



Joint Conference: 31st ISTS, 26th ISSFD & 8th NSAT

ISTS : International Symposium on Space Technology and Science

ISSFD : International Symposium on Space Flight Dynamics

NSAT : Nano-Satellite Symposium

Conference Prospectus and Budget and Fiscal Plan

Date : 3 - 9, June (Sat – Fri), 2017

Conference Venue : Himegin Hall

Homepage : <http://www.ists.or.jp>



Organizing Committee for
the 31st International Symposium on Space Technology and Science



The Japan Society for Aeronautical and Space Sciences

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1. Name

Japanese 第31回宇宙技術および科学の国際シンポジウム（略称：第31回 ISTS）
English 31st International Symposium on Space Technology and Science, Matsuyama-Ehime, 2017
(abbr. 31st ISTS—Matsuyama-Ehime, 2017)

2. Organizer

Organizing Committee for the 31st ISTS—Matsuyama-Ehime, 2017
The Japan Society for Aeronautical and Space Sciences

3. Co-organizer

Nano-Satellite Symposium Organizing Committee / 26th ISSFD Organizing Committee

4. Collaborator

Matsuyama-city, Ehime prefecture, Executive Committee for the 31st ISTS—Matsuyama-Ehime, 2017

5. Supporters

Ministry of Education, Culture, Sports, Science and Technology; Office of National Space Policy, Cabinet Office; Ministry of Economy, Trade and Industry; Ministry of Land, Infrastructure, Transport and Tourism; Ministry of Internal Affairs and Communications; Japan Aerospace Exploration Agency; National Institute of Information and Communications Technology; Space Activities Promotion Committee, Japan Business Federation (Nippon Keidanren); Japan National Tourism Organization (JNTO)

6. Sponsors

Japanese Rocket Society; The Society of Japanese Aerospace Companies; The Institute of Electronics, Information and Communication Engineers; The Japan Society of mechanical Engineers; The Society of Instrument and Control Engineers; The Japan Society of Microgravity Application; Japan Society of Aerospace and Environmental Medicine; The Society of Eco-Engineering; Japanese Society for Biological Sciences in Space; The Robotics Society of Japan; Society for Promotion of Space Science; The American Institute of Aeronautics and Astronautics (AIAA); The Japanese Society for Planetary Sciences; Society of Geomagnetism and Earth, Planetary and Space Sciences

7. International Collaborative Association

Committee on Space Research (COSPAR)

8. Date

June 3rd (Sat) – June 9th (Fri), 2017

9. Venue

Himegin Hall
2-5-1 Dogomachi, Matsuyama city, Ehime Prefecture, 790-0843 Japan
TEL: +81-89-923-5111 FAX:+81-89-923-5112 <http://www.ecf.or.jp> (Japanese Only)

10. Aims

The aim of ISTS is to contribute to (1) developing knowledge and technology in space science and (2)

establishing a network among researchers, engineers and others in the fields of Astronautics, Space Science, Space Medicine and Space Law by providing with opportunities to discuss the current issues and research. It is also an international conference organized in Japan in order to foster young researchers, engineers and students by encouraging them to present papers and participate in conferences.

1.1. Background

Since its first symposium in 1959, ISTS has been taken place almost every two years and nowadays has become the largest international conference in space technology and science. The 27th ISTS held in Tsukuba in 2009 celebrated its 50th anniversary. For enabling researchers to attend as many scientific conferences as possible, it has changed the conference year from even year to odd year since 2009 (see Table 1 and 2 and Figure 1).

In addition to its original aims, promoting to the development of knowledge and technology in space science and fostering young researchers and students, ISTS endeavors to promote science education to youth and adults within the general public. For example, it actively organizes one-day schools and space exhibitions. For this reason, there are constant requests to hold a conference from local municipalities. Since the 22nd symposium in Morioka, Iwate prefecture, the venues have been continuously in the regions.

