



SpaceOps2012 Conference "Best Topic Papers"

The SpaceOps2012 Program Committee is publishing a selection of the most interesting papers presented at this year's conference. These high quality papers will convey the breadth and depth of the current and new space operations related developments to the wider space operations community. The papers were chosen from a total of 291 peer-reviewed papers that were selected for presentation at the conference (and include one selected e-poster from a total of 11 e-poster presentations), which in turn were selected from a total of over 600 abstract submissions.

The papers are divided into different themes or ("Topics") described in the table below. The various topic sessions were each guided by two "Topic" chairs, who along with their session chairs chose, according to their fields of expertise, the best technical papers.

The online presentation of the "Best Topic Papers" in this issue of the "Journal" contains the "as presented" versions (see "[Technical Papers](#)" or click on the appropriate link below).

The papers will also be thoroughly updated and peer-reviewed again to be published in a prestigious Post-Conference Book produced within the AIAA Progress in Astronautics and Aeronautics technical book series later this year.

Due to the substantial number of papers and the involved copy-editing process the papers will be posted sequentially starting mid of July. Once all papers are posted the direct links will be completed in the table below for easy access.

The papers carrying an asterisc (*) have not yet been copy-edited and can be accessed as they were presented during the SpaceOps2012 conference. All updated SpaceOps2012 "Best Topic" papers will be collected and published as hardcopy-book by AIAA under the title "Space Operations: Experience, Mission Systems and Advanced Concepts" by January 2013.

It should be mentioned that all the important "key-words" characterizing the SpaceOps2012 "Best Topic Papers" will also be entered into the "SpaceOps Wiki" for future easy reference.

	Title	Name	Institution	Country
Mission Execution (ME)				
1257086	Consideration of Space Debris Mitigation Requirements in the Operation of LEO Missions	Holger Krag	ESA	Germany
1257123 *	FAST: A new MEX Operations concept quickly!	Daniel Lakey	SciSys	Germany
1261910 *	Emergency Scheduling of Multiple Imaging Satellites with Dynamic Merging	Jianjiang Wang	National University of Defense Technology	China
1272635 *	Planning and Execution of Tele-Robotic Maintenance Operations on the ISS	Mathieu Caron	CSA	Canada
1275680	The operations of China's first lunar rover	Luhua Xi	BACC	China
1275915	Efficacy of the Dawn Vesta Science Plan	Carol Polanskey	JPL	United States
1276528	Simplify ISS Flight Control Communications and Log Keeping	David Scott	NASA	United States
1290887	TDX-TSX - On-board autonomy and FDIR of whispering brothers	Armin Schwab	Astrium	Germany
1294460	Innovative Rover Operations Concepts – Autonomous Planner (IRONCAP) – Supporting Rover Operations Planning on Ground	Robin Steel	VEGA Space	Germany
1295418 *	Pools: A More Efficient Way to Support Spacecraft Operations	Alessandro Codazzi	DLR	Germany
1346272 *	Reliable Prediction of van Allen Belt crossings using the Integral on-board Radiation monitor.	Michael Walker	SciSys	Germany
Data and Communications System Facilities (DCSF)				
1261897 *	Overview of the Laser Communications Relay Demonstration Project	Bernard Edwards	NASA	United States
1263854	Exchanging the central Storage System during Operations	Bernd Holzauer	Telespazio	Germany

1275117	Ten Times More Information in your Real-Time TM	David Evans	ESA	Germany
1275510*	CNES Ground Network renewal : challenges to increase capacity and to reduce costs	Jean-Marc Soula	CNES	France
1291254	Operations for parallel satellite support.	Marcin Gnat	DLR	Germany
1291658*	Location Independent Mission Operations: A Systems Engineering Approach to Mobile Device Data Dissemination	Edward Birrane	JHU/APL	United States
1296235	Automating Mid- and Long-Range Scheduling for NASA's Deep Space Network	Mark Johnston	JPL	United States
1311334*	Intrinsic Interoperability Of Services: A Dream Or A Key Objective For Mission Operation Systems	Mehran Sarkarati	ESA	Germany

Mission Design and Mission Management (MDMM)

1274874*	The International Space Station: Unique In-Space Testbed as Exploration Analog	Young Lee	JPL	United States
1285801*	Re-Engineering the Mission Operation System (MOS) for the Prime and Extended Mission	Joseph Hunt	JPL	United States
1293551	Mission Operations Preparation Environment: A new approach for the future	Simon Reid	RHEA	Belgium
1295834	The Keys to Successful Mission Extensions	David Seal	JPL	United States

Training & Knowledge Transfer (TKT)

1275361	Multi-Mission Operator Training Practices	Jennifer Reiter	LASP	United States
1275405	Gamification for Astronaut Training	Ferdinand Cornelissen	Nspyre	Netherlands

Cross Support, Interoperability, and Standards (CSIS)

1274906	Timeline as Unifying Concept for Spacecraft Operations	William-Kirk Reinholtz	JPL	United States
1290363*	The Delay-Tolerant Networking Experimental Network Constructing a cross-agency supported internetworking Testbed	Edward Birrane	JHU/APL	United States
1291553*	CCSDS Mission Operations Services for Mission Planning	Roger Thompson	SciSys	United Kingdom

Commercial Space Operations (CSO)

1295493	Commercial Collaboration For Collision Avoidance and Flight Operations	David Finkleman	Analytical Graphics	United States
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Launcher, Rocket & Balloon Operations (LBO)

1272937	NASA Space Launch System Operations Strategy	Joan Singer	NASA	United States
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University Space Operations (USO)

1296468	A University-developed Comprehensive Open-architecture Space Mission Operations System (COSMOS) to Operate Multiple Space Vehicles	Trevor Sorensen	Hawaii Space Flight Laboratory	United States
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e-Poster

1275210	EDRS operations at GSOC – relevant heritage and new developments	Ralph Ballweg	DLR	Germany
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