AIAA Science and Technology Forum and Exposition
5 – 9 January 2015
Gaylord Palms and Convention Center, Kissimmee, FL
www.aiaa-SciTech.org

Call for Papers

AIAA SciTech 2015 is the single most important event for anyone involved in aerospace research and development.

Dates to Remember

- **Abstract Submission Open:** 17 March 2014
- **Abstract Submission Close:** 2 June 2014, 2000 hrs Eastern
- **Author Notification Letters Sent:** 22 August 2014 (approximate)
- **Manuscript Open:** 1 October 2014, 0900 hrs Eastern
- **Manuscript Deadline:** 1 December 2014, 2000 hrs Eastern

[Abstract Submission Requirements](#)
The technical program of the AIAA Science and Technology Forum and Exposition (SciTech 2015) comprises the AIAA Aerospace Sciences Meeting and all of its constituent parts; the Guidance, Navigation, and Control Conference and its traditionally co-located conferences; as well as the Structures, Structural Dynamics, and Materials Conference and its traditionally co-located conferences; and the Infotech @ Aerospace conference. The forum technical program is being organized under three broad segments: Aerospace Sciences, Aerospace Design and Structures, and Information Systems.

This Call for Papers is organized consistent with the legacy events that now comprise the SciTech2015 Forum. Click on the links below to go directly to the Call for Papers for the conference or technical discipline area of interest to you:

**Aerospace Sciences**

Go to: [Aeroacoustics](#)
Go to: [Aerodynamic Measurement Technology](#)
Go to: [Air Breathing Propulsion Systems Integration](#)
Go to: [Aircraft Design](#)
Go to: [Applied Aerodynamics](#)
Go to: [Education](#)
Go to: [Fluid Dynamics](#)
Go to: [Gas Turbine Engines](#)
Go to: [Green Engineering](#)
Go to: [Ground Test](#)
Go to: [High Speed Air Breathing Propulsion](#)
Go to: [History](#)
Go to: [Meshing, Visualization, and Computational Environments](#)
Go to: [Plasmadynamics and Lasers](#)
Go to: [Propellants and Combustion](#)
Go to: [Society and Aerospace Technology](#)
Go to: [Space Operations and Support](#)
Go to: [Systems Engineering](#)
Go to: [Terrestrial Energy](#)
Go to: [Thermophysics](#)

Go to: [Atmospheric Flight Mechanics Conference](#)
Aerospace Design and Structures

Go to: Design Engineering
Go to: Materials
Go to: Structures
Go to: Structural Dynamics
Go to: Survivability

Go to: Multidisciplinary Design Optimization
Go to: 56th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference
Go to: 23rd AIAA/ASME/AHS Adaptive Structures Conference
Go to: 2nd AIAA Spacecraft Structures Conference
Go to: 17th Non-Deterministic Approaches Conference

Information Systems – Infotech @ Aerospace

Go to: Communications Systems
Go to: Computer Systems
Go to: Digital Avionics
Go to: Information & Command & Control Systems
Go to: Intelligent Systems
Go to: Sensor Systems
Go to: Software Systems
Go to: Unmanned Systems
Abstract Submission Requirements

Aerospace Sciences

The Aerospace Sciences segment of the SciTech2015 technical program provides the venue for the world’s largest multidisciplinary gathering of aerospace scientists and engineers for the dissemination of aerospace scientific knowledge and research results. General questions regarding the Aerospace Sciences segment of SciTech2015 should be addressed to the Technical Program Chair, Brett Ridgely.

Aeroacoustics

Papers are solicited that address computational, experimental, and analytical research, techniques, and innovative design concepts related to aeroacoustics. The program's technical content will include all aspects of noise generation, propagation, and control. Topics of specific interest include, but are not limited to:

- Airframe Noise and Airframe/Propulsion Integration
- Fan Noise and Duct Acoustics
- Propeller, Open Rotor, and Rotorcraft Noise
- Turbomachinery and Core Noise
- Jet Noise
- Community Noise
- Sonic Boom and Atmospheric Sound Propagation
- Advanced Testing and Measurement Techniques
- Computational Aeroacoustics
Aerodynamic Measurement Technology

Papers are solicited on topics related to advanced and novel aerodynamic measurement techniques for laboratory, ground-test or flight-test applications. Submissions are encouraged for all types of flows, including all speeds from incompressible to hypersonic, all thermodynamic conditions including plasmas and combustion, all scales from microfluidics to geophysical flows, and all diagnostic techniques from surface sensors to laser-based imaging. Papers should emphasize advancements or innovations in the measurement technique itself or its implementation, rather than the particular fluid dynamic problem to which the technique is applied.

- Velocimetry
- Thermodynamic state and species concentration measurements
- Surface measurements
- Planar, volume and time-resolved imaging techniques
- Spectroscopic techniques
- Aeroacoustic diagnostics
- Implementation in facilities with unique measurement challenges
- Novel calibration and data processing methodologies
- Uncertainty quantification and error analysis
- Novel measurement techniques and methodologies

Please direct questions to:
Philippe Lavioie

Back to Top >
Air Breathing Propulsion System Integration (ABPSI)

Integration of affordable and innovative propulsion systems has received renewed interest in recent years owing to new engine technologies, and exciting ways to exploit these technologies. For example, supersonic inlet systems can now be designed with the idea that inlet drag can be mitigated at off-design conditions by having the engine re-route air through a third stream while keeping the inlet operating on-design. Similarly, supersonic exhaust systems can now be made more versatile and affordable with additional air to reduce exposure temperatures. We seek to explore these technologies as they relate to propulsion system integration. With that in mind, papers are sought that address the following topics:

- Integration of Variable Cycle Engines
- Engine/Inlet Integration and Operability
- Engine/Exhaust System Integration and Operability
- Fuel-Efficient Propulsion System Integration
- Installed Performance and Controls
- Optimization of Propulsion System Integration
- Integration of Secondary Power Systems
- Innovations in Integration

Please direct questions to:

Charles Gaharan

Back to Top >

Aircraft Design

Papers are sought on all aspects of aircraft design. Topics such as design methodologies and processes, design tools, design integration, technology developments, innovative designs, case studies, and design education are welcome. Review papers on recent developments and trends in aircraft design are also sought. Design considerations such as environmental issues, energy optimization, noise reduction, electric aircraft systems,
reducing manufacturing/operating/life-cycle costs, etc are also important topics of interest. Applications to aircraft of all types are welcome including fixed and rotary wing, subsonic through hypersonic, micro air vehicles to jumbo jets, and manned or unmanned aircraft. Topic areas of interest include:

- Innovative aircraft design & design case studies
- Design for cost and manufacturing
- Unmanned aircraft design including micro air vehicle design
- Design processes and tools
- Impact of environmental issues on aircraft design
- Aircraft design education
- Electric aircraft design and impact of electric subsystems on aircraft design

Please direct questions to:
Gil Crouse

Applied Aerodynamics

The Applied Aerodynamics Technical Committee is soliciting papers on the topics listed below related to aerodynamic design, vehicle aerodynamics, and aerodynamic phenomena. The list includes six special session topics. Additional information regarding these invited special sessions can be found here.

