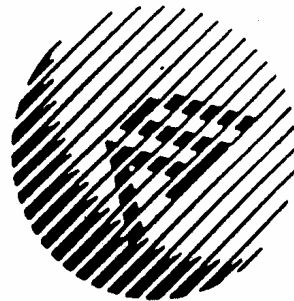


**IAA ASIA-PACIFIC REGIONAL CONFERENCE ON  
“ADVANCES IN PLANETARY EXPLORATION”  
(IN CONJUNCTION WITH IISL CONFERENCE ON  
“BRINGING SPACE BENEFITS TO THE ASIA-PACIFIC REGION”)**

**June 26 – 29, 2005  
Bangalore, India**



**ORGANISED BY:**

**ASTRONAUTICAL SOCIETY OF INDIA (ASI), BANGALORE  
INTERNATIONAL ACADEMY OF ASTRONAUTICS (IAA), PARIS**

## ORGANISING AND SPONSORING AGENCIES

INDIAN SPACE RESEARCH ORGANIZATION (ISRO)



INTERNATIONAL ACADEMY OF ASTRONAUTICS



INTERNATIONAL INSTITUTE OF SPACE LAW



ASTRONAUTICAL SOCIETY OF INDIA



ANTRIX CORPORATION LIMITED



## INTERNATIONAL PROGRAMME COMMITTEE

The technical planning of this Conference was done, based on the IAA guidelines, and was coordinated through the following IAA Members:

- |     |   |                  |
|-----|---|------------------|
| 1.  | Madhavan Nair, Chairman, ISRO, India                | Chairman         |
| 2.  | Mukund Rao, ISRO, India                             | Member-Secretary |
| 3.  | Ivan Almar, Hungary                                 | Member           |
| 4.  | Jean-Michel Contant, Secretary General, IAA, France | Member           |
| 5.  | J N Goswami, PRL, India                             | Member           |
| 6.  | Dave Kendall, CSA, Canada                           | Member           |
| 7.  | Richard Kline, USA                                  | Member           |
| 8.  | Daniel Sacotte, ESA/ESTEC, The Netherlands          | Member           |
| 9.  | David Senske, JPL, USA                              | Member           |
| 10. | Kuninori T Uesugi, JAXA, Japan                      | Member           |
| 11. | Michael Yarymovych, USA                             | Member           |
| 12. | Ouyang Ziyuan, CNSA, China                          | Member           |

### **Secretariat:**

- |     |  |
|-----|--|
| 13. | RLN Murthy, Antrix Corporation, India  |
| 14. | Venkat Ramu, Antrix Corporation, India |

### **KEY IAA OFFICIALS – GUIDANCE:**

- |     |                                      |
|-----|--------------------------------------|
| 15. | Ed Stone, President, IAA             |
| 16. | K Kasturirangan, Vice-President, IAA |

## IAA CONFERENCE SECRETARIAT

ASI will operate a Secretariat office in Hotel Atria from June 26 onwards. The Contact is as follows:

IAA/IISL CONFERENCE SECRETARIAT  
(Attn: RLN Murthy or Venkat Ramu)  
Room: Council  
Hotel Atria  
PB 5089, 1 Palace Road  
Bangalore – 560 001 INDIA  
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However, for all correspondence, the following is the Contact Address:

IAA/IISL CONFERENCE SECRETARIAT  
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ANTARIKSH Bhavan,  
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Fax : +91 80 2341 8981  
e-mail: [murthy@antrix.org](mailto:murthy@antrix.org)

# SUMMARY PROGRAMME

**VENUE: HOTEL ATRIA**

## **SUNDAY: JUNE 26, 2005**

- |              |   |
|--------------|---|
| 1030 – 1530  | Registration Opens (Room: Council)  |
| 1400 – 1500  | IAC-2007 National Planning Committee of ASI: Meeting with Former President(s) of IAA and President, IISL (Room: Chambers)   |
| 1500 – 1630  | IAA Programme Committee meeting – All Co-Chairs and Rapporteurs invited (Room: Chambers)<br>IISL Programme Committee meeting – All Co-Chairs and Rapporteurs invited (Room: Conclave) |
| 1630 – 1800  | Joint meeting of IAA and IISL International Programme Committees with National Organising Committee and Sub-Committees (Room: Chambers)   |
| 1900 onwards | Reception & Dinner for IAA/IISL Conference (Hotel Atria)  |

