



Avionics Systems Technical Operations Panel Report

Giancarmine Fasano
Chair, Avionics Systems Panel

AESSE Board of Governors Meeting – Spring 2026
15-16 May 2026
Phoenix, AZ, USA

The Avionics Systems Panel (ASP) is composed of IEEE Associate or higher-level members who are representatives of industry, government laboratories, educational institutions and professional societies, and who are active in the domain of Avionics. Its main objectives are:

- Promote and support collaborative research initiatives in the domain of Avionics
- Develop and disseminate high-quality IEEE publications in the domain of Avionics
- Promote and support educational activities in the domain of Avionics
- Sustain and oversee the programs of the IEEE/AIAA Digital Avionics Systems Conference (DASC) and the Integrated CNS Conference; and contribute to other conferences and dissemination initiatives
- Manage the nomination and selection of candidates for IEEE Awards in the domain of Avionics
- Encourage submission of nominations for IEEE Fellows and Senior Members in the domain of Avionics
- Recommend and support new IEEE avionics standards or revisions of existing standards



- The ASP relies on a diverse community of experts (currently from US, EU, UK and Asia), contributing to the work of five different committees. The panel holds regular monthly meetings addressing the following topics, managed by separate committees:
 - **Research and Innovation (R&I).** Participation to NASA UTM and AAM activities; connections/collaborations with NextGen in the US and SESAR in the EU; other national and international Avionics/ATM/UAS programs; Collaborations with JARUS, ICAO, IFATCA, and others
 - **Publications.** Editorial Board and reviewer contributions to the Transactions on Aerospace and Electronic Systems and AESS Systems Magazine; Special Issues on Avionics, UTM/UAM and Space Systems; joint journal publication initiatives (e.g., Avionics Systems for Trusted Autonomy, Multi-Domain Traffic Management, Avionics Education)
 - **Conferences.** IEEE/AIAA Digital Avionics Systems Conference (DASC); IEEE/AIAA Integrated Communications, Navigation and Surveillance Systems (ICNS) Conference; IEEE/AIAA/PHM Aerospace Conference; other conferences
 - **Education Activities.** AESS Distinguished Lecturers/VDL Program updates; Webinars, Tutorials and Short Course initiatives
 - **Industry Engagement and Standards.** UAS/Autonomy, AI, V2X Communications, Cyber Security, etc.
 - **Nominations and Awards.** Senior Member/Fellow nominations and relevant awards

1. Research and Innovation:

1. **Continuous exchanges** on “hot” topics in the field: Advanced CNS/ATM systems and AI-based decision support systems, Integration of UAS in airspace, development of new aviation ecosystems (AAM), Air and Space Traffic Management
2. Revised **Avionics Challenge Proposal** developed in the framework of AESS TP Funding Initiative, to be shared with BoG
3. **Support and Collaboration** with Cyber-Security Panel and Glue Tech Panel for **AESS Grand Challenge**

2. Conferences and Publications:

1. **Active contribution** by ASP Members (Organizing Committee, Technical Program, Awards, etc) to **AESS Conferences**: ICNS 2026, AeroConf 2026, DASC 2026, NAVICON 2026
2. ASP Members **actively engaged in editorial activities** for IEEE AESS publications: Transactions on AES & AES Magazine
3. Ongoing work on **new IEEE Series book**

3. Education Activities:

1. Planned **public AESS tutorial at DASC 2026** on “Advances in Digital Avionics for Sustainable Aviation and Spaceflight Operations”
2. Continued to deliver **virtual and live Distinguished Lectures** on digital avionics and space systems
3. Developed the concept of a **new initiative**, i.e. **AESS PhD School and Short Course**. The initiative received support by other technical panels. Ongoing revision of funding request to AESS

4. Industry Engagement and Standards:

1. **On-going Interactions** with JARUS Automation WG
2. **On-going Interactions** with ICAO and other international WGs on environmental sustainability

5. Awards and Nominations:

1. **Recruitment** of new members following AESS guidelines
2. **Planned Support** for AESS awards