- Aerodynamic Design: Analysis, Methodologies, and Optimization Techniques
- Aerodynamic–Structural Dynamics Interaction
- Airfoil/Wing/Configuration Aerodynamics
- Applied CFD & Numerical Correlations with Experimental Data
- Environmentally Friendly / Efficient Aerodynamics and Enabling Technology
- Flow Control Applications & Demonstrations (Active & Passive)
- High Angle of Attack and High Lift Aerodynamics
- Icing or Roughness Effects on Vehicle Aerodynamics
- Innovative Aerodynamic Concepts & Designs
Education

Aerospace engineering is both the most specialized and the most diversified of fields, thus challenging the aerospace community to effectively educate engineering students to meet a dynamic environment. As the complexity of our field continues to increase, the multidisciplinary aspects of the aerospace curriculum must be strengthened while maintaining or improving the more traditional fundamentals of engineering science. For this year’s meeting, papers are especially encouraged that address these issues, including but not limited to:

- Online course offerings–Challenges, Opportunities and Best practices
- Curricular development addressing the multidisciplinary nature of aerospace system analysis and design
- Best practices for ABET assessment
Broader innovative collaboration of industry and academia in engineering education
Innovative pedagogical initiatives
Better preparing graduates for a rapidly evolving work environment
Incorporating Sustainability, green engineering practices and entrepreneurship in the classroom

Please direct questions to:
K. Ravindra

Back to Top >

Fluid Dynamics

Papers are solicited in the areas of experimental, theoretical, and computational fluid dynamics relevant to aerospace applications, including basic research and development, applied research, and advanced technology development. Papers that present new insights into flow physics, introduce innovative applications, address emerging technical areas, or combine experimental, computational, and/or theoretical approaches are strongly encouraged. Authors who have recognized expertise in a particular area and are interested in writing a comprehensive review are encouraged to contact the technical discipline chair.

- CFD Methods
- High-order CFD Methods
- RANS/LES Modeling and Applications
- CFD Solution Adaptation and Optimization
- Uncertainty Quantification, Verification and Validation
- Flow Control (Fundamentals and Technology)
- Fundamental Fluid Flows
- Boundary-Layer Transition
- Turbulence
- Shock-Dominated Flows
- Low-Reynolds Number and Bio-Inspired Flows
- Wing Aerodynamics
- Unsteady Flows
- Reacting Flows
- Vortex Flows (Fundamentals)
Gas Turbine Engines

Papers are solicited in the disciplines of thermodynamics, aerodynamics, aeroelasticity, mechanical design and fabrication, combustion, heat transfer, icing, and controls as related to the science, research, technology development, and testing of gas turbine engines and related components for air vehicles in the subsonic and transonic flight regimes. Topics areas include, but are not limited to:

- Experimental and computational efforts related to gas turbine engines and components
- Techniques for the advancement of engine components: methods, materials, testing, instrumentation
- Methods for fluid, thermal, structural analysis of engine components; Engine analysis/simulation
- Compression system technologies in mitigating stall, shock and clearance flow loss mechanisms
- Combustion technologies, emissions, modeling; Pressure gain combustors; Fuel related technologies
- High and low pressure turbine technologies: advanced cooling concepts, high lift designs, durability
- Technologies in noise, efficiency; Open rotor; Inlets; Geared turbofans; Distributed propulsion
- Electric power generation; “Green”/environmentally friendly aviation; Alternative fuels
- Engine icing; Comparisons of engine flight test with ground test data and simulation results
- Auxiliary systems and structures, and their interaction with the primary engine system

Please direct questions to:
Jason Smith
Green Engineering

The Green Engineering Program Committee (GEPC) promotes a holistic, systems approach to improved energy efficiency, sustainability, renewable energy, and ‘cradle-to-cradle' design for the aerospace–relevant applications. The GEPC is soliciting papers that contribute to the body of knowledge for green aviation systems and green energy systems. Specific topics of interest to the GEPC's solicitation are:

- Green Manufacturing for Aerospace Applications
- Workforce Development/Education Needs for Green Engineering
- Life-Cycle Assessment for Green Aviation and Green Energy Systems
- Green Technologies not otherwise covered by other sections of this solicitation

Please direct questions to:
Franz–Josef Kahlen

Ground Test

Papers are solicited on unclassified topics involving Ground Testing (GT) and includes test techniques, test instrumentation and Ground Test Facilities (GTF) covering all aspects of aerodynamics, propulsion, and space systems using Experimental Fluid Dynamic (EFD) or Computational Fluid Dynamic (CFD) test techniques for all aerodynamic speed regimes and Reynolds numbers. Additional Details>
High Speed Air Breathing Propulsion

Papers are solicited which address the design, analysis, testing, and evaluation of technologies and systems that enable supersonic and hypersonic air vehicle propulsion. Topics of interest include:

- Advances in steady-state propulsion systems including ramjets, scramjets
- Advances in pressure gain combustion systems including pulse and rotating detonation engines
- Advances in combined cycle engines including rocket and turbine based engines
- Advances in fuel injection and thermal management systems
- Analytical/computational methods involving fluid, thermal, structural, or multidisciplinary analysis
- Comparison of numerical simulation with flight or ground engine test data
- Instrumentation, diagnostics techniques, and test methods
- Engine component materials and manufacturing

Please direct questions to:
Roman Paryz

Back to Top >
March 3, 2015, will mark the centennial of the passage of the Naval Appropriations Act of 1916 that included a rider creating the National Advisory Committee for Aeronautics (NACA). This anniversary offers us a chance to celebrate a century of contributions by scientists, engineers, workers and leaders who have made the NACA and NASA such a powerhouse in pushing the boundaries of aerospace knowledge. All papers on the history of aeronautics and spaceflight will be considered. Papers are sought that cover the most significant contributions of the NACA in both technology and management, significant individuals in NACA/NASA history, and that compare current NASA operations/practices with NACA operations/practices.

- National Advisory Committee for Aeronautics (NACA) Centennial
- Significant Individuals in NACA/NASA History
- Significant Contributions of the NACA in Technology & Management
- History of Aeronautics
- History of Spaceflight
- Aerospace Archives and Historical Collections
- Best Practices in Oral History Programs

Please direct questions to:
Bill Barry

Meshing, Visualization, and Computational Environments

The Meshing, Visualization, and Computational Environments TC solicits papers describing related tools and techniques that facilitate simulation of real-world problems in all areas of computational field modeling and simulation including computational fluid dynamics (CFD), computational aeroacoustics (CAA), computational solid mechanics (CSM), and computational electromagnetics (CEM). Although not limited to these topics, papers that describe advanced techniques and extreme applications in the following areas are particularly encouraged: Additional Details>
Grid quality metrics related to solution accuracy including real-world configurations
Meshing techniques, including surface and volume grids, and moving/deforming meshes
Applied meshing for real-world engineering applications
Solution adaptive meshing, error estimation and uncertainty quantification techniques
Overset mesh techniques and applications
Geometry modeling for meshing and simulation, including CAD–CAE interoperability
Visualization for feature detection, knowledge capture and engineering animation
Management of large data sets and comprehension of trends across multiple solutions
Interaction, automation, efficiency of preprocessing, execution, monitoring, and post-processing
Integration techniques and frameworks between unified multi-disciplinary and multi-scale models

Please direct questions to:
Hugh Thornburg

Back to Top >

Plasmadynamics and Lasers (PDL)