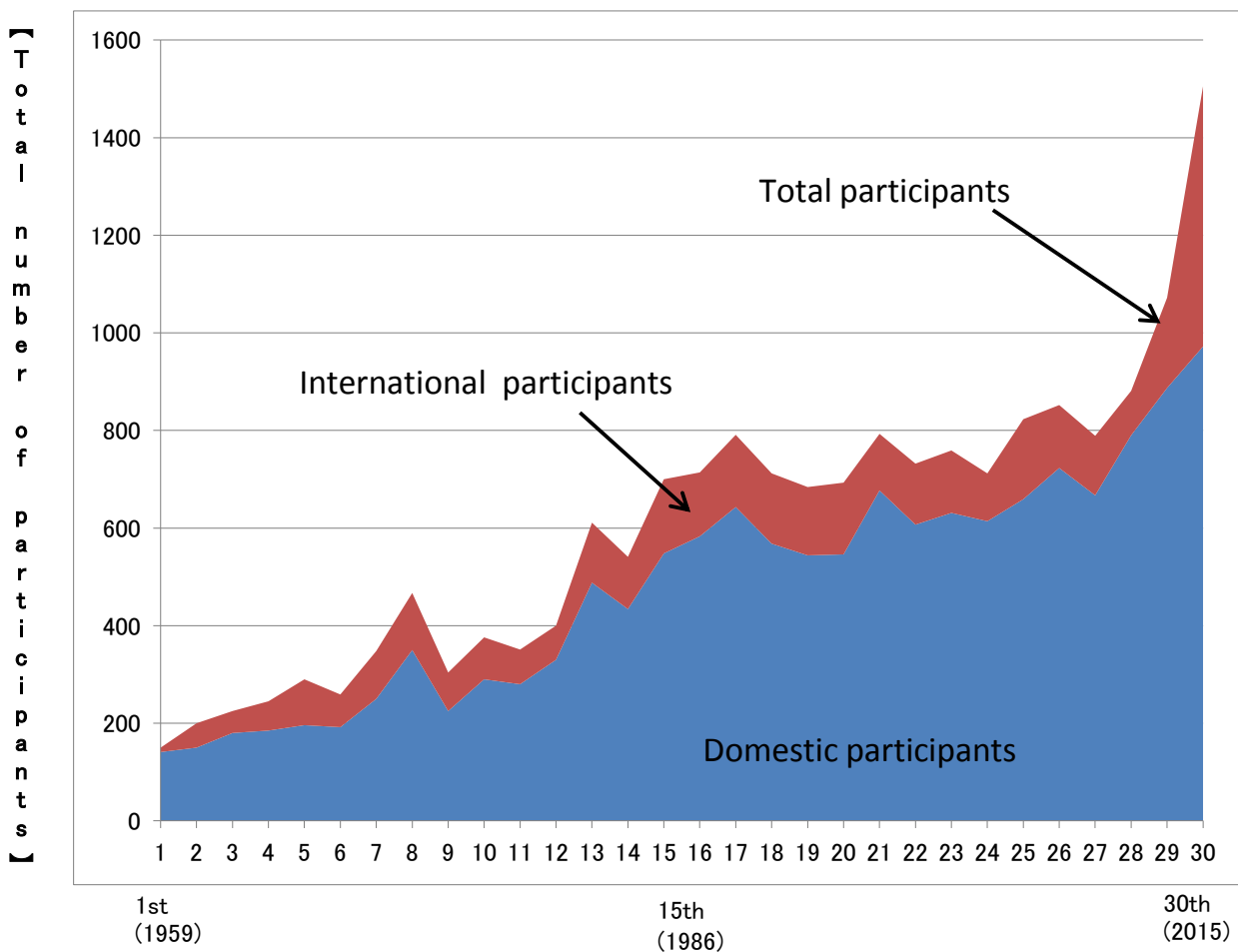
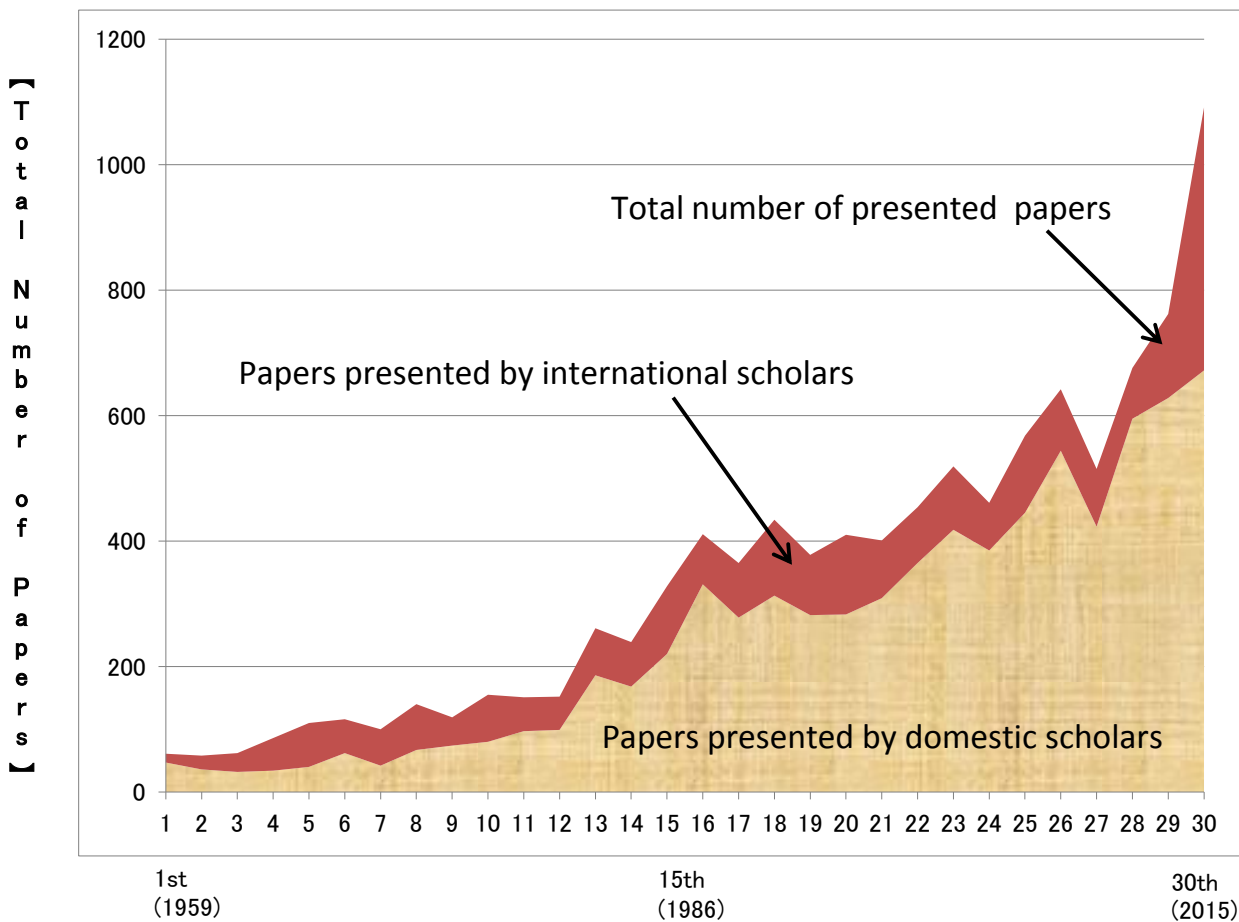
Table 1 Conference Participants and Papers Presented in the 30th ISTS (39 countries represented)

