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ABSTRACT DETAILS

Authors are invited to submit abstracts of no more than 750 words, at www.dasconline.org. Student papers and ideas for invited sessions are welcome. Please avoid the use of acronyms or abbreviations in the title of the paper.

All full paper submissions will be reviewed prior to final acceptance.

With each paper submission, please include a short biographical sketch of the author(s), mailing address, email, telephone, and fax numbers.



Please visit:

2017.dasconline.org

We welcome everyone to join us for the 36th DASC in St. Petersburg, FL!

CONFERENCE THEME

The conference theme for the 36th DASC is the design of technologies, procedures, and regulations to safely and efficiently accommodate a diverse spectrum of platform types into space and into modern civil airspace systems. Participants will be challenged to show how their work helps to develop, promote, or enable multiple classes of users (Commercial, Civil, General Aviation, Military, Recreational) access to space and global civil airspaces. Civil aviation faces challenges of new requirements and legacy platforms that can be expensive to modernize. The emergence of private and commercial space launch capabilities brings new challenges in technical, regulatory, and security arenas. An increased reliance upon automated systems puts fresh emphasis on the importance of Cyber security across the spectrum of user environments (ground, air, space). The continued growth of Unmanned Systems, especially among Recreational users, remain a significant factor in Air Traffic Management planning and risk mitigation. The progress of Commercial applications for automated transportation and delivery of goods and services (both ground and air) promises exciting capabilities but faces serious challenges in technologies, procedures, and government regulations. General Aviation users will soon include personal vehicles that do not require traditional airport infrastructures. Military aircraft (manned and unmanned) must soon obey the same requirements as Civil and Commercial platforms for domestic and international flight.

TECHNICAL CHALLENGES REMAIN

- Avionics designs to enable appropriate engagement with automated systems
- Decision-support tools to improve system state awareness and predict change
- Integrated information management systems (space, airborne, and ground-based)
- Systems that can monitor the hazard space with adequate time-to-avoid
- Airport operations affordability, reliability, and sustainability
- Environmental impact assessment and management (e.g., noise suppression)
- Reliable communications, navigation, and surveillance technologies

OTHER TOPICS

DASC will continue to offer opportunities to publish and present on a wide range of topics of interest to the avionics technology community (see next page).

PAPERS, PANELS, EDUCATION AND WORKSHOPS

The Technical and Professional Education Programs will incorporate hundreds of papers and dozens of tutorials from international researchers, innovators, engineers, users, and designers. There will be panel discussions and keynote presentations by engineering, management and operational leaders that are shaping international developments. Attendees can participate in active conversations with colleagues, researchers, and practitioners who are the experts and leaders in the field. We welcome you to join us and participate in the 36th DASC as we engage in the important issues of the aviation electronics ("avionics") industry!



TECHNICAL PROGRAM

Our theme is fundamental to the conference and will be used to frame our discussion on many topics during the technical program.

Topics of Interest Include, But Are Not Limited To:

Open Architectures

Open interface standards, viability of open and closed architectures, operating systems, ARINC-653, alternate API solutions, communication standards, use of Commercial-Off-The-Shelf (COTS) technologies; modularity vs. scalability

IMA Design, Integration & Optimization

Allocation process and tools for Integrated Modular Avionics (IMA) system resources and performance, integration tools, verification & certification, configuration strategies, scalability, assessing system demand and resource availability, mitigation of common mode failures, system maintenance, and optimization techniques.

Avionics Communications Infrastructure

Selfforming/healing networks, wireless networks, quality of service (QoS), data buses, intra-processor and inter-process communication, data partitioning, protocols, multi-protocol gateways, message routing, spectrum, and passenger communication mechanisms.

Integrated Avionics for Information Security and/or Integrity

Multiple Independent Levels of Security/Safety (MILS), physical & virtual system firewalls, data security for shared data buses, operating system security, information monitoring and quality assurance, information management.

Communications/Navigation/Surveillance (CNS) Systems

Communications systems, data links, satellite-based navigation and landing systems, inertial navigation, and surveillance systems for traffic and collision avoidance.

Human Factors

Issues on human interaction with automation such as mode awareness, flight deck displays and decision support tools, methods for avoiding the presentation of hazardously misleading information, and information abstraction and conveyance concepts that enable appropriate levels of workload and crew coordination.

Flight Deck Systems & Interfaces

Advanced systems, interfaces, and enabling avionics technologies that can combine multiple sources of disparate data to provide coherent and effective displays that also reduce the propensity for pilot error, confusion, or misinterpretation.

Systems Engineering, Design Methods, & Tools

Optimization of the hardware and software systems development process including solutions and lessons learned. Predictive capabilities with quantified confidence levels for uncovering latent design flaws or undesired performance characteristics.

Software Engineering

Development of large-scale systems with multiple design assurance levels, including novel approaches, processes and formal methods for design, testing, V&V and certification

Flight Critical Systems

Methods, techniques, and tools for the definition, design, verification, integration, validation, and certification of complex and highly integrated flight critical systems.

UAS/UTM

Issues, challenges, and opportunities unfolding from UAS developments. Of interest are designs and methods for testing and analyzing UAS into the airspace.

DASC always considers ideas for sessions and papers that feature subjects not covered by the above topics. If you are interested in leading a session or track, or for more information on the Technical Program, please contact our Technical Program Chair:

Miroslav Velez

Technical Program Chair

2017.dasconline.org/contact

PROFESSIONAL EDUCATION

DASC will offer two full days of Professional Education sessions spanning many engineering disciplines. These tutorials will be presented by educators and practicing professionals who are recognized experts in their field.

Topics may include for example: Basic and Advanced Avionics Systems; System Engineering; Integrated Modular Avionics; Space Systems; Surveillance and Collision Avoidance; Program Management; Synthetic Vision; Communications and Networks; Navigation Systems; Software Development, Test, and Certification (DO-178); Environmental Qualification (DO-160); System Safety; and many more. All professional education sessions will offer Continuing Education Units (CEUs) through IEEE. For more information, contact our Professional Education Chair via the conference website.

SPONSORS AND EXHIBITS

This year's conference will feature exhibits and product demonstrations by representatives of key avionics-related industries and institutions. To have your organization represented in our exhibit hall, please contact our Sponsors and Exhibits Chair via the conference website.