

Final Program and Social Events Schedule

Based on the information provided as of May 10

13th International Space Conference of Pacific-basin Societies (ISCOPS)

May 15 - 18, 2012

Kyoto International Community House

2-1 Torii-cho, Awataguchi, Sakyo-ku, Kyoto: <http://www.kcif.or.jp/en/kaikan/>

CONFERENCE ORGANIZATION

Honorary Co-Chairs

CSA Prof. Zhang Qingwei
AAS Mr. Frank Slazer
JRS Prof. Kuninori Uesugi

General Co-Chairs

CSA Prof. Ma Xingrui
AAS Mr. Frank Slazer
JRS Mr. Takeshi Orii

Technical Co-Chairs

CSA Prof. Zhang Guitian
AAS Prof. Peter Bainum
Prof. Arun Misra
JRS Prof. Yasuhiro Morita

International Program Committee Co-Chairs

CSA Prof. Zhang Guitian
AAS Prof. Peter Bainum
Prof. Arun Misra
JRS Prof. Yoshifumi Inatani

Note: The duration of the presentations is allotted as follows.

Student session: 15 minutes including discussion.

All other sessions: 20 minutes including discussion.

Tuesday, 15 May 2012

16:00-18:00	Welcome Reception/Registration
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Wednesday, 16 May 2012

10:00-10:40	OPENING SESSION (Special Conference Room): Welcome and Introductory Remarks Prof. Yasuhiro Morita, Technical Co-Chair (JRS) Remarks by General Co-Chairs: Mr. Takeshi Orii, President (JRS) Mr. Frank Slazer, President (AAS) represented by Prof. Arun Misra, McGill Univ. (AAS) Prof. Ma Xingrui, President (CSA) represented by Ms. Gong Jinyu, Vice Secretary General (CSA) Remarks by Honorary Co-Chair: Prof. Kuninori Uesugi, Former President, honorary member (JRS) Program Overview Introduction to the Technical Visit Dr. Hiroto Habu (JRS)
10:40-11:30	National and International Space Programs (Special Conference Room): International Program Committee Co-Chair: Prof. Yoshifumi Inatani (JRS) <i>The Feasibility Analysis of China Cooperating with the US in Mars Exploration</i> Mr. Shan Wenjie (China Aerospace Science and Technology Corporation) <i>Current and Future Space Programs in Japan</i> Prof. Junjiro Onoda (ISAS/JAXA)

Note: The contents in this Session are solely the opinions expressed by the individual authors and do not necessarily imply the official policy or planning of the authors' employers, institutes, governments, or the governments of any other countries.

12:00-14:00

Lunch Break

Room 1

Room 2

Room 3

14:00-16:00

Session B (Master students): International Students Conference and Competition:
Chairs: Shinichi Kimura (Tokyo Univ. of Science)
Hiroto Habu (JAXA)
Trevor Sorensen (Univ. of Hawaii)
Hou Xiyun (Nanjing Univ.)

B-1 *Development and Evaluation of A Low Cost COTS Base Camera System For The Space Application*

Masato Terakura (Tokyo Univ. of Science)

B-2 *Minimum Energy Steering Law for Tracking Maneuvers of Satellites with CMGs*

Takamitsu Inagaki (Yokohama National Univ.)

B-3 *Optimal Configuration of Control Moment Gyros for Minimum Energy Maneuvers of Satellites*

Eijiro Uematsu (Yokohama National Univ.)

B-4 *State Estimation of Planetary Landing Vehicles with Wide-Field Integration of Optic Flow*

Hirofumi Sakamoto (Kyushu Univ.)

B-5 *Development of Atomic Number Density Measurement Technique in High Enthalpy Flows Using Vacuum Ultraviolet Absorption Spectroscopy*

Akira Kuwahara (Shizuoka Univ.)

B-6 *Effect of Reynolds Number and Flow Channel Geometry on Regression Formula for Forward-end Faces in CAMUI Type Fuel Grain*

Ryuichiro Kanai (Hokkaido Univ.)

B-7 *Orbit Expressions in the Continuous Polar Coordinate System*

Jun Matsumoto (Univ. of Tokyo)

Session C6 (Part 1): Space Transportation and Propulsion, Fluid Dynamics and Aerothermodynamics:
Chairs: Makoto Yoshida (JAXA)
Liu Wei (China Aerospace Science and Technology Corp.)