Name of Country	Participants	Papers	Name of Country	Participants	Papers
USA	155	111	Austria	3	3
Germany	65	71	South Africa	2	2
China	49	33	Egypt	2	2
France	40	30	Iceland	2	0
Taiwan	31	17	Finland	2	1
South Korea	26	14	Belgium	2	2
Russia	24	15	Qatar	2	0
England	22	24	Mexico	1	1
Netherland	14	8	Burkina Faso	1	2
Italy	13	12	Angola	1	0
Turkey	9	6	Switzerland	1	1
India	9	10	Serbia	1	1
Canada	8	4	Norway	1	1
Australia	8	10	Denmark	1	0
Singapore	7	4	Vietnam	1	0
Israel	7	8	Sri Lanka	1	1
Spain	6	11	Malaysia	1	1
Thailand	5	2	Greece	0	1
Brazil	4	5	International Total	533	419
Sweden	3	2	Japan	972	672
Poland	3	3	TOTAL	1,505	1,091

Table 2: Papers Presented and Conference Participants (from the 1st to 30th conferences)

	Date	Papers presented		Participants		Number of Countries Represented	Conference Venue
		Domestic	International	Domestic	international		
1	1959 5/25~5/28	61		150		4	Gakushi Kaikan, Tokyo
		47	14	141	9		
2	1960 5/24~28	58		200		6	Gakushi Kaikan, Tokyo
		36	22	150	50		
3	1961 8/28~9/1	62		225		12	Japan Center for Cities, Tokyo
		32	30	180	45		
4	1962 8/27~31	86		245		8	Japan Center for Cities, Tokyo
		34	52	185	60		
5	1963 9/2~7	110		290		12	Japan Center for Cities, Tokyo
		40	70	196	94		
6	1965 11/29~12/4	116		259		8	Japan Center for Cities, Tokyo
		62	54	192	67		
7	1967 5/15~20	100		346		11	Japan Center for Cities, Tokyo
		42	58	250	98		
8	1969 8/25~30	140		467		16	Japan Center for Cities, Tokyo
		67	73	350	117		
9	1971 5/17~22	119		304		11	Japan Center for Cities, Tokyo
		74	45	225	79		
10	1973 9/3~8	155		376		14	Japan Center for Cities, Tokyo
		80	75	290	86		
11	1975 6/30~7/5	151		351		13	Japan Center for Cities, Tokyo
		97	54	280	71		
12	1977 5/16~21	152		400		14	Japan Center for Cities, Tokyo
		99	53	330	70		
13	1982 6/27~7/2	261		611		14	Japan Center for Cities, Tokyo
		186	75	488	123		
14	1984 5/27~6/1	239		541		18	Japan Center for Cities, Tokyo
		168	71	434	107		
15	1986 5/18~23	328		700		18	Japan Center for Cities, Tokyo
		220	108	548	152		
16	1988 5/22~27	411		714		17	Hokkaido University, Sapporo
		331	80	583	131		
17	1990 5/20~25	365		791		19	Grand Prince Hotel Takanawa, Tokyo
		278	87	643	148		
18	1992 5/17~23	434		712		15	Hotel Shiroyama Kagoshima
		313	121	568	144		
19	1994 5/15~24	378		684		18	Yokohama Prince Hotel
		282	96	544	140		
20	1996 5/19~25	410		693		22	Nagaragawa Convention Center, Gifu
		283	127	546	147		
21	1998 5/24~6/1	401		793		15	Sonic City Hall, Omiya
		309	92	677	116		
22	2000 5/28~6/4	454		732		18	Hotel Metropolitan Morioka
		365	89	607	125		
23	2002 5/26~6/2	519		759		15	Shimane Civic Center
		418	101	631	128		
24	2004 5/30~6/6	461		712		19	World Convention Center Summit, Miyazaki
		386	75	614	98		
25	2006 6/4~6/11	568		823		18	Kanazawa Theatre
		445	123	659	164		
26	2008 6/1~6/8	642		852		26	Act City Hamamatsu
		544	98	723	129		
27	2009 7/5~7/12	515		789		25	International Congress Center, Tsukuba
		423	92	667	122		
28	2011 6/5~6/12	676		881		19	Okinawa Convention Center, Ginowan
		595	81	790	91		
29	2013 6/2~6/9	762		1,072		32	Nagoya Congress Center
		628	134	887	185		
30	2015 7/4~7/10	1,091		1,505		39	Kobe Convention Center
		672	419	972	533		

Figure 1: Transition of the Numbers of Papers and Participants



1 2. Summary of Symposium

Main Theme: “Open up a New Age of Space Discovery”

~ *Space Cuckoo Flies to New Space Frontier from Matsuyama* ~

(1) Special Sessions

Special Sessions after the Opening Ceremony (June 5th)

- World Space Activities
- Open Innovation from Collaborative R&D between Space Agencies and Private Sectors

Organized Sessions (Tentative Plans)

- Interorbital and Interplanetary Transportation with Electric Propulsion
- Launch Vehicle for Small Spacecrafts
- Future Space Transportation System
- Hybrid Rocket ~Essentially Non-Explosive Propulsion for Future Fail-Safe Transportation Systems~

Panel Discussions (Tentative Plans)

- Private Sector Development of Rocket
- Space Exploration Program and Japan’s Role

(2) Technical Sessions

a)Chemical Propulsion and Air-breathing Engines: Solid, Liquid, Hybrid Rockets, Air-breathing Engines, Reusable Rockets

b)Electric and Advanced Propulsion: Electric Propulsion, Laser/Microwave Propulsion, Solar-thermal/Sailing Propulsion, Electrodynamic Tether, Nuclear Propulsion, Magnetohydrodynamics, Microthrusters, Thruster Plume and Spacecraft Interactions, Plasma Technologies, Non-propulsive Applications, Powered Flight Mission

c)Materials and Structures: Structures of Spacecrafts and Space Vehicles, Structural Dynamics and Control, Structural Analysis, Tests and Nondestructive Inspections, Material Characterizations, New Materials, Smart materials and structures, Composite materials, Space Environment Interactions

d)Astrodynamics, Navigation Guidance and Control: Joint session with 26th ISSFD: Attitude Dynamics, Attitude Determination & Control, Attitude & Payload Sensor Calibration, Orbital Dynamics, Orbit Determination & Control, Trajectory Design and Optimization, Mission Design, Spacecraft Navigation, Entry/Landing/Ascent Guidance, Navigation & Control, Orbital Rendezvous & Proximity Operations, Formation Flying & Satellite Constellations, Space Robotics & Rover, Spacecraft Autonomy & Intelligence, Guidance, Navigation & Control Components, Recent Experiences & Lessons Learned

