (Team) | February 2007 |
| • Revisions | March 2007 |
| • Draft Available | April 2007 |

Study Team Member Changes? (List any Study Team Members that you wish to discontinue, and provide names plus contact coordinates of any Members you wish to add on the second page of this Study Update form.) Note: Complete contact information including email, tel. and fax must be provided for all additions. Only Members with complete contact information will be listed and receive formal appointment letters from the IAA Secretariat.)

Name of person providing Study Group Status (Study Group Chair or Co-Chair):

Status Report Date: 26 September 2006

Study Team Membership Changes

Effectivity Date: April 2006

Discontinue: N/A

Add:

Robert Hazen <r.hazen@gl.ciw.edu>

Norman Sleep <norm@geo.stanford.edu>

David DesMarais <david.j.desmarais@nasa.gov>

Existing:

Chair: John D. Rummel

Co-Chair: Gerda Horneck

Secretary: Gerhard Kminek

Other Members:

Charles Beichman

Benton Clark

Pascale Ehrenfreund

Jonathan Lunine

Victoria Meadows

Louise Prockter

Gerhard Schwehm

Andrew Steele

Jill Tarter

IAA Study Group Status Report

Responsible Commission: 2

Study Number and Title: 2.2 Artificial Gravity as a Tool in Biology and Medicine

Short Study Description (repeat from Study Group Proposal):

Increased attention has been called to Artificial Gravity following the recent U.S. announcement of a Space Exploration Vision involving long-duration human missions to Mars. IAA Study Group 2.2 on the subject of Artificial Gravity (AG) was therefore organized under the chairmanship of Prof. Laurence Young and Prof. Kazuyoshi Yajima, with Dr. William Paloski serving as executive secretary. The scope of the Study Group 2.2 activities and report covers the key questions that need to be answered to make AG a practical countermeasure, the facilities and flight opportunities required to answer these questions, and a timeline or schedule to accomplish the research project. Experimental models considered include human and animal experiments on earth and in space using short radius intermittent centrifugation and/or long radius continuous rotation. The goal of this study is to recommend research models, venues, and approaches aimed at reducing the uncertainty in the questions of *how* to produce AG (spin rate, intermittent vs. continuous, g- gradient, etc) and at determining the likely effectiveness and acceptability of AG, both as a countermeasure and as a driver to engineering solutions. This study is not aimed at recommending whether any given human exploration mission should or should not use AG as opposed to other countermeasure approaches. If the recommended program of AG facility development and its accompanying research is carried out we will be able to inform managers and mission designers as to the specific AG requirements and their costs and benefits for any given mission scenario.

Progress in past six months:

The study was completed and the report was submitted to the Academy for review.

Website Study Information up to date? (Study Group Membership, Study Plan and Schedule): not entirely, but since the study is complete no changes are necessary

Issues requiring resolution? (recommend approach): None

Product Deliveries on Schedule? (If modified explain rationale): Yes

Study Team Member Changes? (List any Study Team Members that you wish to discontinue, and provide names plus contact coordinates of any Members you wish to add on the second page of this Study Update form.) Note: Complete contact information including email, tel. and fax must be provided for all additions. Only Members with complete contact information will be listed and receive formal appointment letters from the IAA Secretariat.) None

Name of person providing Study Group Status (Study Group Chair or Co-Chair):
Dr. William Paloski, Executive Secretary

Status Report Date: 08 September 2006

Study Team Membership Changes N/A

16th IAA Humans in Space

1.Conference Site

Friendship Hotel, Beijing

2.Conference Date

May 20-24, 2007

3.Four Organizing Institution

Chinese Society of Space Research

Chinese Society of Astronautics

China Astronaut Research and Training Center

Beihang University (former name: Beijing University of Aeronautics and Astronautics, BUAA)

4. Sponsors

China Association for Science and Technology (CAST)

Ministry of Science and Technology of China (MOST)

Chinese Academy of Sciences (CAS)

China National Space Administration (CNSA)

National Natural Science Foundation of China (NSFC)

5.Co-Chairmen

SUN, Laiyan Director of China National Space Administration

Another Co-Chairman is from IAA.