Papers are solicited describing basic and applied research in plasmadynamics and lasers. Papers may report original experimental, computational, and theoretical work in the general area of plasmas and lasers, and/or engineering achievements related to the application of plasma and laser technologies in aerospace systems. Papers concerning dual-use technologies which address non-aerospace issues of major public concern, such as energy, environment, and medicine, are also encouraged. Authors interested in writing a comprehensive review of the current state of the art are also desired. The PDL conference has a "Best Student Paper Award" for papers whose principle author is a student and is delivered by that student. [Please identify the principal author as a student (graduate or undergraduate student) at the time the abstract is submitted]. Suggestions for invited papers and joint sessions are also welcome. Comprehensive abstracts that state the purpose and scope of the work, methods used, and relevant contributions including figures and preliminary results are recommended for accurate evaluation. Areas of interest include, but are not limited to:
• Plasma and Laser Physics: including basic processes and non-equilibrium phenomena in plasma, MHD, weakly-ionized gases, and high-power lasers
• Astronautical Plasma Dynamics: including rarefied plasma flow relevant to spacecraft and electric propulsion; spacecraft-plasma interactions
• Plasma Aerodynamics: including plasma-based flow/boundary layer control; plasma-assisted combustion; plasma chemical kinetics; electrical discharge and shock propagation in gas-plasma; and other aspects of ionized gas flow
• Space and Planetary Plasmas: including solar wind and magnetospheric plasmas; dusty plasmas; plasma interactions on the lunar surface and at asteroids
• Plasma and Laser Technologies: including materials processing; plasma actuation; hazardous materials disposal; high-power gas discharge and plasma generation decides; pulse power; high temperature systems; etc.
• Computational Methods for Plasmas and Lasers: including computer particle simulation; computational MHD; computational electromagnetics; parallel computing algorithms; etc.
• Diagnostics and Experimental Techniques for Plasmas and Lasers: including development and utilization of laser/plasma diagnostics; aero-optics; flow field characterization; laboratory simulation of space environments; plasma propulsion testing; etc.

Please direct questions to: Joseph Wang

Propellants and Combustion

Papers are sought from all areas of combustion and propellants relevant to aerospace sciences, technologies, and applications. The Combustion and Propellant Technical Committee will organize several invited sessions to present overviews of technical challenges and recent progress. New developments as well as review papers and presentations are of interest. Potential topics include the following subject areas:

• Rocket and Air-Breathing Combustion
• Detonations, Explosions, and Supersonic Combustion
• Spray and Droplet Combustion
• Combustion Chemistry
Society and Aerospace Technology

The Society and Aerospace Technology Technical Committee examines societal benefits of aerospace technologies and products as well as the relationship between aerospace and society, culture, and the arts. Abstracts are solicited that address these and related issues. Areas of interest include, but are not limited to:

- Social Impacts of Aerospace Technology and their Spin-Offs
- Influences of Aerospace Technology on Popular Culture (Art, Literature, Movies/TV, & Music)
- Utilization of Aerospace Assets to Address Social Problems
- Influences of Aerospace Technology on Popular Culture (e.g., Artwork, Literature, Movies, Television, and Music)
- Societal Issues Involving the use of Aerospace Technologies (UAS, satellite imagery)
- Astrosociology
- Space Medical Technology and Medical Astrosociology
- Group Dynamics & Societal Institutions in Isolated Communities (Space Settlements, Antarctica)
- Sociology and Social Psychology of Aerospace Teams
- United States or International Aerospace Policy-Making and its Social Consequences
Small Satellites

Small spacecraft are gaining in prevalence. This technical area includes technologies for small spacecraft and their use for scientific and operational missions. Also included are relevant supporting areas such as education and workforce development activities which are specific to small satellites. Papers are sought in the areas of:

- CubeSats and PocketQubes
- Chip/Board Sats
- 10 kg – 75 kg spacecraft
- University-class spacecraft
- Science Missions
- Supporting technologies (automation, propulsion, ADCS, etc.)
- Education, workforce development and public outreach

Space Operations & Support

Space Operation and Support is a cross cutting discipline which draws from many aspects of operations. The discipline is concerned with all aspects of civil, military, and commercial space operations and support, including direct and supporting operations, the systems and software affecting operations, and space operations and operational risk management. The discipline addresses all space operations, including manned and unmanned space operations from low Earth–orbit to deep–space systems. It is involved with all phases of mission operations, including pre–launch and launch activities, early mission
commissioning activities, on-orbit activities, cruise and encounter activities, post-landing activities, and end-of-life operations. The discipline likewise addresses space related operational support activities, including training, servicing, mission planning, flight dynamics, telemetry transmission, command and control, and data handling, processing, analysis, and storage. We seek to improve all these aspects of space operations by increasing the exchange of knowledge among those actively engaged in space operations, documenting the results, and making those results available to the broader space systems community.

- Leveraging Lessons Learned from Manned and Unmanned Space to Improve Commercial Space Operations
- How Do We Analyze and Track Anomalies So We Don't Make the Same Mistake Again
- Challenging Concepts to Incorporate Into STEM Education
- Incorporating Risk Management Into Operations so it's Affordable
- What do We Know from Earth Orbit that we can apply to deep space and vice versa
- What do we do about design issues we find after launch to pass on to future missions
- New concepts for design to fly competitions

Please direct questions to:
Larry Bryant

Back to Top >

Systems Engineering

Papers in all areas of systems engineering (SE) are encouraged. All types of papers will be considered, including case studies, developmental work and technical analysis. Topics include but are not limited to systems engineering applications, integrated disciplines and technology, future trends and predictions in systems engineering, systems engineering education and research, and systems engineering life cycle processes and systems effectiveness.

- Systems Engineering Applications
- Systems Engineering Education
- Systems Integration and Technology
Terrestrial Energy

The Terrestrial Energy Systems Technical Committee is sponsoring sessions on the use of aerospace technology in ground-power systems. Papers are solicited on development and application of technology common to the aerospace and terrestrial energy communities. Experimental, computational, and theoretical papers dealing with fundamental and applied energy conversion technologies will be considered for presentation.

- Combustion modeling and measurements
- Active and passive combustion control
- Gasification and related technologies
- Clean and alternative fuels
- Sustainable energy sources
- Energy efficiency and waste reduction
- Energy–power system efficiency and economics
- Advanced materials for energy systems
- Thermal and fluid behavior in power systems
- Renewable energy systems: wind, bio, hydro, geothermal, solar, and others

Please direct questions to:
Ryo Amano
Thermophysics

The Thermophysics Technical Committee solicits abstracts of proposed papers on topics in thermophysics and heat transfer. Papers are solicited on topics related to all aspects of thermal energy, heat transfer, and their related aerospace applications. Contributions based on analytical, numerical and/or experimental studies are welcomed. Scientific and technical contributions are emphasized, rather than status reports on work in progress. Timely survey and review articles are solicited. Student submissions are strongly encouraged. Areas of specific interest include, but are not limited to:

- Ablation and Surface Catalysis
- Aerothermodynamics
- Cryogenics
- Direct Simulation Monte Carlo Methods
- Heat Pipes
- Heat Transfer
- Micro/nanoscale heat transfer
- Non-equilibrium flows
- Non-equilibrium flows and radiation
- Thermal protection systems
- Other Thermophysics Topics

Please direct questions to:
Alina Alexeenko

Atmospheric Flight Mechanics Conference

PLEASE SUBMIT DRAFT PAPERS, NOT EXTENDED ABSTRACTS. The AIAA Atmospheric Flight Mechanics (AFM) Conference provides a forum for presentation and discussion of all technical areas related to atmospheric flight. It brings together experts from industry, government, and academia on an international level. Presentations will cover the topics of aircraft dynamics, unsteady and high-angle-of-attack aerodynamics, flying qualities,
system identification, aerospace vehicle flight testing, projectile and missile dynamics, UAVs, expendable and reusable launch vehicles, and reentry and aeroassist vehicles.