C6-1 *A Vision of Future Space Transportation Systems*
 Ryojiro Akiba (HASTIC)

C6-2 *Research, Development and Flight Test of Sub-scale Reusable Winged Rockets*
 Kyoshiro Itakura (Kyushu Institute of Technology)

C6-3 *Developments of Microwave Rocket and Its Advantages as a Low-cost Mass Transportation System to the Space*
 Toshikazu Yamaguchi (Univ. of Tokyo)

C6-4 *Combustion Characteristics of Hybrid Rocket Motor using GAP-based Solid Fuel*
 Yutaka Wada (Akita Univ.)

C6-5 *Combustion Mechanism and Thruster Application of HAN-based Green Propellant*
 Toshiyuki Katsumi (JAXA)

C6-6 *Study on Application of DBD Plasma Actuator for Side Force Control of High-Angle-of-Attack Slender Body*
 Hiroyuki Nishida (Tokyo Univ. of Agriculture and Technology)

Session C1 (Part 1): Astrodynamics, Guidance, Navigation and Control, and Space Robotics:
Chairs: Hirohito Ohtsuka (IHI Aerospace)
Arun Misra (McGill Univ.)

C1-1 *Near Optimal Deployment of Sub-Satellite in a Space Elevator System*
 Mehdi Keshmir (Isfahan Univ. of Technology, Iran)

C1-2 *Equilibrium Configurations and Control of a Moon-Anchored Tethered System*
 Anna D. Guerman (Univ. of Beira Interior, Portugal)

C1-3 *The Attitude Kinematic Equation and Stability of Gyrostat Spacecraft with Flexibility Accessories*
 Qiao Guodong (China Aerospace Science and Technology Corp.)

C1-4 *Robotic Autonomy in Space: Vision-based Control of Robotic Capture Operation*
 Z. H. Zhu (York University)

C1-5 *A study of the Orbit Determination for a Spacecraft by Using Modified Orbit Estimator*
 Ben Ichikawa (JAXA)

16:00-16:20	Coffee Break		
	Room 1	Room 2	Room 3
16:20-18:00	<p>Session B (Master students) : continued</p> <p>B-8 <i>Study for Direct Measurement of Electromagnetic Thrust of Electrode-less Helicon Plasma Thruster</i> Kenji Takahashi (Tokyo Univ. of Agriculture and Technology)</p> <p>B-9 <i>Electron Cyclotron Resonance Plasma Charging and Acceleration of Micro-Particles for Space Thruster</i> Shimpei Sakka (Shizuoka Univ.)</p> <p>B-10 <i>Investigation on Deflection Behaviors of Wrinkled Membranes Given by Tension Field Theory</i> Tomonori Tanaka (Tottori Univ.)</p> <p>B-11 <i>CARS Measurement of Rotational and Vibrational Temperatures on the Flat Plate Behind Shock Wave</i> Masashi Oguro (Chiba Univ.)</p> <p>B-12 <i>Development of Strength Failure Model for Porous Charring Layer of EPDM Insulation Eroded by Particle Flow</i> Chen Yue(China Aerospace Science and Technology Corp.)</p> <p>B-13 <i>Important Factors on Receiver's Measurement Quality</i> Tian Jia (China Academy of Space Technology)</p>	<p>Session C6 (Part 1) : continued</p> <p>C6-7 <i>Technical Findings of HTV Propulsion System Associated with Its Dynamic Characteristics</i> Shunichiro Nakai (IHI Aerospace)</p> <p>C6-8 <i>The development of HTV Exposed Pallet Multi – Purpose</i> Kana Yamamoto (IHI Aerospace)</p> <p>C6-9 <i>Development of a Hypersonic Shock Tube for Planetary Entry Aerothermodynamics</i> Gouji Yamada (Tottori Univ.)</p> <p>C6-10 <i>Influence Of Elastic Deformation On Unsteady Multi-Body Separation</i> Lin Yanzhong (Beihang Univ.)</p> <p>C6-11 <i>Application of the scaling technology in numerical study on the aerodynamic characteristics of Launch Vehicle</i> Wang Xiaowei (China Aerospace Science and Technology Corp.)</p>	<p>Session C1 (Part 1) : continued</p> <p>C1-6 <i>Application of the Formation Flying Analytical Models to the Prisma Mission</i> Drago Matko(Univ. of Ljubljana, Slovenia)</p> <p>C1-7 <i>A Design of Small Circular Halo Orbits Around the L2 of the Earth-Moon System</i> Keita Tanaka (Univ. of Tokyo)</p> <p>C1-8 <i>Trajectory Design of DESTINY Mission</i> Mai Bando(Kyoto Univ.)</p> <p>C1-9 <i>Earth Revolution Synchronous Orbits and Aero-Gravity Assists to Enhance Capabilities for Interplanetary Missions by Sub-Payload Spacecraft</i> Naoko Ogawa (JAXA)</p> <p>C1-10 <i>Earth-moon Transfers Involving Periodic Orbits and Invariant Manifolds through Isomorphic Mapping</i> Marco Giancotti (JAXA)</p>