6. Vice-Co-Chairmen

XIAO, Zuo President of Chinese Society of Space Research

YANG, Junhua Vice-president and General Secretary of Chinese Society of Astronautics

FEI, Binjun Vice-president of Beihang University

CHEN, Shanguang Director of China Astronaut Research and Training Center

Others Vice-Co-Chairmen are from IAA.

7. General Secretary

ZHUANG, Fengyuan Director of Institute of Bioscience and Bioengineering, Beihang University, Deputy Director of Committee of Space Life Science, Chinese Society of Space Research

8. Vice-General Secretary

NIE, Yuxin Director of Committee of International Academy Exchange, Chinese Society of Space Research

LI, Yinghui Director of Department of Space Cell Biology and Molecular Biology, China Astronaut Research and Training Center

GONG, Jinyu Vice-General Secretary of Chinese Society of Astronautics

9. Scientific Program Committee

Co-Chairmen

WEI, Jinhe IAA Member, Former Director of China Astronaut Research and Training Center

XXX recommended by IAA

Vice Co-Chairmen

LIU, Zhiheng Institute Microbiology, Director of Committee of Space Life Science, Chinese Society of Space Research

ZHANG, Bonan Space Craft Chief Designer for Space Craft of China Academy of Space Technology

FAN, Yubo Dean of Bioengineering Dept. Beihang University

XXX recommended by IAA.

Member

Xiaoping CHEN, Shuangsheng GUO, Rongqiao HE, Deyu LI, Yinghui LI, Min LIU, Mantong MEI, Peng SHANG, Xiqing SUN, Yeqing SUN, Zhijun XIAO, Hong YANG, Zongchun YI, Lifan ZHANG, Yufen ZHAO, Zhaonian ZHOU, Zongpeng ZHU, Fengyuan ZHUANG

Other members will be recommended by IAA.

10. Local Organizing Committee

Chairman

GONG, Jinyu

Vice-General Secretary of Chinese Society of Astronautics

Vice-Co-Chairmen

QIU, Li

Director of office for Chinese Society of Space Research

YUAN, Li

Vice-Dean of Asian-Pacific Space Education Center, International School of Beihang University

BAI, Yanqiang

Director of Dept. of Science and Technology, China Astronaut Research and Training Center

Member

Junting DONG、Qinglan GAO、Jingwen HE、Lin HU、Qinhao MENG、Fang PU、Lianwen SUN、Jia WANG、Chun YANG、Yao ZHANG、Linhong ZHU

Function:

- Chair comprehensive organizing and planning the IAA 16th Humans In Space Symposium.
- Take the responsibility for liaison office with IAA and other international organization related with Space life Science, and make the decision for the organization, program, and contents of the symposium with IAA.
- Symposium coordination.
- Financial management.

11. Symposium Structure

11.1 Theme of the Symposium

From dream to reality: living, working and creating for human in space

11.2 Proposed topics

I: Living in Space

1. Physiological changes and countermeasures
2. Radiation problem and protection

3. Operational medicine
4. Psychosocial aspects
5. Environment monitoring and control
6. Space biological research

II: Working in space

1. Human factors
2. Task design
3. Experiment in space
4. Communication

III: Creating in space exploration

1. Advanced life support system
2. AI application and Man-AI system
3. Scientific exploration
4. Exobiology
5. Production

IV: Relation to the general public

1. Education
2. Application of space life science achievements to public society
3. Space travel

11.3 Draft session plan

I: Open ceremony and speech

1. Opening address
2. Talks by astronauts

II: Close ceremony (to be discussed)

1. General talks
 - 1) Utilization and exploitation of ISS resources
 - 2) Challenge and strategy for going to Mars or returning to moon?
 - 3) International Cooperation in future space activities
2. Close address

III: Panels

1. Application of Chinese Medicine in manned space flight
2. Benefits of human presence in space
3. Challenge and Risk for going to Mars or returning to moon

11.4 Key note speaking (to be decided)

- 1) Introduction of China manned space program (Chinese keynote)

speaking)

- 2) Achievements and experiences on Station Mir-2 (Russia, suggested)
- 3) Progress and experiences of ISS (USA, suggested)

11.5 Proposed Chair

To be consulted with IAA

11.6 Two awards for this symposium

Best poster award

(Members of evaluating group will be decided later)

Student Prize Paper competition

(Members of evaluating group will be decided later)

With the Certification and souvenir for the awardees

11.7 Schedule arrangement for 16th IAA Humans in Space

Registration on site 20 May 2007

Opening ceremony, Key note speaking, three (or four) parallel Session on 21,22, 23,24 May, 2007

Technical tour and International astronauts public meeting with people during the meeting.