Papers are invited that address new findings and/or innovative approaches in computational, experimental, or theoretical development; flight testing; research and development; or simulation results. Areas of interest for this conference include, but are not limited to: aerodynamic performance; trajectories, attitude dynamics, and evaluation of conventional aircraft as well as vehicles of unusual configurations, including unmanned systems and unmanned combat aerial vehicles (UCAV), expendable and reusable launch vehicles (ELV/RLV), and short take-off vertical landing vehicles (STOVL); hypersonic platforms; flying qualities and aircraft–pilot coupling phenomena; missiles; spacecraft; reentry vehicles and vehicles moving through planetary atmospheres; response to atmospheric disturbances; bio-inspired flight mechanics and aircraft icing. In addition, papers are encouraged that deal with education and design in the field of atmospheric flight mechanics, multidisciplinary efforts, and international collaboration projects. Student papers are also eligible for the Best Student Paper Competition. Topics covered include:

Additional Details>

- Aerodynamic Prediction Methods
- Aircraft Flight Dynamics, Handling Qualities, and Performance
- Launch Vehicle, Missile, and Projectile Flight Dynamics
- Small/Mini/Micro Aerial Vehicles
- Atmospheric Entry, Hypersonic Flight and Aeroassist Technology
- Aeroservoelastic (ASE) Control, Modeling, Simulation, and Optimization
- Biomimetic Flight Mechanics
- High Altitude Long Endurance Flight Mechanics and Performance

Please direct questions to:
Francis Priolo

Back to Top >

Guidance, Navigation, and Control Conference
PLEASE SUBMIT DRAFT PAPERS, NOT EXTENDED ABSTRACTS. Papers covering all aspects of guidance, navigation, and control of aerospace systems may be submitted. Specifically, papers should describe novel analytical techniques, applications, and technological developments in areas such as: the guidance, navigation, and control of aircraft, spacecraft, missiles, robotics, and other aerospace systems; general aviation; in–flight system architecture and components; navigation and position location; sensors and data fusion; multidisciplinary control; and GN&C concepts in air traffic control systems and high–speed flight. Additional Details>

- Control Theory, Analysis, and Design
- Intelligent Control in Aerospace Applications
- Mini/Micro Air Vehicle Guidance, Navigation, and Control
- Aircraft Guidance, Navigation, and Control
- Missile Guidance, Navigation, and Control
- Space Exploration and Transportation Guidance, Navigation, and Control
- Spacecraft Guidance, Navigation, and Control
- Multi–Vehicle Control
- Aerospace Robotics and Autonomous/Unmanned Systems
- Human and Autonomous/Unmanned Systems
- Sensor Systems for Guidance, Navigation, and Control
- Novel Navigation, Estimation, and Tracking Methods
- Invited Sessions

Please direct questions to:
John Reed

Back to Top >

Modeling and Simulation Technologies Conference

The Modeling and Simulation Technologies Conference provides an opportunity for aviation and aerospace professionals to share their recent work and latest findings in the
development and application of modeling, simulation, and simulators. Modeling and Simulation have been demonstrated to enable innovative solutions to overcome challenges and create new opportunities for aerospace science, research, and development. The conference is intended to foster collaboration and help build professional relationships. Experts willing to share their thoughts, as well as those people seeking fresh knowledge and ideas, are encouraged to participate. Papers are sought which address topics including: Additional Details>

- Modeling of Vehicle Dynamics, Systems, and Environments
- Modeling of Space Systems and Dynamics
- Modeling Uninhabited Aerial Systems and Vehicle Dynamics
- Modeling and Simulation of Air Traffic Management
- Model and Simulation Design, Development, Testing, and Validation
- Motion Systems, Visual Systems, Image Generation
- Human Factors, Perception, and Cueing
- Hardware in the Loop
- Special Modeling and Simulation Topics
- Multi-Domain Simulation Integration

Please direct questions to: Daniel Keating

Back to Top >

8th Symposium on Space Resource Utilization

Papers are solicited which address research and development of technologies, processes, and hardware that demonstrate the utilization of space resources. Topic areas encompass any aspects or applications of resource utilization in support of human or robotic exploration to destinations such as the moon, Mars, and Near-Earth Objects. Areas of interest may include, but are not limited to: Identification of resources via local prospecting, sample return, or remote detection; production of mission consumables (such as water, oxygen and fuel) from local regolith material and/or atmosphere; physical manipulation of surface material including mining, excavation, beneficiation, dust
mitigation, and surface transportation; processing of local resources for value added products (e.g. construction materials or for earth markets); and integration of space resource production into mission architectures and systems such as propulsion and life support.

- Production and Processing of Resources
- Surface Material Manipulation and Transport
- Resource Identification, Prospecting
- Resource Enabled Mission Concepts

Please direct questions to:
Julie Kleinhenz

Back to Top >

33rd ASME Wind Energy Symposium

Papers are solicited for the 33rd ASME Wind Energy Symposium covering a broad range of topics related to wind energy technology for both land-based and offshore siting. Technical areas of interest include Aerodynamics, Aeroelasticity, Acoustics, Dynamics and Control, Structures, Structural Dynamics, Materials, Design, System Engineering and Economics applied to wind energy systems.

- Aerodynamics and Aeroacoustics
- Aeroelasticity and Structural Dynamics
- Blade and Turbine Design
- Loads, Dynamics, and Controls
- Innovative Airfoil and Rotor Concepts
- Sensors, Testing, and Health Monitoring
- Materials, Manufacturing, and Reliability
- Atmospheric Physics and Inflow
- Wind Farm and Turbine–Wake Interactions
- Offshore Wind Systems
Aerospace Design and Structures


56th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference

The AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference provides a unique forum dedicated to the latest developments in the collective disciplines of structures, structural dynamics, materials, design engineering, and survivability. Topics include integrating the fundamentals of materials development into structural design so as to accelerate the transition of materials technology needed to create efficient, innovative, and flightworthy aircraft and spacecraft structures.

Design Engineering

Papers are solicited on design engineering, design process and design education in the aerospace industry, as well as industries employing similar design techniques. Design-oriented papers should focus on innovative, novel, or otherwise distinctive designs or concepts resulting in or leading toward products that effectively satisfy requirements or
demonstrate design efficiency improvements. Design process–oriented papers should focus on process definition, analysis, architecture, and metrics, as applied to aerospace hardware products from the exploratory design phase through the detailed design phase. Papers on advances in model based design processes and related activities are especially encouraged. Education–oriented papers are solicited that emphasize design in curriculum development, class content, student design/build activities, and student access to space. Computer Aided Enterprise Systems papers are solicited that emphasize the emerging technology of crowdsourcing using cloud computing to determine how it might be customized and scaled up for use in the global commercial aerospace industry.