e)Fluid Dynamics and Aerothermodynamics: High Enthalpy Flow, Atmospheric-entry, Aero-thermodynamics, Aerodynamic Design, Rarefied Gas, Radiation, Thermal Protection System, Plasma, Magneto-gasdynamics, Low Speed Aerodynamics, Low-speed Aerodynamics at Takeoff and Landing, Supersonic and Hypersonic Flow, Gas Dynamics, Wind Tunnel

f)Small Satellite : Joint session with 8th NSAT: Innovative Small Satellite Mission, Small Satellite Utilization, Small Satellite Design and Development, Advanced Small Satellite Technology, Small Satellite Lessons Learned, Small Satellite Launch

g)Space Transportation: Reusable Launch Vehicles (RLVs), Expendable Launch Vehicles (ELVs), Reentry Vehicles, Orbital Transfer Vehicles (OTVs), Human Space Transportation, Sub-orbital Space Transportation

h)Microgravity Sciences and Technology: Microgravity Science, Physical Science, Fluid Physics, Combustion Science, Fundamental Physics, Material Science, Microgravity Experiments, Facilities for Microgravity Experiments, Opportunities for Microgravity Experiments, Operation and Utilization of the ISS

i)Thermal Control: Thermal and Environmental Control, System and Instrument Thermal Design, Thermal

Management, Heat Transfer, Thermophysical Property, Thermal Testing and Analysis, Passive and Active Thermal Control, Technologies, Two-phase Technology, Advanced Thermal Control Materials

j) Satellite Communications, Broadcasting and Navigation: Satellite System Architectures, Networks and Protocols, Experimental Projects and Results, Subsystems, Components and Devices, Propagation, Regulation, Financing and Marketing, Space Navigation Systems, Fixed and Broadcast Satellite Systems, Mobile Satellite Systems

k) Science and Technology for Human and Robotic Space Exploration: Scientific Objectives, Results, and Instruments for Exploration of the Moon, Planets and Solar System Small Bodies; Mission Analysis, Mission Design and Key Technologies of Human and Robotic Explorations; Commercial and Private Initiatives of Space Explorations; Roadmap and Strategies for National and International Space Exploration Programs

m) Sounding Rocket and Balloon: Promotion of Sounding Rocket or Balloon Programs, Suborbitals, Scientific Results, Engineering Demonstration, Range Facility & Operation, Instrumentation, Upper Atmosphere, Ionosphere

n) Earth Observation: Earth Observation, Earth Environment, Remote Sensing, Remote Sensing Sensors, Application of Remote Sensing, Data and Signal Processing, Data Analysis, Ground System, Data Assimilation, Global Change Prediction, Earth System Science, Disaster Monitoring, Geographic Information Systems

p) Space Life Science: Space Medicine and Physiology, Countermeasures, Metabolism, Neurophysiology, Environmental Medicine, Behavior and Performance, Psychosocial Issue, Mental Health Care, Remote Medical Care and Tele-medicine, Biomedical Technology, Space Radiation (Measurement, Biological effect, Protection), Space Biology, Gravitational, Physiology and Biology, Artificial Gravity, Analogue Environments and Simulations, Public Outreach and Education in Life Science, Space Life Science for Human Exploration

q) Space Power Systems: Solar Power Satellite, Solar Cells, Power Resources, Power Management and Distribution, Power Storage System, Wireless Power Transmission

r) Space Environment and Debris: Space Environment, Space Debris, Meteoroid, Space Situational Awareness, Debris Observation and Measurement, Debris Population and Evolution Model, Debris Risk Assessment and Management, Orbital Dynamics on Debris, Reentry Safety, Hypervelocity Impact, Protection Design, Debris Mitigation, Debris Removal, Debris Environment Remediation, Space Weather, Space Weather Forecast, Spacecraft Charging, Environment Model, Solar and Geomagnetic Activity, Environment Data Management, International Cooperation on Debris and Space Environment, Near Earth Objects

t) Systems Engineering and Information Technology: Systems Engineering – Methodologies, Systems Engineering – System Design, Systems Engineering – Process and Tools, Model Based Systems Engineering, Verification and Validation, IT Application for Systems Engineering, Project Management and Systems Engineering, Risk Management, Software Engineering, Requirement Engineering, Knowledge Management