## **MONDAY: JUNE 27, 2005**

- |              |   |
|--------------|---|
| 0915 – 1100  | Joint Inaugural Session (Room: Chancery)  |
| 1130 - 1300  | Joint Opening Plenary: Planetary Exploration – Technological Challenges and Legal Implications (Joint Plenary Session) (Room: Chancery) |
| 1400 – 1530  | Outreach to Planets – Scientific and Technological Issues Technologies (Room: Chancery)   |
| 1545 – 1715  | Mars and Saturn – Recent results from Mars Rover and Cassini Huygens (Room: Chancery)   |
| 1715-1800    | Significant results from Space Exploration missions – SOHO, Cluster and others (Room: Chancery)   |
| 1800 – 1900  | View and Counter-view – A Student's Oration (Room: Chancery)  |
| 1930 onwards | Dinner hosted by Chairman, ISRO (Hotel Grand Ashok)   |

## **TUESDAY: JUNE 28, 2005**

- |             |   |
|-------------|---|
| 0930 – 1100 | Interest in the Moon – USA, Europe, Japan, India, China and others (Room: Chancery)             |
| 1130 - 1300 | Interest in the Moon – USA, Europe, Japan, India, China and others (Room: Chancery) – Continued |
| 1400 – 1515 | New Horizons of Space Science and Education (Room: Chancery)                                    |

# SUMMARY PROGRAMME

**VENUE: HOTEL ATRIA**

## **TUESDAY: JUNE 28, 2005**

- |              |   |
|--------------|---|
| 1515 – 1600  | Planetary Sciences including Extra Solar Planets (Room: Chancery)                                       |
| 1615 – 1800  | Technical Challenges of International Cooperation (Room: Chancery)                                      |
| 1800 – 1900  | Vision Talk by Roddam Narasimha, Eminent Scientist and Member, Space Commission, India (Room: Chancery) |
| 1930 onwards | Dinner Hosted by J B Boda and Company (Hotel Atria)   |

## **WEDNESDAY: JUNE 29, 2005**

- |              |   |
|--------------|---|
| 0930 – 1100  | Planetary Exploration – The Future (Room: Chancery)   |
| 1130 - 1315  | Joint IAA/IISL Closing Session (Room: Chancery)   |
| 1400 Onwards | Visit to ISRO Satellite Centre (On Request basis as seats are limited; Coach for Visit will start from Hotel Atria) |

**MONDAY: JUNE 27, 2005**

0915 – 1100

### **Inaugural Session (Room: Chancery)**

- Welcome Remarks: B N Suresh, Chair, National Organizing Committee, ISRO, India
- Opening Address: N. Jasentuliyana, President, IISL
- Opening Address: Michael Yarymovych, Former President, IAA
- Inauguration and Lighting Lamp
- Inaugural Address: Madhavan Nair, Chairman, ISRO
- Address by Guest of Honour: Jean Jacques Dordain, DG, ESA
- Vote of Thanks - R Rajangam, Executive Secretary, ASI, India

1100 – 1130

### **Tea/Coffee Break**

1130 - 1300

### **Opening Plenary I-1: Planetary Exploration – Technological Challenges and Legal Implications (Joint Plenary Session) (Room: Chancery)**