- Innovative & Creative Designs in Aerospace
- Novel Designs in Other Industries
- Improved Designs Using MDAO
- Design Processes and Tools
- Emerging Design Tools
- Model Based Design
- Knowledged Based Engineering
- Design Education – Successful STEM in K–12
- Design Education – University Curriculums, Projects and Activities
- Computer Aided Enterprise Systems

Please direct questions to:
E. Russ Althof

Back to Top >

Structures

The field of structures encompasses the mechanics of metallic and non–metallic components and their composite derivatives, obeying elastic and nonelastic constitutive laws. Specific areas of interest include: thermal response, structural stability and post–buckling behavior, computational structural mechanics, nondeterministic methods, probabilistic design and uncertainty analysis; weight, reliability, and design cycle cost tradeoffs; structural integrity; durability and damage tolerance; damage detection, structural health monitoring, and novel repair concepts; advanced applications; development; verification, validation, and qualification; knowledge–based engineering; and
simulation-based design. Also of interest are papers outlining structural development, analysis, and testing related to current programs and events such as recent aircraft challenges, space exploration, and current civil and military aircraft programs.

Papers are particularly encouraged that emphasize the development and testing of innovative structural systems including multifunctionality, coupling of design and manufacturing to enhance affordability, and techniques for design/analysis cycle time reduction. Special Session Descriptions>

- Special Sessions in Honor of Prof. Harry H. Hilton
- Integrated Computational Materials Engineering
- Impact Damage in Composites
- Structural Repairs
- Composite Laminate Optimization
- Educating 21st Century Aerospace Structural Engineers
- Developments and Application of Open Source Software in Structural Mechanics
- Recent Progress in Composite Fatigue Damage Prediction Methods
- Design, Test and Analysis of Composite Structures
- Air and Space Survivability
- Aircraft Structural Design
- Structural Joints
- Buckling, Fatigue, and Fracture of Structures
- Failure Analysis and Prediction
- Other Topics in Structures

Please direct questions to:
Alex Selvarathinam

Structural Dynamics

The field of structural dynamics covers the study of response, stability, control, and adaptation of aerospace structures exposed to a wide variety of external and internal excitations. Such excitations can arise from the coupling of multiple disciplines such as
aerodynamics, thermodynamics, acoustics, controls and flight mechanics; interactions between multiple components such as wings, rotors, pylons, airframe, engines and drive systems; and high intensity external disturbances such as gusts, acoustics, shocks, impact, or thermally-induced loads that occur in the operational environments of real systems. Papers are invited which report on the fundamental understandings of such phenomena, the development of new analytical, computational, and experimental methods for their prediction and analysis, and innovative methodologies for the design, development and deployment of advanced technology structures and components that exploit or mitigate them. The following list identifies the broad topics of interest but is not intended to be all inclusive.

- Structural Dynamic Modeling of Beams, Cables, Membranes, Plates and Shells
- Large-Deformation Nonlinear Dynamics, Flexible Multibody Dynamics, Contact/Constraint Modeling
- Computational Aero-, Servo-, Thermo-elasticity, Robust Numerical Methods, and Reduced Order Modeling
- Dynamic Testing Techniques, Novel Sensors and Actuators; Modal Analysis, System Identification
- Active/Passive Vibration Control, Isolation, Stability Augmentation, Energy Harvesting, Damping
- Structural Health Monitoring and Prognosis, Model Uncertainty
- Vehicle and Component Response to Gust, Acoustics, Shocks, Impact, and Thermal Loads
- Flutter, Limit Cycle Oscillations, and Ground/Air Resonance; Aeroelastic Tailoring and Morphing
- Dynamic Loads, Response, Vibration, and Stability of all Aerospace Vehicles
- Fixed-Wing Aircraft in Subsonic, Transonic and Hypersonic Flight Regimes
- Rotary-Wing Aircraft, Propellers, Turbo-machinery and Wind Turbines
- Micro Air Vehicles, Flapping Wing Aircraft, and other Biologically-Inspired Aircraft
- Special Sessions and Other Topics in Structural Dynamics

Please direct questions to:

Anubhav Datta
Materials

In the field of materials, papers are sought on topics related to current and cutting-edge research and development of aerospace and non-aerospace materials and associated models. Submissions are encouraged in topic areas that include modeling, synthesis, processing, testing, and characterization. Application papers may include, but are not limited to, structural and nonstructural, adaptive, smart, and affordable materials. Special focus areas include multifunctional materials and their effects on structural systems, material development, constitutive models, manufacturing process models, material property models, novel experimental methods, coatings and protection, optimization, trade studies, lifecycle studies, affordability, inspection, repair, maintenance, and environmental impact. Papers on experimental and analytical methods that lead to understanding of mechanical performance, environmental sensitivity, fatigue and fracture, time- and rate-dependent behavior, durability, damage tolerance, aging, and in-service performance are included in this solicitation. Special emphasis will be given to new and emerging technologies, such as nanostructured materials, multidimensional composites, cryogenic materials, advanced fiber forms, polymers, metallics, lightweight, super-lightweight materials, multifunctional materials and progress toward integration of these material models into the product development process. Topics of interest include, but are not limited to:

- Testing & Characterization [Additional Details>
- Multiscale Modeling
- Fatigue & Fracture [Additional Details>
- Nanostructured Materials
- Multifunctional Materials
- Materials and Design for Additive Manufacturing [Additional Details>
- Constitutive Modeling and Metallics
- Material Development & Processing [Additional Details>
- Advanced or Hybrid Composites for Lightweight Structures [Additional Details>
- Integrated Computational Materials Engineering [Additional Details>

Please direct questions to:
John F. Malik

[Back to Top >]
Survivability

The AIAA Survivability Technical Committee is pleased to announce a call for abstracts for the 56th Structures, Structural Dynamics, and Materials Conference, part of SciTech 2015 and sponsored by AIAA, ASME, ASCE, AHS, and ASC. The Survivability Technical Committee promotes the development of survivability as a design discipline, seeking articles addressing: (i) susceptibility, i.e., the inability to avoid a man-made hostile mission environment, (ii) vulnerability, i.e., the inability to withstand a natural or man-made hostile environment, and (iii) recoverability, i.e., the long-term post-hit effects, damage control and firefighting, capability restoration or (in extremis) escape and evacuation ability. Of particular interest are articles addressing survivability modeling and simulations, survivability test and evaluation, and survivability enhancement techniques. Topics of interest for the survivability sessions include (but are not limited to):

- Crashworthiness
- Orbital debris avoidance and protection
- Laser and directed-energy weapons vulnerability assessment and reduction
- Survivability of structural systems
- Survivability of materials
- Aerospace system safety and protection
- Vulnerability reduction through damage tolerance
- Vulnerability reduction through design configuration
- Survivability modeling and simulations
- Special sessions and other topics in survivability