u) Space Education and Outreach for the Benefit of All People: Space Education, Public Outreach, Public Relations, Capacity Building, Citizen Science, International Collaborative Projects, Students Activity, Space Tourism, Effect of Space Activities on Culture and Humanity, Journalism, Art, Space Events, NanoSat and CanSat for Education, Model Rocket, Amateur Radio Satellite

v) Space Law, Policy and International Cooperation: International Law, Domestic Laws & Regulations, Space Policy, Commercialization, Property Right, Exploitation of Resources, Environmental Protection, Space Debris, Sustainable Use, International and National Security, Disarmament & Arms Control, International Cooperation (Bilateral, Multilateral, Regional and Global)

w) Safety and Mission Assurance: Safety, Reliability, Quality, Software Product Assurance, EEE & Mechanical Parts, Standardization

- (3) Exhibitions
- (4) Technical Excursion
- (5) Other (social) Events

1.3. Schedule (draft)

2017	AM	PM	Others
3 June (Sat)			International Space Exhibition
4 June (Sun)			International Space Exhibition
5 June (Mon)	Opening Ceremony / Special Sessions		Welcome Reception International Space Exhibition
6 June (Tue)	Sessions	Sessions	International Space Exhibition Technical Excursion
7 June (Wed)	Sessions	Sessions	International Space Exhibition
8 June (Thu)	Sessions	Sessions	Technical Excursion Poster Sessions
9 June (Fri)	Sessions	Sessions 9 th Spacecraft Control System Design Contest	Commendation & Closing Ceremony

14. Revenue and Expense Plan (1 March 2016 – 28 February 2018)

(JPY)

Recurring Revenue		
Category	Subcategory	Total
Investment income	Interests	(12,000) 12,000
Contribution	Contribution	(11,000,000) 11,000,000
Business income	Lectures	(40,000,000) (40,000,000)
Subsidy		(9,000,000)
	Fiscal subsidy	9,000,000
	Local government subsidy	0
Burden charge	Burden charge	(4,000,000) 4,000,000
Miscellaneous	Interests	(0) 0
Recurring revenue total		64,012,000

Recurring Expense		
Category	Subcategory	Total
Operating expense		(66,262,000)
	Salaries	12,100,000
	Temporary employment wages	1,100,000
	Severance packages	2,250,000
	Legal welfare	2,000,000
	Welfare	50,000
	Conference	520,000
	Travel	500,000
	Communication and transportation	400,000
	Office supplies	150,000
	Homepages	600,000
	Printing and bookbinding	330,000
	Lease/Rent	7,960,000
	Utility	60,000
	Social expenses	1,500,000
	Insurance	100,000
	Commission	3,320,000
	Award	100,000
	TAX and dues	1,200,000
	Grant	1,200,000
Outsourcing expense	30,702,000	
Miscellaneous	120,000	
Recurring expense total		66,262,000
Balance from the previous account		2,250,000
Profit/Loss		0

1 5. Committee and Membership

Kozo Fujii, the General Chairperson of the 30th ISTS, recommended Seiya Ueno, Professor at Yokohama National University, as the 31st ISTS General Chair. This was approved by the governing board of the Japan Society for Aeronautical and Space Sciences. Professor Ueno appointed the organizing committee and chairpersons as follows and held its first conference on 6 Nov. 2015 as the starting of the preparation.

31st ISTS Organizing Committee Members

【Consultant】	【General Chairperson】 <u>Seiya UENO</u>	【Advisor】
【Honorary Advisor】		【Auditor】
【Deputy General Chairperson】		【Secretariat】
	【Executive Committee】	【Director of JSASS Board】 <u>Kimiya KOMURASAKI</u>
	【Program Committee (domestic/international)】 <u>Ryoichi IMAI</u>	
	└─┬─┘ └─┘ 【Program subcommittee】	
	【Finance Committee】	<u>Hiroshi ISHIBASHI</u>
	【Education and Outreach Committee】	<u>Nozomu SAKURABA</u>
	【Exhibition Committee】	<u>Yoshikazu SHOJI</u>
	【Publications Committee】	<u>Hirohisa KOJIMA</u>
	【Venue Relations Committee】	<u>Masaya NAKAHARA</u>
	【General Affairs Committee】	<u>Yasuhiro MORITA</u>