Co-Chair: Michael Yarymovych, IAA

Co-Chair: N Jasentuliyayna, IISL

Rapporteurs: S Seetha, ISRO, India and TS Shobha, Antrix, India

#### ***Summary of IAA Study on Next Steps in Exploring Deep Space***

Michael Yarymovych, IAA, USA

#### ***Reach for the Stars .... as long as lawfully! – Legal aspects of Planetary Exploration***

Von der Dunk, IISL, The Netherlands

#### ***Technological Challenges for Planetary Exploration***

P S Goel, ISRO, India

#### ***Lunar Exploration as a special case of Planetary Exploration – Legal Aspects***

Tanja Masson-Zwaan, IISL, Paris

1300 – 1400

### **Lunch**

1400 – 1530

### **SESSION I-2: Outreach to Planets – Scientific and Technological Issues (Room: Chancery)**

Co-Chair: B N Suresh, ISRO, India

Co-Chair: Kuninori Uesugi, JAXA, Japan

Rapporteur: Jean-Michel Contant, IAA, France

#### ***Exploration of the Solar System Through NASA's Completed Missions Programs***

Gregg Vane, JPL, USA

#### ***Plans and strategy for the exploration of the Outer Solar System***

Dave Senske, JPL, USA

**MONDAY: JUNE 27, 2005**

- 1400 – 1530      **Outreach to Planets – Scientific and Technological Issues (Room: Chancery) (CONTINUED)**
- Challenges of Planetary Exploration in the Indian Context***  
                         T K Alex, ISRO, India
- Canadian Perspective on Planetary Exploration***  
                         Dave Kendall, CSA, Canada
- 1530 – 1600      **Tea/Coffee Break**
- 1545 – 1715      **SESSION I-4: Mars and Saturn – Recent results from Mars Rover and Cassini Huygens (Room: Chancery)**
- Co-Chair: S Bhattacharya, TIFR, India  
                         Co-Chair: David Senske, JPL, USA  
                         Rapporteur: SC Chakrabarty, ISRO, India
- NASA's Mars Exploration Program and Mars Odyssey Mission - A Perspective***  
                         Phil Varghese, JPL, USA
- New Results from the Robotic Exploration of Mars: Spirit and Opportunity***  
                         Robert Anderson, JPL, USA and Athena Science Team
- Highlights from HRSC High Resolution Stereo Camera on ESA's Mars Express Mission***  
                         Bernard Foing, ESA and G. Neukum, R. Jaumann, H. Hoffmann, E. Hauber, J. Alibert, T. Mc Cord, W.J. Markiewicz and the HRSC team
- Iapetus' endogenic activity - interpretation of the Cassini data***  
                         L. Czechowski, University of Warsaw, Poland and J. Leliwa-Kopystynski, Poland
- 1715-1800      **SESSION I-5: Significant results from Space Exploration missions – SOHO, Cluster and others (Room: Chancery)**
- Co-Chair: Satoshi Tanaka, JAXA, Japan  
                         Co-Chair: E Janardhana, ISRO, India  
                         Rapporteur: R Sreekumar, ISRO, India
- Major Science Highlights of SOHO***  
                         N Gopalswamy, NASA, USA; Bernhard Fleck, ESA/GSFC, USA & J Gurman, NASA, USA
- New Results from SUMER/SOHO***  
                         B N Dwivedi, BHU, India
- 1800 - 1900      **View and Counter-view – A Student's Oration (Room: Chancery)**
- 1930 onwards      ***Dinner hosted by Chairman, ISRO (Hotel Grand Ashok)***

**TUESDAY: JUNE 28, 2005**

0930 – 1100

**SESSIOON I-3: Interest in the Moon – USA, Europe, Japan, India, China and others (Room: Chancery)**

Co-Chair: K N Shankara, ISRO, India  
Co-Chair: O. Ziyuan, CNSA, China  
Rapporteur: M Annadurai, ISRO, India

***Japanese interest in the Moon***

Satoshi Tanaka, Manabu Kato and Kuninori Uesugi, JAXA, Japan

***Lunar Exploration Program of China***

Hao Xifan, LEPC/CNSA, China

***Tapping the Wealth of the Moon***

Klaus Heiss, High Frontier Inc, USA

***Chandrayaan-1: Technological and Scientific Challenges***

JN Goswami, PRL, India

1100 – 1130

**Tea/Coffee Break**

1130 - 1300

**SESSIOON I-3: Interest in the Moon – USA, Europe, Japan, India, China and others (Room: Chancery) - CONTINUED**

***ESA's SMART-1 mission at the Moon: first results and perspectives***

Bernard Foing, ESA and SMART-1 Team

***Mini-SAR Imaging Instrument for Chandrayaan-1: Scientific Challenges***

Paul Spudis, Johns Hopkins University, USA

***NASAs Clementine Mission***

Stewart Nozette, NASA, USA

***Moon Mineralogy Mapper (M3) for Chandrayaan-1: Opportunities and Challenges***

Carlie Pieters, Brown University, USA

1300 – 1400

**Lunch**

**TUESDAY: JUNE 28, 2005**

1400 – 1515

**SESSION I-6: New Horizons of Space Science and Education (Room: Chancery)**

Co-Chair: B L Deekshatulu, ISRO, India  
Co-Chair: JM Contant, IAA, France  
Rapporteur: Back-Impallomeni, IAA, Italy