Please direct questions to:  
Julian J. Rimoli

Back to Top >

23rd AIAA/ASME/AHS Adaptive Structures Conference
Adaptive Structural Systems by definition are intelligent, flexible systems that are responsive to ever changing environments. This conference provides a forum to actively discuss the latest breakthroughs in smart structures, the cutting edge in adaptive structure applications and the recent advances in both new device technologies and basic engineering research exploration. Papers are invited in areas broadly ranging from basic research to applied technological design and development, to industrial and governmental integrated system and application demonstrations. Topic areas of interest include:

- Adaptive Aircraft and Space Vehicles
- Space and Planetary Systems and Subsystems
- Adaptive and Morphing Aircraft and Aeroelasticity
- Adaptive Skins for Wings and Rotors
- Active Noise and Vibration Control
- Biomimetic adaptive flying systems
- Modeling, Simulation, and Optimization of Adaptive Structures
- Smart Sensor and Actuator Device Design
- Structural Health Monitoring and Damage Detection and Integrity
- Smart and Multifunctional Materials

Please direct questions to:
David McGowan

2nd AIAA Spacecraft Structures Conference

The Spacecraft Structures Conference provides an opportunity to discuss recent research findings, newly proposed concepts and applied demonstrations emerging from spacecraft technology. The Spacecraft Structures Technical Committee is focused on the unique challenges associated with structural systems that operate in a space based environment. This forum is specifically focused on the challenges of design, analysis, fabrication and testing of those lightweight structural systems that must be ground tested in a simulated zero gravity condition, and are subjected to launch loads, deployment loads, and the space environment. Papers are invited in a broad range of areas from academia, government and industry. Topics of interest include:
Flexible composite materials and structures
Solar sails, solar shields, and other tensioned membranes
Spacecraft booms and trusses
Spacecraft antennas, reflectors, optical apertures, and solar arrays
Inflatable space structures
Membrane mechanics and dynamics
Packaging and folding of spacecraft structures
Testing of lightweight spacecraft structures
Analysis of lightweight spacecraft structures
Special sessions and other topics in spacecraft structures

Please direct questions to:

John Hinkle

Multidisciplinary Design Optimization

Multidisciplinary design optimization (MDO) focuses on optimizing the performance and reducing the costs of complex systems that involve multiple interacting disciplines, such as those found in aircraft, spacecraft, automobiles, industrial manufacturing equipment, and various consumer products, and also on the development of related methodologies. MDO is a broad area that encompasses design synthesis, sensitivity analysis, approximation concepts, optimization methods and strategies, artificial intelligence, and rule-based design—all in the context of integrated design dealing with multiple disciplines and interacting subsystems or systems of systems. Topics of interest include:

- Fundamental Methods, Algorithms & Topology Optimization
- Uncertainty & Reliability Methods & Algorithms
- Tools & Processes
- Aircraft Design Applications
- Aeroelastic & Aerostructural Optimization Applications
- Propulsion / Airframe Integration Applications
- Power & Thermal Management Applications
- Other Optimization Applications
- Special Sessions and Other Topics in Multidisciplinary Design Optimization
The need for Non–Deterministic Approaches (NDA) to manage uncertainty is well recognized within the aerospace industry. These approaches, which include both probabilistic and non–probabilistic methods, provide treatment of high consequence events associated with the development and operation of aerospace systems. The NDA conference is dedicated to the development and dissemination of non–deterministic perspectives, methods, and applications.

- Stochastic simulation and finite element methods
- Optimization under uncertainty
- Model verification and validation
- Non–deterministic methods
- Uncertainty quantification and management
- Random fatigue, fracture and life prediction
- Probabilistic Methods for Diagnostics & Prognostics
- Reliability
- NDA for Manufacturing and Integrated Computational Materials Engineering
- Special Sessions and Other Topics in Non–Deterministic Approaches

Please direct questions to:
Markus Peer Rumpfkeil
Information Systems – Infotech @ Aerospace

The Information Systems—Infotech @ Aerospace segment of the SciTech2015 technical program provides a collaborative opportunity to share technical insight by professionals from Computer Systems, Communications Systems, Digital Avionics, Information and Command and Control Systems, Intelligent Systems, Sensor Systems, Software, and Unmanned Systems. General questions regarding the Information Systems—Infotech @ Aerospace segment of SciTech2015 should be addressed to the Technical Program Chair, Chris Tschan. Additional Details >

Back to Top >

Communications Systems

As the use of Unmanned Aerial Vehicles/ Unmanned Aerial Systems (UAV/UAS) proliferates and the amount of data needing to be exfiltrated or relayed through these aerial platforms continues to rise, it is stressing the existing communications system designs and is imposing a whole new set of risks and vulnerabilities to these networks. Papers are solicited to address these growing communication needs and complexities of UAV/UAS networks. Areas of interest include but are not limited to:

- Advanced Communication Techniques for Aerial Platforms
- Waveform Design for Airborne Networks
- Satellite Communications for Aerial Platforms
- Airborne Networking Design and Deployment
- Network Management Systems for Airborne Networks
- Ground and Space Entry Points and Gateways for Airborne Networks
- Aerial Vehicles as Network Relays and Gateways
- Optical Communications for Aerial Platforms
- Cyber Security for Unmanned Aerial Networks

Please direct questions to: Jim Dimarogonas
Computer Systems

Papers are sought on theoretical and practical considerations involving the applications of computers and information processing techniques to aerospace systems. Challenges in such applications require advances in various aspects of computer systems and related technologies. Specific topics of interest are listed below. Additional Details>

• Energy Efficient Computing Systems
• Cybersecurity and Information Assurance
• Plug-and-Play Mechanisms
• Real-Time Embedded Computing Technologies
• High Performance Computing

Please direct questions to:
Joseph Collins

Digital Avionics

Papers are sought on all aspects of digital avionics needed for safe and efficient operation of civilian, military, and UAS vehicles in the national airspace system. Such systems will require integrated avionics systems both in the vehicle and in the NextGen air traffic management system. Areas of interest include avionics technologies for:

• UAS Traffic Management;
• Performance–based operations in NextGen
• Ensuring Compliance of Military Aircraft in Civilian airspace
• Safety Impacts of Complex Electronic Hardware
• FAA NextGen and EuroControl SESAR Interoperability
• Flight Critical Systems
Information & Command & Control Systems

Papers are sought in the area of "system of systems" perspective of the conception, implementation, and sustenance of information and command and control systems (IC2S) with regards to network-centric and cyberspace operations within the aerospace community. Areas of interest include, but are not limited to:

- Command and Control Concepts for Cybersecurity
- Network-Enabled Command and Control Systems
- System-of-Systems and Complex Systems Approaches for Command and Control Systems
- Cybersecurity and Cyber Situational Awareness in Command and Control Systems

Please direct questions to:
Mike Sotak

Intelligent Systems

Papers are sought in all areas of application of Intelligent System (IS) technologies and methods to aerospace systems, the verification and validation of these systems, and the education of the AIAA membership in the use of IS technologies in aerospace and other technical disciplines. The systems of interest include both military and commercial aerospace systems, and those ground systems that are part of test, development, or operations of aerospace systems. Technologies which enable safe and reliable operation of complex aerospace systems or sub-systems with minimal or no human intervention (autonomy), or collaborative synthetic–human agent teams are of interest. These include, but are not limited to: autonomous and expert systems, discrete planning/scheduling
algorithms, intelligent data/image processing, learning and adaptive techniques, data fusion and reasoning, and knowledge engineering. Specific topics of interest are listed below. Additional Details>