31st ISTS Secretariat

Address: 4-1-21 Nihonbashi-Muromachi, Chuo-ku, Tokyo 103-0022 Japan

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E-mail: inquiry@ists.or.jp

Head: Miwako Shimizu

31st ISTS Organizing Committee Members' List

General Chairperson	Seiya UENO	Yokohama National University
Consultant	Shigefumi SAITO	11th General Chairperson
	Shigeo KOBAYASHI	16th General Chairperson
	Tomonao HAYASHI	18th General Chairperson
	Ryojiro AKIBA	19th General Chairperson
	Tomifumi GODAI	20th General Chairperson
	Shigeaki NOMURA	21st General Chairperson
	Hiroki MATSUO	22nd General Chairperson
	Hirotooshi KUBOTA	23rd General Chairperson
	Susumu TODA	24th General Chairperson
	Yasunori MATOGAWA	25th General Chairperson
	Michikata KONO	26th General Chairperson
	Junjiro ONODA	27th General Chairperson
	Yoshihiro ARAKAWA	28th General Chairperson
	Masanori HOMMA	29th General Chairperson
	Kozo FUJII	30th General Chairperson
Honorary Advisor	Tokihiko NAKAMURA	Governor of Ehime Prefecture
	Katsuhito NOSHI	Mayor of Matsuyama City
Advisor	Naoki OKUMURA	JAXA
	Ryutaro KAWAMURA	NTT
	Yasuyuki NAKAJIMA	KDDI
	Toru KURODA	NHK STRL
Deputy General Chairperson	Takashi ISHIKAWA	Nagoya University
	Yoshifumi INATANI	JAXA
	Kiyoshi HIGUCHI	JAXA
Auditor	Muneki SATO	Fujitsu
	Hidemasa NAKANISHI	MHI

Program Committee

Chairperson of the Committee	Ryoichi IMAI	JAXA
Co-Chairperson	Shinji OGAWA	JAXA
Co-Chairperson	Ikkoh FUNAKI	JAXA
Co-Chairperson	Shinji NAKAYA	The University of Tokyo
	Hiraku SAKAMOTO	Tokyo Institute of Technology
	Hironori SAHARA	Tokyo Metropolitan University
	Masazumi MIYAKE	JAXA
	Junichi MORIUMA	JAXA

Finance Committee

Chairperson of the Committee	Hiroshi ISHIBASHI	NEC
Co-Chairperson	Hiroshi MATSUDA	NEC
	Yoshihiro ADACHI	NEC
	Hiroki SATO	Fujitsu
	Masaaki SATO	JAXA
	Koji TAKAO	IHI
	Shusaku TANAKA	MELCO
	Hidemasa NAKANISHI	MHI
	Mihoko FUKUNAGA	IHI Aerospace

Education and Outreach Committee

Chairperson of the Committee	Nozomu SAKURABA	JAXA
Co-Chairperson	Kaori SASAKI	JAXA
	Emiko ANDO	The University of Tokyo
	Yoji KAWAI	Matsuyama City
	Izumi MIYAMOTO	Ehime Prefecture
	Kazuyoshi SASAKI	JAXA
	Junya TERAZONO	University of AIZU

Exhibition Committee

Chairperson of the Committee	Yoshikazu SHOJI	JAXA
Co-Chairperson	Akitaka KISHI	JAXA
	Yoji KAWAI	Matsuyama City
	Izumi MIYAMOTO	Ehime Prefecture
	Rie SEKI	JAXA

Takeshi NAKAMURA JAXA

Publications Committee

Chairperson of the Committee	Hirohisa KOJIMA	Tokyo Metropolitan University
Co-Chairperson	Yasuhiro KAWAKATSU	JAXA
	Kosei ISHIMURA	JAXA
	Yoshinori TAKAO	Yokohama National University
	Yoshihisa TAKAYAMA	Tokai University
	Susumu HARA	Nagoya University
	Koji MIYAJI	Yokohama National University

Venue Relations Committee

Chairperson of the Committee	Masaya NAKAHARA	Ehime University
Co-Chairperson	Yukiharu IWAMOTO	Ehime University
	Keiji OGI	Ehime University
	Yoji KAWAI	Matsuyama City
	Toshio SAIKI	Ehime Prefecture
	Yuya DAN	Matsuyama University
	Akira NAKAYAMA	Ehime Prefecture
	Shinfuku NOMURA	Ehime Prefecture
	Shinobu MUKASA	Ehime Prefecture

General Affairs Committee

Chairperson of the Committee	Yasuhiro MORITA	JAXA
Co-Chairperson	Satoshi NONAKA	JAXA
	Toshiyuki SUZUKI	JAXA
	Takao AKUTSU	JAXA
	Hiroyuki NISHIDA	Tokyo Univ. of Agriculture and Technology
	Takashi MATSUNO	Tottori University
	Seiji MIURA	Tottori University
	Takashi MUGITANI	JAXA
	Tetsuya YAMADA	JAXA
	Takayuki YAMAMOTO	JAXA

