



International Committee on
Technical Interchange for
Space Mission Operations and
Ground Data Systems

SpaceOps Newsletter – Fall 2022

Dear SpaceOps Colleagues,

This edition of the SpaceOps Newsletter contains information of interest to the space operations community. *In this issue...*

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SpaceOps 2023 – Dubai UAE

Invest in Space,
to Serve
Earth
& Beyond

Hosted by
مركز محمد بن راشد
للفضاء
MOHAMMED BIN RASHID SPACE CENTRE

6 – 10
March 2023

SpaceOps 2023
DUBAI - UNITED ARAB EMIRATES

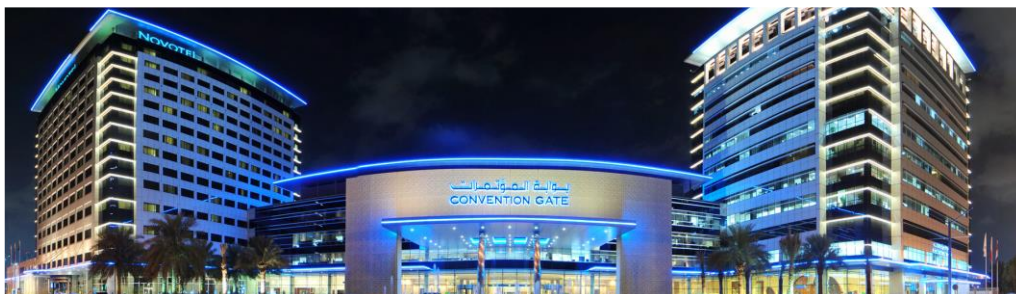
THE 17th INTERNATIONAL
CONFERENCE ON
SPACE OPERATIONS

Dubai World Trade Centre
Dubai, United Arab Emirates

Register NOW
spaceops2023.org

@SpaceOps2023

For the first time in the Arab world, the Mohammed bin Rashid Space Centre (MBRSC) will host the 17th edition of the International Conference on Space Operations – **SpaceOps 2023 March 6th - 10th in Dubai**. SpaceOps 2023 will be held at the Dubai World Trade Centre, the region’s largest events and exhibition venue, connecting people, products, and ideas from around the world. The much-awaited Face-to-Face conference is back on full scale providing International and regional scientists, practitioners, engineers, and leaders in the space industry a platform to meet again.





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Following the huge success of the previous virtual conference held by the South African National Space Agency (SANSA) SpaceOps 2021, we are aiming to attract more than 1,000 international experts coming from industry, academia, government, and agencies. It will give the opportunity for researchers and professionals to explore all aspects of space mission operations, including areas such as robotics, human, earth-orbiting, and deep space aspects of space operations. Registration is now open!

SpaceOps 2023 will also be a vital hub for sharing knowledge and experience on Space Operations. Providing valuable information on mission designs and management, operation concepts, artificial intelligence, and other topics that contribute to finding solutions for the future of humanity.

For more info, please visit www.spaceops2023.org.

Make sure to follow the official Twitter account [@SpaceOps2023](https://twitter.com/SpaceOps2023)

2022 Workshop Summary – Mountain View, California, USA

The SpaceOps 2022 workshop was held June 1-3, 2022 at NASA's Ames Research Center in California. It was attended by approximately 30 invited speakers and covered 3 topics: **Innovation, Lunar Operations, and Satellite Constellations & Swarms**.

Innovation included two types of innovation: incremental and disruptive. Incremental innovation typically refers to a new idea, method, or technology that incrementally advances an existing way of doing things. The Lunar Operations theme included: How are we going to make a permanent lunar presence operationally sustainable? Are we going to live off the land? What will lunar operational infrastructure look like, for example, for surface navigation? What will the role of the lunar surface operators and operators on Earth be? Finally, the Satellite Constellations & Swarms theme covered talks on efficiently operating satellite constellations, swarms and innovative ways to do that.

SpaceOps workshops are a very different experience from the conferences. Over a three-day period, ideas are generated, detailed discussions are held and the group develops a sense of cohesion. The next SpaceOps workshop will be hosted by the French Space Agency (CNES) and held in Toulouse in the summer of 2024.



SpaceOps Workshop Attendees – June 2022



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Journal of Space Operations & Communicator – October 2022 Edition

[The Journal of Space Operations & Communicator](#) (JSOC) is jointly published by the Space Operations and Support Technical Committee (SOSTC) of AIAA and the SpaceOps Organization. JSOC is an internationally registered online journal (ISSN 2410-0005) and acknowledged by the renowned ResearchGate platform (<https://researchgate.net>) specialized on scientific papers publication. The JSOC is in its 18th year and is published quarterly. Its editors are inviting and promoting submissions from its members and partners on all relevant topic areas related to space operations and ground support.