- Learning, Reasoning and Data Driven Systems
- Human – Automation Interaction
- Probabilistic and Rule-Based Systems
- Adaptive and Intelligent Control Systems
- Integrated Systems Health Management (ISHM)

Please direct questions to:
Kevin Kochersberger

Sensor Systems

Papers are sought in all aspects of sensor systems and distributed ad hoc sensor networks for detection, collection, information fusion, storage, retrieval, distribution, and reception of information at the local sensing node and at the distributed sensor network level. Information fusion is interpreted as an embedded system within a sensor network that provides a coherent, situational awareness view of the entities in an environment based on the data obtained from one or more information sources, including sensors, humans, data links, and databases. Aerospace applications throughout the defense, civil, and commercial arenas are of interest. Specific topics of interest are listed below. Additional Details>

- Novel Sensor Systems & Sensing Technologies
- Ad Hoc Sensor Networks
- Sensor & Information Fusion

Please direct questions to:
Dan Clancy

Back to Top >
Software Systems

Papers are sought specifically in the area of cybersecurity for aerospace systems, specifically pertaining to the software requirements for availability, integrity and confidentiality of assets and information. The requirements need to cover the entire system lifecycle, from the initial system specification through development, operation and maintenance. Areas of interest include, but are not limited to: Security System Engineering Methodology, Security Requirements Engineering, Cyber Situation Awareness, Cybersecurity Best Practices, and Intrusion Prevention.

- Cybersecurity for Aerospace Systems Software

Please direct questions to:
Stephen Blanchette

Unmanned Systems

Papers are sought that address unmanned aircraft systems (UAS) related technologies and their applications. Papers related to technologies that enable the safe integration of UAS into the national airspace system (NAS) such as sense-and-avoid technologies, advanced flight controls, and mission management system, etc. are of particular interest in this area. Also of interest are papers regarding the applications and demonstrations of unmanned aircraft system technologies both inside and outside of the NAS. Papers in the area of unmanned systems education are also of interest.

- Unmanned Systems Technologies and Applications
- UAS Integration into the National Airspace System: Policies, Guidelines, and Technologies
- Unmanned Systems in Engineering Education

Please direct questions to:
Richard S. Stansbury

Back to Top >
ABSTRACT SUBMISSION REQUIREMENTS

All abstracts submitted to AIAA forums must meet the following minimum requirements in order to be considered for acceptance to the event:

- Abstracts are being accepted to this forum for the following presentation types: Technical Paper, Oral Presentation, and Student Paper Competition
- The format must be an extended abstract or draft manuscript with a minimum of 500 words.
- The submission must include sufficient detail to demonstrate the purpose of the paper, the technical foundation for the topics to be discussed, any preliminary results to date, and the expected results of the final paper, including key figures, equations, tables, and references, as appropriate. Sufficient information must be included in the submission to convince the forum organizers and reviewers that the author(s) will have a strong likelihood of completing the final manuscript by the final manuscript submission deadline.

Please note:

- Some conferences within the AIAA forums require the submission of a full draft manuscript, as indicated on the forum website and the abstract submission site.
- Exceptions to the abstract submission requirements may be considered by the Forum Technical Chair(s).

ABSTRACT SUBMISSION PROCEDURES

Abstract submissions will be accepted electronically. The deadline for receipt of abstracts via electronic submittal is 2 June 2014, 2000 hrs Eastern Time Zone, USA.

The electronic submission process is as follows:
1. Click the “Submit A Paper” button at the top of this page.
   a. You must be logged into AIAA to submit a paper, so you will be prompted to log in if you have not already done so.
   b. If you do not have an account with AIAA you may create one from this page. You do not need to become a member of AIAA, and there is no fee to create an account.

2. After completing your AIAA login, the ScholarOne Abstracts site will open.

3. Click the Submission tab at the top of the page.
   a. First, please review the general information about the conference’s abstract submission requirements and policies.
   b. To begin your submission, click the “Create a New Submission” link on the left menu.
      PLEASE NOTE: If you have previously visited the site and begun a draft submission, click the “View Submissions” link on the left menu to resume your submission.
   c. There are six steps to complete in order for your submission to be eligible for consideration for the conference. Detailed instructions for completing each step are posted within the ScholarOne site. Please read and follow all directions. At step 6, you must click the “Submit” button.

Special Notes:

1. If authors wish to revise an abstract that has already been submitted, they must go to “View Submissions” and select “Return to Draft” in order to make any corrections. This removes the abstract from the organizers’ view. Authors then need to submit the abstract again in order for it to be considered. An abstract cannot be returned to draft if it has already been reviewed.

2. Once the abstract submission deadline passes, authors will no longer be able to submit new submissions or return previous submissions to draft for revisions to the submitted abstract, the author string, or any other submission details. Please carefully proof your submission before the deadline.

3. If your submission is accepted for presentation at the conference, the author designated as the presenter will be the only author with access to upload the final manuscript.

Authors having trouble submitting abstracts electronically should contact ScholarOne Technical Support at ts.acsupport@thomson.com, 434.964.4100, or (toll-free, U.S. only) 888.503.1050. Questions pertaining to the abstract or technical topics, or general inquiries
concerning the program format or policies of the conference, should be directed to the Forum Technical Program Chair.

**Review Process**
All abstracts will be evaluated by qualified individuals from industry, academia, or government. It is recommended to the Technical Program Committee to have the broadest representation of reviewers appropriate for the Forum. Exceptions may be made for invited abstracts.

**Author Notification**
Authors will be notified of abstract acceptance or rejection on or about **22 August 2014**.

**Final Manuscript Guidelines**
Detailed instructions and guidelines for submitting papers will be made available to authors of accepted papers. Authors must submit their final manuscripts via the event website **no later than 1 December 2014, 2000 hrs Eastern Time Zone, USA**.

STUDENT PAPER COMPETITIONS
The following Student Paper Competitions are being held in conjunction with the Forum:

- Atmospheric Flight Mechanics
- Guidance, Navigation and Control
- Structures, Structural Dynamics, and Materials
- Intelligent Systems
- Thermophysics

**Eligibility Requirements**

- A student author must be a member of AIAA in order to enter the competition.
- A student author must be a full-time student in good academic standing at his or her university/institution at the time of submission.
Manuscript content must represent the work of the student author.
A student must be the primary author of the paper and the work must have been performed while the author was a student.
A student author must be able to attend the Forum to present the work should it be selected for presentation.

Submission Requirements

Student Paper Competition submissions must adhere to the overall Forum Abstract Submission Requirements.
Students must select the “Student Paper Competition” presentation type during the electronic submission process. Do not submit the abstract more than once. Only submissions with “Student Paper Competition” presentation type indicated will be eligible for the competition.
All submissions must be made by the Forum abstract submission deadline of 2 June 2014, 2000 hrs Eastern Time Zone, USA.