***Educational and outreach activities in support of the European Space Exploration Programme***

Piero Messina, ESA

1400 – 1515

**SESSION I-6: New Horizons of Space Science and Education  
(Room: Chancery) – CONTINUED**

***Space Science Education in Asia Pacific region – the CSSTEAP  
Perspective***

HSS Sinha, R N Mishra and Karl Harmsen, UN CSSTEAP, India

***Education and Training for the Next Generation of Scientists –  
Opportunities and Experience***

Rosalyn Pertzborn, University of Wisconsin, USA

***Scientific researches and applications for Chang'E-1 Programme***

Zou Yongliao, CNSA, China

1515 – 1600

**SESSION I-7: Planetary Sciences including Extra Solar Planets  
(Room: Chancery)**

Chairs: Satoshi Tanaka, JAXA, Japan

Co-Chair: V Adimurthy, ISRO, India

Rapporteur: Jayati Dutta, ISRO, India

***Planetary Sciences in India – Recent Developments***

R Sridharan, SPL, India

***Report of Decadal Panel for Solar System Exploration***

Sanjay Limaye, University of Wisconsin, USA

1545 – 1615

**Tea/Coffee Break**

1615 – 1800

**SESSION I-8: Technical Challenges of International Cooperation  
(Room: Chancery)**

Co-Chair: Piero Messina, ESA

Co-Chair: JM Contant, IAA, France

Rapporteur: Jacob Ninan, ISRO, India

***Initiatives for Exploring Moon: Benefits of International Cooperation***

Carlie Pieters, Brown University, USA

***The Spacecraft of the “Chang’e”-1 Mission***

Zhang Wu and Deng Xiangjin, CNSA, China

***International Cooperation in Space Science Missions***

***Lessons Learned and Perspective***

Kuninori Uesugi, JAXA, Japan

***The European Space Exploration Programme in the International  
Context***

Piero Messina, ESA

***International Cooperation Opportunities in Indian Space Science***

V Sundararamaiah, ISRO, India

**TUESDAY: JUNE 28, 2005**

- 1800-1900            **Vision Talk (Room: Chancery)**  
Dr Roddam Narasimha, Eminent Scientist and Member, Space Commission, India
- 1930 onwards        **Dinner (Hosted by J B Boda and Company) at Hotel Atria**

**WEDNESDAY: JUNE 29, 2005**

- 0930 – 1100        **SESSION I-10: Planetary Exploration – The Future (Room: Chancery)**
- Co-Chair: M. Yarymovych, IAA, USA  
Co-Chair: P S Goel, ISRO, India  
Rapporteur: V Koteshwara Rao, ISRO, India
- NASA program strategy for solar system exploration***  
Gregg Vane, JPL, USA
- JAXAs Planetary Exploration Vision***  
Kuninori Uesugi, JAXA, Japan
- The next robotic European missions to Mars***  
Bruno Gardini, ESA/ESTEC
- Martian Space Environmental Probe- Chinese Mars Exploration Initiative***  
Zhao Hua, CNSA, China
- Space Sciences and Planetary Exploration Programs in India: The next decade***  
George Joseph, J N Goswami and N Bhandari, India
- ILEWG Roadmap for future lunar exploration***  
Bernard Foing and ILEWG members, ESA
- 1100 – 1130        Tea/Coffee Break**
- 1130 - 1315        **JOINT IAA/IISL CONFERENCE CLOSING SESSION (Room: CHANCERY)**
- Welcome by V Sundararamaiah, ISRO, India
  - Vision Talk by Dr K Kasturirangan, Member of Parliament, India
  - Report of IAA Sessions by – Mukund Rao, ISRO, India
  - Report of IISL Sessions by – K R Sridhara Murthi, Antrix, India
  - Remarks on behalf of IAA - by Jean-Michel Contant, IAA, France
  - Remarks on behalf of IISL - by Tanja Masson, IISL, France
  - Vote of Thanks by Rajeev Lochan, ISRO, India
- 1315 – 1400        Lunch**
- 1430 onwards        Visit to ISRO Satellite Centre (On Request Basis; Limited Seats available; Coach will start from Hotel Atria and back to Hotel Atria)