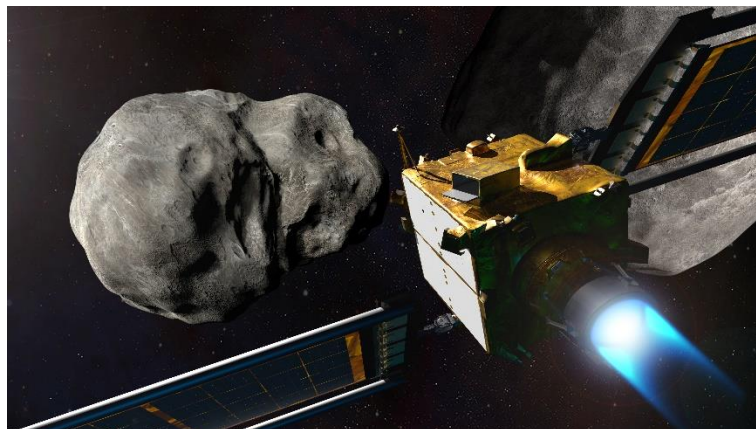
Representatives of agencies, academia and industry are encouraged to submit their work either to Ronald H. Freeman (ronaldhoracefreeman@gmail.com) Editor-in-Chief or Joachim Kehr (joachimkehr@aol.com) Editors SpaceOps News directly or use the contact information provided within the Journal.

The Quarter#4 Issue (Oct. 1, 2022) will carry among other articles and book reviews the following highlights:

- The future of human spaceflight
- 30 years of China's human spaceflight
- ESA/NASA re-ignite space based Solar Power

DART – NASA's Double Asteroid Redirection Test

The DART mission is NASA's demonstration of kinetic impactor technology that is designed to impact an asteroid to adjust its speed and path. DART will be the first-ever space mission to demonstrate asteroid deflection by kinetic impactor. The spacecraft was launched on a SpaceX Falcon 9 rocket out of Vandenberg Space Force Base in California on Nov 23, 2021.



Johns Hopkins Applied Physics Lab (APL) manages the DART mission for NASA's Planetary Defense Coordination Office as a project of the agency's Planetary Missions Program Office. DART is the world's first planetary defense test mission, intentionally executing a kinetic impact into Dimorphos to slightly



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change its motion in space. While the asteroid does not pose any threat to Earth, the DART mission will demonstrate that a spacecraft can autonomously navigate to a kinetic impact on a relatively small asteroid and prove this is a viable technique to deflect an asteroid on a collision course with Earth if one is ever discovered. The DART impact took place successfully on 26 September. You can find out more about the DART mission at <https://www.nasa.gov/planetarydefense/dart/dart-news>

360° – A Virtual Tour of the German Space Agency (DLR) Space Operations and Astronaut Training Facilities

A very impressive virtual tour of the German Space Agency (DLR) space operations and astronaut training facilities can be found at <https://www.rb.dlr.de/360/>. Visitors can choose their own 360° path through the facilities across the different DLR locations. This tour was created during the COVID-19 pandemic when the centers were closed for visitors. It shows and describes the control rooms, ground station and other facilities in Oberpfaffenhofen, Weilheim and Cologne. We hope you enjoy your tour!

EnMAP – German Hyperspectral Satellite

The German Space Operations Center looks back to a successful launch campaign of the Hyperspectral Satellite EnMAP (Environmental Mapping and Analysis Program). On April 1st 2022 it was brought into a Low earth orbit by a SpaceX Falcon 9. This was followed by 14 days (and nights) of early operations. In this time necessary equipment like thermal control and the camera instrument were activated. A commissioning phase of several months is now on-going before the routine phase will start in November 2022. Routine operations will also be conducted by GSOC using ground stations in Germany. Mission design life is 5 years. Find more info under

https://www.dlr.de/content/en/articles/news/2022/02/20220504_german-enmap-environmental-satellite-delivers-first-images.html and <https://www.enmap.org/>

Fall Committee Meeting Review – Darmstadt, Germany

The fall 2022 SpaceOps committee meetings were held August 29 – September 1 in Darmstadt, Germany. This was the 2nd “in person” meeting held since the COVID-19 pandemic and was well attended. The meetings were co-hosted by ESA-ESOC and EUMETSAT as each hosted 2 days in their facilities. This year the “fall” meetings were held earlier than normal to allow to the SpaceOps 2023 Technical Planning Committee enough time to review, accept and finalize the technical program for the March 2023 conference. The 4-day agenda included:

- Member reports of recent activities and accomplishments
- Status from Mohammed bin Rashid Space Centre (MBRSC) on the upcoming SpaceOps 2023 conference in Dubai



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- Updates from the Canadian Space Agency on their plans for the SpaceOps 2025 conference in Montreal, Canada (May 2025)
- Reports from the SpaceOps working groups: Awards, Communications & Outreach, Strategy and Policy and Workshops.
- Technical Planning sessions for the 2023 conference.
- Tours of operations facilities at ESA-ESOC and EUMETSAT.

The meeting was a great success as it achieved all goals on the agenda. It was also a bitter-sweet occasion as it marked the final time that the South African National Space Agency (SANSA) would be co-chairing the committee, before handing of the baton to CSA. Cheers to the SANSA team for all their hard work! Best of luck to MBRSC and CSA!



SpaceOps Committee Members Reunited in Darmstadt – August 2022

Join the SpaceOps Organization!

As the international space operations community grows, we encourage your organization to join SpaceOps. SpaceOps has recently created a new membership category for industrial members and other interested organizations. Participation in SpaceOps as a Partner or a Member will bring you beneficial association with the agencies and partner organizations focusing on space operations, allow you to help determine the content of the biennial conferences, and help shape the future of the community. Please forward this information to your colleagues and co-workers so that they too can stay on top of what is happening in space operations! To be added to the SpaceOps mailing list or for more information about becoming a Partner or a Member of the SpaceOps Organization, please email the SpaceOps Secretariat at secretariat@spaceops.org. For more information about the SpaceOps Organization visit <http://www.spaceops.org>.