Several of the technical discipline areas that sponsor Student Paper Competitions have unique submission requirements. Where applicable, those requirements are described below:

Atmospheric Flight Mechanics (Sponsored by Sikorsky)

The AIAA Atmospheric Flight Mechanics Technical Committee, with the support of Sikorsky, is sponsoring a Best Student Paper Competition at the 2015 AIAA SciTech Conference. Entrants will be judged by Technical Committee members, and the winner will receive a certificate and $500 award. To be eligible for this award, the student must be the primary author of the paper, and the work must have been performed while the author was a student. Students will present their papers in the relevant conference technical sessions with judges in attendance. The scoring for the award will be equally based on written paper content and oral presentation. The written paper will be judged on: 1) relevance of the topic to atmospheric flight mechanics; 2) organization and clarity; 3) appreciation of the technical issues and sources of errors; and 4) meaningful conclusions of the research. The oral presentation will be judged for overall clarity, including: 1) background and problem
Questions should be referred to: Michael Grant

Guidance, Navigation and Control

Papers are sought from graduate students on GNC technical research topics, from which six finalists will be selected by a panel of judges for inclusion in a GNC Graduate Student Paper Competition session. Eligibility requirements are:

- Primary or sole authorship by a graduate student enrolled at an institution of higher learning (any second author must be the graduate advisor; no more than two authors are permitted)
- Student author in good academic standing at the time of submission
- Manuscript content representing the work of the author(s)
- Full draft manuscript not exceeding a total length of 25 pages

Finalists will be required to make two presentations at the Forum: once in the appropriate regular technical session and once in a separate Graduate Student Paper Competition session. In addition to appropriate recognition, finalists in the GN&C Student Paper Competition will also receive monetary awards.

Specific questions should be referred to: Julie J. Parish, 505.844.7447, or Yang Cheng.

Structures, Structural Dynamics, and Materials

Student papers should report on work primarily conducted by students in collaboration with their faculty advisors; therefore, all primary authors of papers submitted for consideration in the Student Paper Competition must be students at the time of abstract submission. Student paper awards include the Jefferson Goblet Student Paper Award, the Southwest Research Institute Student Paper Award in Non-Deterministic Approaches, the
Harry H. and Lois G. Hilton Student Paper Award in Structures, the Lockheed Martin Student Paper Award in Structures, and the American Society for Composites Student Paper Award. The Southwest Research Institute Student Paper Award in Non-Deterministic Approaches is open to any graduate student in an engineering program who is the first author, corresponding author, and presenter of an NDA-related technical paper at the AIAA SciTech Forum and Exposition or any co-located conference or forum, where there can be no more than two non-student co-authors.

Student manuscripts must be uploaded to the manuscript submission website by 1700 hours EST (USA) on November 3, 2014, which is earlier than the deadline for regular technical papers. Students who miss this November deadline will be removed from the student paper competition, but still have the opportunity to submit by the December deadline as a regular conference paper. Students who meet the student paper deadline may upload revisions up until the regular conference paper deadline, but the version submitted for the student paper deadline will be the version used for judging. Student authors who are selected as finalists will be notified by email no later than December 8, 2014. Finalists will be required to present their work in an assigned technical session and possibly in a special student paper session on Monday morning or afternoon. Presentation instructions will be provided along with the finalists’ notification. Winners will be selected based on a combined evaluation of the written manuscript and the oral presentation. Winners will be recognized at a TBD awards ceremony and will receive monetary awards.

Questions should be referred to: Dawn Phillips

Intelligent Systems

Papers in any broad areas of Intelligent Systems are sought from graduate students registered as full-time students in good academic standing at the time of submission. Primary or sole authorship by a single student is required and any second or third author must be the graduate thesis advisor (no more than three authors shall be permitted).

A student competition paper subcommittee and the chair (Chung) will review the papers submitted as IS student paper competition papers and select 5–6 paper finalists. Some of the papers that are not selected will be forwarded to the area chairs for possible inclusion as regular conference papers. We will hold a separate paper competition session on
Monday (1st day) during the conference and the finalists present only once at that session (which is different from the GNC conference). The subcommittee will decide the final winner at the end of the session and the student will be notified by email. The winner will be presented with an award at the award luncheon on Tuesday, 6 January 2015.

Questions should be referred to: Soon-Jo Chung

Thermophysics

This award for a technical paper presented during the year was initiated in 1994. The Committee, based on the recommendation of the Best Paper Subcommittee, may confer a David P. Weaver Student Best Paper Award each year based on the following description.

"The purpose of the David P. Weaver Student Best Paper Award is to motivate participants in the sessions sponsored by the Thermophysics Committee toward excellence in technical content and presentation of papers and to recognize professional achievement by identifying one contribution as the best paper."

A student paper is defined as being one for which the actual research was undertaken and finished while the author was still a full time student. The nomination and selection process follows that of the Best Paper Award described earlier. The award is made at the summer Thermophysics Conference. This award is designated for the presentation of an outstanding paper, not simply the best paper given at a meeting. Thus, it is not mandatory to present the award annually. A list of all recipients of the David P. Weaver Student Best Paper Award is included in Appendix R (link), indicated by the letter S with the award year (e.g. 1994S). A monetary award is given to the winner of the David P. Weaver Student Best Paper Award.

Questions should be referred to: Patrick Yee

Back to Top >
Publication Policy

- AIAA will not consider for presentation or publication any paper that has been or will be presented or published elsewhere. Authors will be required to sign a statement to this effect.
- AIAA policy precludes an abstract or paper from being submitted multiple times to the same Forum. Also, AIAA will not republish a paper that has already been published by AIAA or another organization.
- Papers being submitted to the Student Paper Competition must be indicated during the submission process as “Student Paper Competition” presentation type. Students should not submit the abstract more than once. Only submissions with “Student Paper Competition” presentation type indicated will be eligible for the competition. Papers selected for that competition will be published along with the Forum proceedings.

“No Paper, No Podium” and “No Podium, No Paper” Policies
If a written paper is not submitted by the final manuscript deadline, authors will not be permitted to present the paper at the conference. It is the responsibility of those authors whose papers or presentations are accepted to ensure that a representative attends the conference to present the paper. If a paper is not presented at the conference, it will be withdrawn from the conference proceedings. These policies are intended to eliminate no-shows and to improve the quality of the conference for attendees.

WARNING: Technology Transfer Considerations
Prospective authors are reminded that technology transfer guidelines have considerably extended the time required for review of abstracts and completed papers by U.S. government agencies. Internal (company) plus external (government) reviews can consume 16 weeks or more. Government review, if required, is the responsibility of the author. Authors should determine the extent of approval necessary early in the paper preparation process to preclude paper withdrawals and late submissions. The conference technical committee will assume that all abstracts, papers, and presentations are appropriately cleared.

International Traffic in Arms Regulations (ITAR)
AIAA speakers and attendees are reminded that some topics discussed at conferences could be controlled by the International Traffic in Arms Regulations (ITAR). U.S. nationals (U.S. citizens and permanent residents) are responsible for ensuring that technical data
they present in open sessions to non-U.S. nationals in attendance or in conference proceedings are not export restricted by the ITAR. U.S. nationals are likewise responsible for ensuring that they do not discuss ITAR export-restricted information with non-U.S. nationals in attendance.

PROPOSALS FOR SPECIAL SESSIONS

Individuals who wish to organize special sessions within the Forum program (e.g., invited oral presentations, panels, or demonstrations) should submit a short proposal describing the nature of the session as it relates to a specific theme of the Forum. Be sure to include the names of the organizers and participants. Please email your proposal by 2 June 2013 to George Lesieutre. Do not upload an abstract for the proposal.