31st ISTS Program Subcommittee Members' List

a) Session (Chemical Propulsion and Air-breathing Engines)

Chairperson of the Committee	Mitsuaki TANABE	Nihon University
Co-Chairperson	Kenichi TAKAHASHI	Nihon University
	Shuhei OKADA	JAXA
	Shunsuke NISHIDA	JAXA
	Tetsuo HIRAIWA	JAXA
	Kengo YAMAMOTO	IHI Aerospace
	Masashi WAKITA	Hokkaido University
	Justin HARDI	DLR

b) Session (Electric and Advanced Propulsion)

Chairperson of the Committee	Yoshinori NAKAYAMA	National Defense Academy
Co-Chairperson	Hiroyuki KOIZUMI	The University of Tokyo
	Akira KAKAMI	University of Miyazaki
	Hiroshi KATSURAYAMA	Yamaguchi University
	Kenichi KUBOTA	JAXA
	Hiroyuki NISHIDA	Tokyo Univ. of Agriculture and Technology
	Hiroki WATANABE	Tokyo Metropolitan University
	Carsten SCHARLEMANN	Fachhochschule Wiener Neustadt
	Juan YANG	Northwestern Polytechnic Univ.
	Mitchell WALKER	Georgia Institute of Technology
	Tony SCHÖENHERR	ESA/ESTEC
	Wonho CHOI	KAIST

c) Session (Materials and Structures)

Chairperson of the Committee	Takashi IWASA	Tottori University
Co-Chairperson	Jun Koyanagi	Tokyo University of Science
	Takeshi AKITA	Chiba Institute of Technology
	Shinichi TAKEDA	JAXA
	Hiroaki TANAKA	National Defense Academy
	Yousuke NAMBU	Osaka Prefecture University
	Hidehiro HATA	Kumamoto University
	Kanjuro MAKIHARA	Tohoku University
	Rikio WATANABE	Tokyo City University

d) Session (Astrodynamics, Navigation, Guidance and Control) Joint Session with 26th ISSFD

Chairperson of the Committee	Takanao SAIKI	JAXA
Co-Chairperson	Satoshi UEDA	JAXA
	Takanori IWATA	JAXA
	Yasuhiro KAWAKATSU	JAXA
	Hirohisa KOJIMA	Tokyo Metropolitan University
	Takeya SHIMA	MELCO
	Katsuhiko YAMADA	Osaka University
	Kazuya YOSHIDA	Tohoku University
	Hyochoong BANG	KAIST
	Pavel TRIVAILO	Royal Melbourne Institute of Technology

e) Session (Fluid Dynamics and Aero-themodynamics)

Chairperson of the Committee	Katsuyoshi FUKIBA	Shizuoka University
Co-Chairperson	Nobuyuki TSUBOI	JAXA
	Masato FUNATSU	Gumma Universtiry
	Hiroshi KATSURAYAMA	Yamaguchi University
	Makoto MATSUI	Shizuoka University
	Atsushi MATSUDA	Meijo University
	Yusuke MARU	JAXA
	Taku NONOMURA	JAXA
	Hiroyuki NISHIDA	Tokyo Univ. of Agriculture and Technology

f) Session (Small Satellite) Joint Session with 8th NSAT

Chairperson of the Committee	Tsuyoshi TOTANI	Hokkaido University
Co-Chairperson	Tomohiro ISHIKAWA	Tokyo Metropolitan College of Industrial Technology
	Shinichi KIMURA	Tokyo University of Science
	Yuji SAKAMOTO	Tohoku University
	Yukihiro TAKAHASHI	Hokkaido University
	Hiroyasu TAJIMA	Nagoya University
	Seisuke FUKUDA	JAXA
	Ryoichiro YASUMITSU	MELCO
	Joel Joseph S. MARCIANO	University of Philippines

g) Session (Space Transportation)

Chairperson of the Committee	Kenji FUJII	JAXA
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Co-Chairperson	Wataru SARAЕ	JAXA
	Hiroshi IKAIDA	JAXA
	Koki KITAGAWA	JAXA
	Tetsuhiko KOZASA	MHI
	Kazuhide MIZOBARA	Muroran Institute of Technology
	Atsushi MURAKAMI	IHI Aerospace

h) Session (Microgravity Science and Technology)

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Date of Issue : November 8, 2016