Thursday, 17 May 2012

	Room 1	Room 2	Room 3
10:00-12:00	<p>Session B: International Students Conference and Competition (PhD students): Chairs: Shinichi Kimura (Tokyo Univ. of Science) Hiroto Habu (JAXA) Trevor Sorensen (Univ. of Hawaii) Hou Xiyun (Nanjing Univ.)</p> <p>B-14 <i>Dynamics Of A Tether Connected to an Irregular Shaped Asteroid</i> M.J. Mashayekhi (McGill Univ.)</p> <p>B-15 <i>Satellite Constellation Optimization for Future Space</i></p>	<p>Session C6 (Part 2): Space Transportation and Propulsion, Fluid Dynamics and Aerothermodynamics: Chairs: Makoto Yoshida (JAXA) Liu Wei (China Aerospace Science and Technology Corp.)</p> <p>C6-12 <i>The Development Status of the Epsilon Launch Vehicle</i> Takayuki Imoto (JAXA)</p> <p>C6-13 <i>Research and Development Progress of Space Transportation Propulsion R&D Center in JAXA</i> Makoto Yoshida (JAXA)</p>	<p>Session C1 (Part 2): Astrodynamics, Guidance, Navigation and Control, and Space Robotics: Chairs: Hirohito Ohtsuka (IHI Aerospace) Arun Misra (McGill Univ.)</p> <p>C1-11 <i>The Responsive and Mobile Concept of Guidance & Control system of Epsilon Rocket</i> Hirohito Ohtsuka (IHI Aerospace)</p> <p>C1-12 <i>Stability Analysis of Characteristic Model Based Adaptive Controller for a Class Of Minimum-Phase MIMO system and its Application in the</i></p>

