

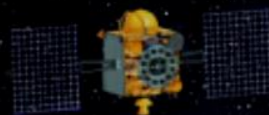


SMOPS-2023



Abstract Submission :
10 Oct 2022 till 30 Nov 2022

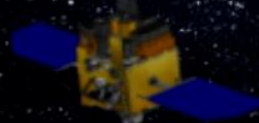
Navigation



Communication



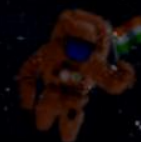
Scientific Mission



Earth Observation



Gaganyaan

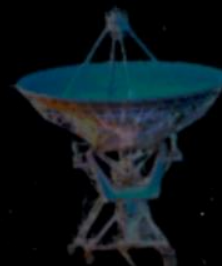


**International Conference on
Spacecraft Mission Operations (SMOPS-2023) with theme
of Emerging Technologies and Automation in Ground and
Space Segment of mission operations (ETAGS)**

Venue: Bangalore, India

Date : 8th and 9th June, 2023

Mission Ops



Conference Theme

The objective of this unique conference is to associate and connect with the various space agencies, start-ups, industry and academia within and outside India. The conference aims to bring all space leaders together to share their views on existing technologies and its challenges, while previewing the state of the art technologies that are being conceived globally to make space mission operations more secure and robust. This conference will also provide a unique platform for ISRO to boost the synergy between academia, industry and other space agencies.

Chief Patrons

1.	Shri. S Somanath	Secretary Department of Space and Chairman ISRO, President ASI
2.	Dr. K Radhakrishnan	Member, Space Commission
3.	Shri. A. S. Kiran Kumar	Member, Space Commission
4.	Dr. Pawan Kumar Goenka	Chairman, INSPACe

Advisory Committee

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Air Vice Marshal D V Khot, Defence Space Agency	Member
Smt. Nandini Harinath, Deputy Director, SpOA, ISTRAC	Member-Secretary

Present And Future Trends In S/C Operations And Mission Design

- ✚ Autonomous Satellite Design
- ✚ Emergency and Contingency Operation Methodologies
- ✚ Mission Management Using Electric Propulsion Systems
- ✚ Meo Orbit satellite mission application, design and constraint
- ✚ Low cost solutions for satellite mission management
- ✚ On-Orbit satellite Servicing
- ✚ On-board Automation
- ✚ Lost In Space Recovery Techniques
- ✚ Methodologies For Attitude Accuracy Improvement
- ✚ Automation In Mission Operations Management
- ✚ Automation In Ground Resource Configuration
- ✚ End of life Mission management

GSO Spacecraft operation challenges

- ✚ Com Payload Users - Interference, Mitigation, Geo-location
- ✚ GSO satellites - Launch & Early Orbit Phase Operations
- ✚ Electric propulsion Orbit Raising (EOR) Operations, mission management and Challenges
- ✚ High Throughput Satellites (HTS) - Beam Pointing Methodologies, In-Orbit Testing (IOT) of Payloads
- ✚ Formation Flying and Colocation of Satellites in GSO - Operations & Challenges,

Present And Future Trend In Ground Station Operations

- ✚ Deep Space Network array design
- ✚ Cross support and interoperability
- ✚ Data acquisition system design
- ✚ Cloud based Ground system architecture
- ✚ Ground station software architecture and design
- ✚ Advance Radar design and application for space object tracking, Phased array Antenna design
- ✚ Advanced design Interference and mitigation in G/S Communications in spectral bands (S, X, Ka-band etc.)

- ✚ Ground based Optical communication and tera hertz frequency management
- ✚ Mobile Stations for LEO data reception - New Techniques
- ✚ Evolving Technologies in Ground Station Miniaturization

Space Situational Awareness

- ✚ Detection and maintenance of debris catalogue
- ✚ Operational strategy for debris hazard mitigation
- ✚ Space debris removal technique
- ✚ Corrective measures for space debris management
- ✚ Space debris prevention techniques
- ✚ Autonomous Space debris mitigation technique
- ✚ Advanced technique for safe-guarding optical/RF payload from ground threat
- ✚ Impact of Space weather on spacecraft systems and operations
- ✚ Spacecraft design challenges to improve immunity to space weather disturbance

Trends In Ground Segment Resource Allocation And Optimisation

- ✚ Optimal Resource Allocation And Scheduling In Multi-mission Scenario
- ✚ Near Real-time Emergency Requirements Handling
- ✚ Science Mission Payload Proposal Processing Chain
- ✚ Space Science Data Dissemination Policy
- ✚ Control Centre Design
- ✚ Ground segment Data centre architectures for High volume payload Data processing.
- ✚ Cloud Based Mission Operation Management System Architecture

