



CALL FOR PAPERS/PRESENTATIONS

AeroTech 2020

March 17-19, 2020 | Pasadena, CA

The SAE AeroTech provides a forum for the global aerospace community to meet and discuss current and future challenges, opportunities, and requirements of R&D, products, and systems. Technical sessions, panel discussions, and keynote presentations make up a program that provides value to the entire technical community, including engineers, scientists, designers, managers, and academia. The technical program will cover a broad spectrum of topics including from nose to tail, concept to sustainment. AeroTech also provides a venue for engineers participating on SAE committees and advisory bodies to meet and discuss industry standardization efforts and best practices. The event also provides opportunities for networking and personal discussion with other industry experts through networking breaks, exhibits, awards luncheon, and receptions.

Topics Under Consideration

Aerospace Operations

- Systems Engineering & Design
- Aerospace Modeling & Simulation
- Airspace Systems Operations

Auto Fastening / Assembly & Tooling

- Automated Drilling and Fastening Systems
- Advanced Portable Semi-Automated Drilling and Fastening Systems
- Assembly Methodologies & Advanced Assembly Fixtures and Tooling
- Composites Assembly and Fastening
- Composites/Heavy Drilling and Assembly
- Large Component Assembly, Sub-Assembly, Major Section Join and Final Assembly
- Robotic Applications in Drilling, Fastening, and Assembly
- Advancements in Drill Bit, Temporary and Permanent Fastening Technology

Aviation Cyber-Physical Security

- Threats and Risk Identification, Analysis, Mitigation, and Management
- Attack Detection, Incident Response, and System Recovery Solutions
- Security Standards/Certification and Stakeholder Collaboration Issues
- Common Cyber-Physical Security Issues for Transportation

Avionics

- Advanced System Architectures and IMA
- Software Platforms & Middleware

- Airborne Electronics Hardware Certification and DO-254
- DO-178C and Related Supplements: Impact on Certification
- Aircraft Networks & Fiber Optics
- Model-based Avionics System, Software, & Electronic Engineering
- COTS and Obsolescence Management
- Defense and Space Avionics
- RTOS and Software Platforms
- Display Technology and Visualization
- Flight Management Systems, Navigation & Guidance
- System Testing, Integration and Simulation
- Next-Generation Air Traffic Management
- Cabin Systems, In-Flight Entertainment
- Vehicle Internet of Things
- Artificial Intelligence impact on Safety and certification
- Human System interaction Crew Monitoring
- Design for Electro-Magnetic Effects
- Sensor Integration/Interfaces

Business/Economics

- Electrified Aircraft Concepts
- Aerospace Business Models
- Electrified Aircraft Propulsion Systems
- Government Programs
- Market Forecasts
- New Global Markets
- Aircraft for 2030 and Beyond
- Future Propulsion Technology
- Space Tourism

Environment

- Aircraft Cabin Environment
- Aircraft Design for Environment
- Alternative Fuels and Energies
- Emissions and Climate Impact
- Sustainable Materials and Processes
- Airport and Community Noise

Flight Engineering

- Aircraft Design
- Hybrid Flight Vehicle and Flying Cars Flight Testing
- Aircraft Icing and Aerodynamics
- Aero Stability and Control
- Aircraft Projects
- Computational Fluid Dynamics (CFD) Applications
- General Aerodynamics
- Aerodynamic Loads and Flutter
- High Speed Civil Aircraft
- Hybrid Airships and LTA
- Space Planes
- Propulsion Aerodynamics
- Urban Air Mobility - Flying Cars/Roadable Aircraft
- Urban Air Mobility - Flight Vehicles

Integrated Vehicle Health Management

- Data Fusion, Mining, and Processing
- Engine Condition Monitoring and Management
- Health Management - Propulsion
- Health Management - Subsystems

- IVHM Business Case
- IVHM for Power and Battery Systems
- IVHM Standardization
- IVHM System Design and Benchmarking
- Physics of Failure and Modeling
- Prognostics and Diagnostics
- Health Monitoring - Structures
- IVHM Validation, Verification, and Metrics
- Vehicle Level Health Management

Maintenance, Repair and Overhaul

- Regulatory Approvals and Oversight
- MNew and Emerging Maintenance Processes
- Instructions for Continuing Airworthiness
- Reduction of the Environmental Impact
- Introduction of a Safety Management System (SMS)
- Development of New Repair Processes
- Reverse Engineering for Obsolete or Out-of-Production Platforms
- General MRO Technical Issues