Research and Innovation

- **Continuous exchanges** on “hot” topics in the field: Advanced CNS/ATM systems and AI-based decision support systems, Integration of UAS in airspace, development of new aviation ecosystems (AAM), Air and Space Traffic Management
- **Support and Collaboration** with Cyber-Security Panel and Glue Tech Panel for **AESS Grand Challenge**

Research and Innovation

- **Revised ASP Challenge Proposal**
- Call for ideas, bottom-up approach
- Comprehensive approach requested: problem statement, solution description, validation strategy and results
- Different categories
 - Students (MS and PhD)
 - General
- Awards for both categories
- The revised proposal has been revised and will be sent to Tech Ops for approval



Conferences and Publications

1. Active contribution by ASP Members (Organizing Committee, Technical Program, Awards, etc) to **AESS Conferences: ICNS 2026, AeroConf 2026, DASC 2026, NAVICON 2026**

SEPTEMBER 13-17, 2026 | ORLANDO, FLORIDA, USA

DASC 2026

Digital Avionics Systems Conference

Theme: **Safe and Secure Digital Avionics in the Age of AI**

Tutorials: September 13-14, 2026
Conference: September 15-17, 2026



Orlando, Florida, USA - September 13-17, 2026

[Download Call for Papers](#) [Contact Us](#)

DECEMBER 9-11, 2026 | MUNICH, GERMANY

IEEE NAVICON 2026

Advancing Technology - Finding The Way



Munich, Germany
December 9-11, 2026
ADVANCING TECHNOLOGY - FINDING THE WAY

[Download Call For Papers](#) [Contact Us](#)

ICNS Conference 2026

The 26th Integrated Communications, Navigation and Surveillance Conference

14-16 April 2026
The Westin Washington Dulles Airport
Herndon, Virginia, USA

ICNS 2026 is an in-person conference.

Conferences and Publications

1. ASP Members **actively engaged in editorial activities** for IEEE AESS publications: Transactions on AES & AES Magazine
2. Ongoing work on **new IEEE Series book**
 1. Some chapters are completed (draft)
 2. Others are under development
 3. Slight changes in the original table of contents

2. Book Title

Advances in Avionics and Astrionics Systems

Education Activities

- As in the latest years, planned **public free AESS tutorial at DASC 2026** on “Advances in Digital Avionics for Sustainable Aviation and Spaceflight Operations”
 - Provides an opportunity for exchanges and to foster AESS Membership
 - In person format at DASC 2026
- Continued to deliver **virtual and live Distinguished Lectures** on digital avionics and space systems

Education Activities

- The ASP developed the concept of a **new initiative**, i.e. **AESS PhD School and Short Course**. The initiative received support by other technical panels. **Ongoing: revision of funding request to AESS**
 - When: beginning of September
 - Where: Rome (Italian Space Agency, university) or Napoli (university)
 - Format: 3 days of seminars, agenda to be set up (around 2 2h/3h seminars per panel)
 - Call for speakers
 - Topic, mode (in person, remote, uncertain), constraints
 - Possibility of AESS event

Industry Engagement and Standards

- **Industry Engagement and Standards:**
 - **On-going Interactions** with JARUS Automation WG
 - **On-going interactions** with ICAO and other international WGs on environmental sustainability
- Important role of ASP Members involved in JARUS

Awards and Nominations

1. Recruitment of new members following AESS guidelines

- Luca Manica, Collins Aerospace
- Peng Wei, GWU
- Paul Schrader, AFRL

2. Planned Support for AESS awards



- Complete the development of recently started initiatives of significant impact, such as
 - ASP Challenge
 - IEEE Series Book
 - Joint AESS PhD School and Short Course
- Continue to support AESS initiatives on conferences/publications
 - Support AESS conferences
 - Stimulate editorial activities
 - Stimulate high quality conference and journal submissions
- Increase ASP Membership trying to combine expertise and diversity
 - Industry, academia, government, regulatory entities