Conference Topics

Satellite Constellations Management

- ▣ Challenges in its maintenance
- ▣ Multi-mission management strategy
- ▣ Data relay and Inter satellite communication design

Simulation And Modelling

- ▣ Guidance And Control Techniques
- ▣ Small Satellite Control Strategy
- ▣ Orbital Disturbance Modelling
- ▣ Optimal Trajectory Design (Landing And Re-entry Mission)
- ▣ Reference Constellation For Navigation Of Interplanetary/Lunar Mission

Artificial Intelligence Based Applications

- ▣ Guidance and Control
- ▣ Orbit Determination and Propagation
- ▣ S/C TM Data processing, Operations and Applications
- ▣ Landing and Re-entry Algorithms
- ▣ Space hazard mitigation
- ▣ Autonomous Satellite Design and Mission Management
- ▣ Near real time Payload image quality evaluation using AI/ML and Computer Vision techniques.

Human Spaceflight Mission Operation Management

- ▣ Mission operations management
- ▣ Ground segment architecture design
- ▣ Reliability aspect for ground and space segment
- ▣ Crew Training and simulation facility design
- ▣ Mission Operation Training and simulation
- ▣ Ascent and Descent Trajectory Design
- ▣ Recovery and rehabilitation strategy
- ▣ Crew Life support system design

Conference Topics

Challenges in Flight Dynamics Operations

- ▣ Precise Orbit Determination
- ▣ Autonomous Navigation Techniques For Space Object Viz. GNSS, Navic
- ▣ Re-entry Prediction For Non-cooperative Objects
- ▣ Precise Orbit Propagation

Satellite Data handling, Processing and Applications

- ▣ Autonomous frameworks for Satellite Data and information Processing
- ▣ Intelligent Data Dissemination and Analytics – Requirements and approaches
- ▣ Secure Satellite Data exchange over terrestrial and satellite links: Standards and Strategies
- ▣ On-board image processing towards efficient payload planning and dissemination to emergency applications users.
- ▣ Data mining Frameworks for near real time Geo/Bio physical parameters Retrieval.

Panel Discussion : International Treaty

- ▣ Cyber Security and Network Security
- ▣ International Treaties and Conventions
- ▣ Control centre Secure network policy

Important Dates

1	Announcement of Conference	Sep 8, 2022
2	Registration & Call for Abstract Submission	Oct 10, 2022
3	Last date for Abstract Submission	Nov 30, 2022
4	Notification of acceptance and Call for Final Paper Submission	Dec 15, 2022
5	Last date for Author Registration and Final Paper Submission	Jan 31, 2023
6	Last Date for Early Bird Registration	April 30, 2023
7	General Registration	June 7, 2023
8	Conference Date	June 8-9, 2023

Contact Us

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Website : <https://smops2023.istrac.gov.in>, www.asindia.org,
<https://iaaspace.org>



Sponsor Category Proposed

Title Partner (INR 10L + GST)

- 8 complimentary Guest
- 20 minutes Keynote
- Premium Size exhibit booth at Prime Location
- Acknowledgment during in-augural, Awards and Valedictory function
- Logo on All printed material, backdrop and website
- Permission to keep company brochure in registration kit.

Platinum Partner (INR 8L + GST)

- 6 complimentary Guest
- 15 minutes Keynote
- Standard exhibit booth at Prime Location
- Acknowledgment during in-augural, Awards and Valedictory function
- Logo on All printed material, backdrop and website
- Permission to keep company brochure in registration kit.

Diamond Partner (INR 5L + GST)

- 5 complimentary Guest
- 10 minutes Keynote
- Standard exhibit booth
- Acknowledgment during in-augural, Awards and Valedictory function
- Logo on All printed material, backdrop and website
- Permission to keep company brochure in registration kit.

Gold Partner (INR 2L + GST)

- 3 complimentary Guest
- 5 minutes presentation time
- Economy Exhibit booth
- Acknowledgment during in-augural, Awards and Valedictory function
- Logo on All printed material, backdrop and website

Silver Partner (INR 1L + GST)

- 2 complimentary Guest
- Economy exhibit booth
- Acknowledgment during in-augural, Awards and Valedictory function
- Logo on All printed material, backdrop and website



Thank You