## **IAA/IISL CONFERENCE ORGANISATION COMMITTEES (MEMBERS FROM ASI, ISRO AND OTHER INDIAN AGENCIES)**

### **NATIONAL ORGANISING COMMITTEE OF ASI**

1.	B. N. Suresh, Director, VSSC	Chair
2.	K R Sridhara Murthi, ED, ANTRIX	Alternate Chair
3.	V Sundararamaiah, Scientific Secretary, ISRO	Member
4.	Joint Secretary, DOS	Member
5.	JS (L&T), MEA	Member
6.	M. Y. S. Prasad, Director, MCF	Member
7.	A. Jaigovind, Director, NLSIU	Member
8.	R. K. Rajangam, Executive Secretary, ASI	Member
9.	Ram Sagar	Member
10.	Chandy Andrews, CCA, DOS (Chair, JF&C)	Member
11.	Rajeev Lochan, ISRO HQ	Member
12.	L. M. Gangarade, ISAC	Member
13.	Devalina Chatterjee, Antrix	Member-Secretary

#### **Secretariat:**

14. R L N Murthy, Antrix Corporation, India
15. Venkat Ramu, Antrix Corporation, India

### **FINANCE AND CONTRACTS COMMITTEE OF ASI**

1.	Chandy Andrews, CCA, DOS	Chair
2.	N Mudukavi, Sr Accounts Officer, ISRO HQ	Member
3.	Sharada Chowdappa, Sr Administrative Officer, ISRO HQ	Member
4.	S B Iyer, Director (Contract Mgmt), ISRO HQ	Member
5.	Mukund Rao, DD (NRR), ISRO HQ	Member
6.	S Krishnamurthy, Director P&PR, ISRO HQ	Member
7.	R Ramana Reddy, Director, DOS	Member
8.	K Suryaprakasha Rao, Sr Purchase Officer, ISRO HQ	Member-Secretary

### **ASI LOCAL ORGANISATION SUB-COMMITTEES**

#### **1. Reception, Transport and Accommodation Sub-Committee:**

1.	L M Gangrade, GD-PPEG, ISAC	Chairman
2.	GA Kumar, HPS, ISAC (Reception)	Member
3.	R Murugesan, ISAC (Accommodation)	Member
4.	V Somasekharan, PA to ED, Antrix, ISRO HQ	Member
5.	V Adinarayana, Admn. Officer, ISRO HQ (Transport)	Member Secretary

#### **2. Registration Sub-Committee:**

1.	H N Madhusudan, Director, BEA, ISRO HQ	Chairman
2.	Shri MS Chandrasekhar, PP&PM, ISRO HQ	Alt. Chairman
3.	MN Mudakavi, SAO, ISRO HQ	Member
4.	Hansa Raman, Admn. Officer, ISRO HQ	Member
5.	M Sameena, Sci/Engr-SD, EOS/NNRMS	Member
6.	PS Dutta, Business Dev. Executive, Antrix	Member Secretary

**3. Sessions Management:**

- |    |   |                  |
|----|---|------------------|
| 1. | SS Balakrishnan, Deputy Director, LVPO, ISRO HQ | Chairman         |
| 2. | Radhakrishnan, Sci/Engr-SF, LVPO, ISRO HQ       | Member           |
| 3. | Ashok P Seth, Sci/Engr – SE, LVPO               | Member           |
| 4. | Hanumantharayappa, Sci/Engr-SE, SCPO, ISRO HQ   | Member Secretary |

**4. Secretariat:**

- |    |   |                  |
|----|---|------------------|
| 1. | RLN Murthy, Manager, Business Development, Antrix         | Chairman         |
| 2. | Venkat Ramu, Business Development Executive, Antrix       | Member           |
| 3. | V. Gopalakrishnan, Sci/Engr-SE, HRD/Sci.Sec.Off, ISRO HQ  | Member           |
| 4. | HS Ravindra, Accounts Assistant, Antrix                   | Member           |
| 5. | Jayalakshmi Chandrasekhar, PA to Director, TT&IC, ISRO HQ | Member           |
| 6. | R Murali, Assistant-A, EOS/NNRMS                          | Member           |
| 7. | Rajeev Jaiswal, Sci/Engr –SD, EOS/NNRMS,ISRO HQ           | Member Secretary |

**5. Overall Coordination across sub-committees and Programme Committees**

- |    |                                       |  |
|----|---------------------------------------|--|
| 1. | Shri MS Chandrasekhar, PP&PM, ISRO HQ |  |
|----|---------------------------------------|--|