Closing ceremony. On 24 May, 2007

12. Budget Plan

12.1 Income

Registration fee: US\$400/per person \times 250 \times 8=800,000 RMB

1500RMB/per Chinese Person \times 100=150,000 RMB

Sponsorship (From Sponsor Unit) 240,000 RMB

Donation (from Enterprise) 260,000 RMB

Exhibition (TBD)

Others (TBD)

Total of Income 1,450,000 RMB

12.2 Expenses

Return to IAA of the Registration fee income from foreign participants 80,000 RMB

Special issue of Acta Astronautics (35US\$ for each) 70,000RMB

Possible expense for inviting keynote speaker astronauts and the staffs of IAA and others 18,000 \times 10=180,000RMB

Venue:	
Big meeting room	$10,000 \times 6 = 60,000\text{RMB}$
Middle meeting room	$5000 \times 3 \times 6 = 90,000\text{RMB}$
VIP guest room	$5,000 \times 2 = 10,000\text{ RMB}$
Equipment and Screen for meeting	$(1600 + 900) \times 4 = 10,000\text{ RMB}$
Others	10,000RMB
Poster venue	20,000RMB
Stationery and Symposium bag	$100 \times 450 = 45,000\text{RMB}$
Souvenir	$200 \times 450 = 90,000\text{RMB}$
Reception	$200 \times 450 = 90,000\text{RMB}$
Refreshments	$50 \times 350 \times 7 = 122,500\text{RMB}$
Printing (announcement, program booklet and abstract book)	70,000RMB
Propaganda	20,000RMB
Web page and Network	50,000RMB
Postage and Communication fee	30,000RMB
Transportation (meeting activities)	30,000RMB
Souvenir for Awardees	3,000RMB
Management	50,000RMB
Room for Staff	$500 \times 10 \times 5 = 25,000\text{RMB}$
Meal for Staff	$100 \times 50 \times 5 = 25,000\text{RMB}$
Staffs and the Worker of Symposium	150,000 RMB
Unpredictability	50,000RMB
Public meeting	40,000RMB
Total of Expense	1,448,500RMB

Items		Income	Expenses	Total
Registration fee	Foreign Guest	800,000		
	Chinese Person	150,000		
Sponsorship from Sponsor Unit		240,000		
Donation from Enterprise		260,000		
Exhibition		TBD		
Others		TBD		
Total of Income				1,450,000
Return to IAA	Registration fee income from Foreign participants		80,000	
Special issue of Acta Astronautics			98,000	
Possible expense for inviting keynote speaker			180,000	

astronauts and the staffs of IAA and others				
Meeting room and Others	Big		60,000	
	Middle		90,000	
	VIP guest room		10,000	
	Equipment		10,000	
	Others		10,000	
	Poster venue		20,000	
Stationery and Symposium bag			45,000	
Souvenir			90,000	
Reception			90,000	
Refreshments			122,500	
Printing (announcement, Program booklet and abstract book)			70,000	
Propaganda			20,000	
Web Page and Network			50,000	
Postage and Communication Fee			30,000	
Transportation			30,000	
Souvenir for Awardees			3,000	
Management			50,000	
Room for Staff			25,000	
Meal for Staff			25,000	
Staffs and the Worker of Symposium			150,000	
Unpredictability			50,000	
Public meeting			40,000	
Total of Expense				1,448,500

13. Registration Fee

13.1 For non-Chinese full participants

Before Mar.1, 2007	IAA member	US\$400
	Non IAA member	US\$450
After Mar. 1,2007	IAA member	US\$450
	Non IAA member	US\$500
On site	IAA member	US\$480
	Non IAA member	US\$530

For students and accompanies

Before Mar. 1, 2007, US\$ 100

After Mar. 1. 2007, US\$ 120
 On site US\$ 150

For full non-Chinese participants the registration fee covers abstract book, symposium bag, coffee break, reception, attending all of sessions of this symposium. For one volume of Acta Astronautics (After the symposium) US\$35 or equivalent RMB will be charged.