	<p><i>Missions</i> Miguel A. Nunes (Univ. of Hawaii)</p> <p>B-16 <i>Hazard Detection from High Altitude Using a Single Camera</i> Satoru Kanazawa (Graduate Univ. of Advances Studies)</p> <p>B-17 <i>Probe Measurement of Plasma Plume on Electrode-less Helicon Plasma Thruster Using Lissajous Acceleration</i> Takahiro Nakamura (Tokyo Univ. of Agriculture and Technology)</p> <p>B-18 <i>Immersion and Invariance Based Command Filtered Adaptive Back stepping Control of VTOL</i> Hu Jinchang (China Aerospace Science and Technology Corp.)</p> <p>B-19 <i>Ignition Investigation on a Tri-Fluid Injector of Hydrogen Peroxide/Kerosene</i> Liu Changbo (China Aerospace Science and Technology Corp.)</p> <p>B-20 <i>Flexible Coupling Dynamics Modeling of Variable Configuration Spacecraft Oriented Control</i> Cao Li(China Aerospace Science and Technology Corp.)</p>	<p>C6-14 Overview of LE-X research and development program Hideo Sunakawa (JAXA)</p> <p>C6-15 <i>Critical Performance of Turbopump Mechanical Elements for Rocket Engine</i> Satoshi Takada (JAXA)</p> <p>C6-16 <i>Development and Test of the LOX/LNG Regenerative Cooled Rocket Engine</i> Kenichi Kimoto (IHI Corporation)</p> <p>C6-17 <i>Pressure and Geometry Scaling of Flowfield and Combustion Characteristics of Gaseous Hydrogen and Gaseous Oxygen Shear-Coaxial Injector</i> Wang Xiaowei (China Aerospace Science and Technology Corp.)</p>	<p><i>Hypersonic Vehicle</i> Wang Yong (China Aerospace Science and Technology Corp.)</p> <p>C1-13 <i>Performance Evaluation for Pointing Control System of the Balloon-Borne Telescope</i> Toshihiko Nakano (Tohoku Univ.)</p> <p>C1-14 <i>The Research of Some Key Technique of the Physics Package of Rubidium Atomic Clock</i> Zhai Hao (China Aerospace Science and Technology Corp.)</p>
12:00-14:00	Lunch Break		
	Room 1	Room 2	Room 3
14:00-15:00	<p>Session B: International Students Conference and Competition: Chairs: Shinichi Kimura (TokyoUniv.of Science) Hiroto Habu(JAXA) Trevor Sorensen (Univ. of Hawaii) Hou Xiyun (Nanjin Univ.)</p> <p><i>Discussion on Competition Results</i></p>	<p>Session C3: Earth Observation, Small and Micro Satellite Missions and Constellations Chairs: Imada Takane (JAXA) Z. H. Zhu (York University)</p> <p>C3-1 <i>Design of a Electrodynamic Tether Nanosatellite Mission for Space Debris Removal Demonstration and Radio Science Experiment</i> Z. H. Zhu (York University)</p> <p>C3-2 <i>Small SAR Satellite</i> Kiyonobu Ono (NEC Corporation)</p> <p>C3-3 <i>Target Detection by Level Set in Digital Processing of Synthetic Aperture Radar</i> Zhang Yan (China Aerospace Science and Technology Corp.)</p>	<p>Session C8: Space Exploration Systems including Advanced Technologies and Flight Systems to Enable Robotic Precursor, Lunar and other Missions: Chairs: Keiji Murakami (JAXA) Mark Lee (NASA)</p> <p>C8-1 <i>Advanced Space Exploration Systems Program</i> Mark C. Lee (NASA)</p> <p>C8-2 <i>DESTINY Mission Overview - A Small Satellite Mission for Deep Space Exploration Technology Demonstration</i> - Yasuhiro Kawakatsu (JAXA)</p> <p>C8-3 <i>Formation Flying around Libration Points of Circular Restricted Three Body Problem with Small</i> Zhao Yuhui (Nanjing Univ.)</p>
15:00-15:20	Coffee Break		