Manufacturing/Materials/Structures

- Advanced Low-Cost Aircraft Structures
- Advanced Robotics Applications including Aircraft Coatings, Polymers, and Sealant Technologies
- Automated Composites Manufacturing
- Composites Fabrications and Joining
- Composites for Aircraft Interiors
- Direct Digital Manufacturing
- Future Challenges and Opportunities in Composites Simulation and Software
- Lean Manufacturing, Six Sigma, & Supply Chain
- Metrology Automated Systems
- Out-of-Autoclave Processing
- Product Design and Manufacturing Integration
- RFID Applications in Aerospace
- Trimming, Drilling & Assembly of Composites Structures
- High Production Rate Capable Composites
- Tooling Development for Detail Part Fabrication and Aerospace Assembly
- Metal Fabrication and Processing

Propulsion

- Engine and Controls System Certification
- Powerplant Systems & Functionalities
- Propulsion and Integrated Controls
- Turbo-Machinery and Combustors
- Cyber Secure Propulsion Control
- Digital Twins – Propulsion
- Model Based System Engineering

Power and Thermal Systems

- Power Systems for Aerospace Applications
- Systems Integration: Optimized Aerospace Vehicle Energy Use
- Thermal Management for Aerospace Applications
- Integrated Propulsion, Power, and Avionics
- Energy Optimization

Safety

- Flight Operations Safety
- Ground Support Systems Safety
- Industry Safety Initiatives
- Infrastructure Safety
- Maintenance Safety
- Manned Space Flight Safety
- Reliability and Maintainability
- Safety Education
- System Architecture of Safety Critical Systems
- Systems Safety
- Unmanned Aerial Vehicle Safety
- Urban Air Vehicles

Unmanned Aerial Systems

- Aerodynamics
- Cooperative Systems
- Cyber-security
- Detect Sense and Avoid
- Flight Sciences and Operations
- Materials, Structures, and Manufacturing
- Propulsion Systems
- Remote Sensing & Payloads
- UAS Datalinks
- Safety, Certification, and Standards
- System Integration
- UAS Traffic Management and Trusted Autonomy
- Cognitive Human-Machine Interface
- UAS Human-Machine Interface

Vehicle Systems / Systems Engineering

- Flight Controls System Technology
- Flight Controls System Architecture
- Flight Controls Augmentation and Control Laws
- Systems Engineering
- Model-Based SE
- System Analysis
- Systems Architecture
- Systems Integration
- System Dynamics
- Systems Implementation & Transition
- Systems Design and Development
- System Life-Cycle
- System Reliability
- Test and Evaluation
- Risk Management

Emerging Topics

- (More) Electric Aircraft
- Additive Manufacturing
- Connected Aircraft / Advanced Flight Deck
- Composites Repair
- Digital Thread / Digital Twin
- Augmented / Virtual / Mixed Reality Applications in Manufacturing
- Digital and Data
- Cyber-Physical Security

Abstracts must be submitted online via website page to only ONE session. Offered papers shall not have been previously published; and if accepted, contributors will not release their paper for publication through other media.

Submission Rules

Abstracts must be submitted online via website page to only ONE session. Offered papers shall not have been previously published; and if accepted, contributors will not release their paper for publication through other media. The following information will be required during the on-line submission process:

1. A summary that states the objective of the paper/presentation
2. Tentative title
3. Name of the author and co-authors and all contact information
4. Selection of the most appropriate technical session

The following conditions and deadlines apply:

- Paper acceptance will be based on organizer moderated peer review of a review ready manuscript.
- Refer to the author resources site at sae.org/participate/volunteer/author for other useful information in preparing your paper.
- Portal for submission of abstracts will be open on March 25, 2019
- Abstract submission period: March 25 - November 15, 2019
- Review Ready Manuscripts due to session organizers November 4, 2019
- Final Manuscripts and copyright assignment due to SAE January 7, 2020

Upon submission, you will receive an automatic reply with your paper offer number. If you do not receive a paper offer number at that point, please retry on-line submission or contact Elise Sturgess at elise.sturgess@sae.org.

Authors will be charged a nominal registration fee for conference attendance.

General Author Resources Page
volunteers.sae.org/authors.htm

How to Write an SAE International Technical Paper
volunteers.sae.org/authors/sae_tech_paper.pdf

Reviewer Resources

If you are interested in becoming a paper reviewer, guidance and judgement information is provided here volunteers.sae.org/reviewers.htm

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