For students and accompanies the registration covers abstract book, symposium bag, coffee break, attending all of sessions of this symposium, and reception. For one volume of Acta Astronautics (After the symposium) US\$35 or equivalent RMB will be charged.

13.2 For Chinese participants

Before Mar.1, 2007 IAA member RMB 1300
 Non IAA member RMB 1500
 After Mar. 1,2007 IAA member RMB 1500
 Non IAA member RMB 1700
 On site IAA member RMB 1700
 Non IAA member RMB 1900

For Chinese students and accompanies

Before Mar. 1, 2007, RMB500
 After Mar. 1. 2007, RMB 600
 On site RMB 700

For Full Chinese participants the registration fee covers abstract book, symposium bag, coffee break, reception, attending all of sessions of this symposium and one volume of Acta Astronautics (After the symposium).

For students and accompanies the registration covers abstract book, symposium bag, coffee break, attending all of sessions of this symposium, reception and one volume of Acta Astronautics (After the symposium).

Registration Fee	Before Mar.1,2007	After Mar. 1,2007	On site
IAA member	US\$400	US\$450	US\$480
Non IAA member	US\$450	US\$500	US\$530
For students and accompanies	US\$ 100	US\$ 120	US\$ 150
For Chinese IAA member	RMB1300	RMB1500	RMB1700
For Chinese non IAA member	RMB1500	RMB1700	RMB1900
Chinese students and accompanies	RMB500	RMB600	RMB700

14. Hotel (Price and distance to meeting place)

14.1 Accommodation At Friendship Hotel, the Venue for the Symposium

- A. Executive deluxe standard room in Grand Building: RMB1040 per room per night
- B. Standard & Single room in Building No.1: RMB680 per room per night
- C. Standard & Single room in Building No.4: RMB600 per room per night
- D. Standard & Single room in Building No.2: RMB480 per room per night

Ps: One breakfast and ser-charge are included, plus RMB40 for two person's breakfast.

Broad line for Internet in room: RMB10 per hour/RMB50 per day

IDD in room

Buffet lunch/supper: RMB75 per person

Accommodation expense may change with time.

DESCRIBE

- Friendship hotel is a four-star hotel, one of the largest Chinese garden-style hotels in Asia. Located in the heart of the Zhong-Guan-Cun High-Tech Zone.
- There are 1700 rooms in the hotel. All of the participants can be accommodated.
- It neighbors many world famous tourist sites and universities as Tsinghua and Peking University, Summer Palace. There are many shopping centers besides us as Shuang'an market, Modern plaza and Huayu fashion shopping center.
- There is currency exchange in Friendship hotel.
- There are 8 restaurants (Western, Japan, Korea, Friday restaurant) in Friendship hotel. And so many Chinese style restaurants, Kentucky Fried Chicken, and McDonald nearby Friendship hotel (5 to 10 minutes walking).
- Change rate 1 US\$=8RMB
- The accommodation price may be changed with time.

14.2 Accommodation for students

Standard & Single Room at University guesthouse, 200 RMB, 15 min walking distance.

15. Schedule of Symposium Preparation

15.1 1st circular before May 31 2006

15.2 2nd circular before Oct. 31, 2006

15.3 Period and the way of registration and hotel booking

The way of registration and hotel booking will be decided later. The period of registration and hotel booking are from Jan 1, 2007.

15.4 Abstract handling

Submission dead line Feb.15, 2007 (Submitted on Network)

Review period from Feb.15 to Mar.15, 2007

Acceptance Mar 20, 2007

15.5 Program drafting and finalizing Mar.31, 2007

Visa-handling from Feb. 15, 2007 to Apr. 30, 2007

16. Accessibility

We can confirm that any registered participant can get the formal official invitation letter, with this invitation letter and the participant's passport participant can apply for visa at the Chinese Embassy/Consulate/Visa office. But the participant should tell us their full name, nationality, occupation, and passport number, and then we can issue the formal invitation letter for applying visa.