	Room 1	Room 2	Room 3
15:20-16:40	<p>Session C2: Satellite Communications, Broadcasting, On-Orbit and Ground Support Systems Chairs: Ben Ichikawa (JAXA) Joseph Yuen (JPL)</p> <p><i>C2-1 Detection and Tracking Performance of Improved "Polished Panel" Optical Receiver on the Deep-Space Network's 34 Meter Research Antenna</i> Victor Vilnrotter (JPL)</p> <p><i>C2-2 A Software Development and Verification Platform for On-Board Computers of Small Satellites</i> Shinichi Kimura (Tokyo Univ. of Science)</p> <p><i>C2-3 Fault-Tolerant Research of High Performance Soft-Core Processor Based on FPGA</i> Kong Lingbo (Beihang Univ.)</p>	<p>Session C3: continued</p> <p><i>C3-4 In-Flight Calibration for GOSAT TANSO</i> Shuji Kawakami (JAXA)</p> <p><i>C3-5 The Use of Onboard Real Time Dynamical Compensation in High-Accuracy Image Navigation of Remote Sensing Satellite</i> LV Wang (China Aerospace Science and Technology Corp.)</p>	<p>Session C8 : continued</p> <p><i>C8-4 Japanese Moon Lander SELENE-2 and its Technology Development</i> Tatsuaki Hashimoto (JAXA)</p> <p><i>C8-5 Launching Low Mars Orbiter by Using Aerobraking</i> Zhou Chuihong (NanjingUniv.)</p> <p><i>C8-6 Error Analysis and Mid-Course Maneuver of Earth-Mars Transfer Orbit</i> Hou Xiyun (Nanjing Univ.)</p> <p><i>C8-7 On Orbit Design around a Micro Gravity Asteroid</i> Yu Shengxian (Nanjing Univ.)</p>
18:00-18:45	<p>Cocktail Reception (Kodaiji Temple Front Garden) Participants please meet at 17:15 in front of the venue. Bus transportation will be provided and will leave the venue promptly at 17:30.</p>		
19:00-21:00	<p>Awards Banquet (Restaurant "GARDEN ORIENTAL KYOTO") Please walk (5-10 minutes) to the restaurant just next door to the temple. For participants with walking difficulty, several rickshaw rides will be provided.</p> <p>Master of Ceremonies Professor Yasuhiro Morita, Technical Co-Chair (JRS)</p> <p>Remarks by General Co-Chair hosting the conference Mr. Takeshi Orii, President (JRS)</p> <p>Remarks by Honorary Co-Chair hosting the conference Prof. Kuninori Uesugi, Former President, honorary member (JRS)</p> <p><i>Special performances by Maiko girls</i></p> <p>Presentation of Senator Spark M. Matsunaga Memorial Award Presenter: Prof. ArunMisra, Mcgill Univ. (AAS)</p> <p>Student Awards Ceremony Chairs: Prof. Shinichi Kimura (Tokyo Univ. of Science) Prof. HirotoHabu (JAXA) Prof. Trevor Sorensen (Univ. of Hawaii) Prof. HouXiyun (Nanjin Univ.)</p> <p>Introduction of Student Competition Judges and Co-Chairs Presentation of Student Awards</p> <p>Remarks on Next ISCOPS: Ms. Gong Jinyu (CSA)</p> <p>Announcement of Technical Tour Dr. Hiroto Habu (JRS)</p> <p><i>Bus transportation will be provided to the venue via metro Higashiyama Station.</i></p>		

Friday, 18 May 2012

	Room 1	Room 2	Room 3
10:00-11:20	<p>Session C5: Advances in Materials and Space Structures: Chairs: Takayuki Imoto (JAXA) Taft Broome, Jr. (Howard Univ.)</p> <p><i>C5-1 Influence of Voids on the Matrix of C/C Composite</i> Tang Min (China Aerospace Science and Technology Corp.)</p> <p><i>C5-2 Development of Carbon/Carbon-Silicon Carbide Composite for Space Mirrors</i> Li Ruizhen (China Aerospace Science and Technology Corp.)</p>	<p>Session C4: Human Space Flight, Space Station, Pacific Space Ports, and Lunar Manned Exploration: Chairs: Misuzu Ohnuki (Space Frontier Foundation) Chuck Lauer (Rocketplane Global, Inc.)</p> <p><i>C4-1 HTV-R Concept Study</i> Takane Imada (JAXA)</p> <p><i>C4-2 Study for the New Usage of HTV</i> Daisuke Tsujita (JAXA)</p> <p><i>C4-3 Commercial Spaceports - The Gateway for New Space Utilization</i> Misuzu Ohnuki (Space Frontier Foundation)</p> <p><i>C4-4 Technical Business and Market Factors in Pacific Basin Spaceport Developments</i> Charles J. Lauer (Rocketplane Global, Inc.)</p>	<p>Session C7: Current and Future Space Utilization including Mirco-gravity and Life Sciences, Space Environment and Debris, Space Solar Power Systems, and International Collaborations: Chairs: Yasuhiro Kawakatsu (JAXA) Z.H. Zhu (York Univ.)</p> <p><i>C7-1 Electro Static Levitation Furnace For The International Space Station</i> Keiji Murakami (JAXA)</p> <p><i>C7-2 The Study on Large Reflector for Space Solar Systems (SSPS)</i> Kazuya Kitamoto (Shizuoka Univ.)</p> <p><i>C7-3 Exploring Innovative Ways of Cooperation in Space Science and Technology Transfer between Japan & Colombia</i> Prof. Masanori Ito (Tokyo University of Marine Science)</p>
12:00-13:00	Lunch Break		
13:00-18:00	<p>Technical Tour to Mu Radar, University of Kyoto</p> <p>The tour participants please meet at 12:45 in front of the venue. Bus transportation will be provided and will leave the venue promptly at 13:00. The return transportation will be back to the venue via Kyoto Station.</p>		