

AVIATION  FORUM

29 JULY - 2 AUGUST 2024



ASCEND™

30 JULY - 1 AUGUST 2024

CAESARS FORUM, LAS VEGAS

# PROGRAM GUIDE

PREMIER SPONSOR **LOCKHEED MARTIN** 



Download the AIAA Events App to get the latest program information and build your personalized schedule with the event app.

Learn more on page 5

SHARE YOUR EXPERIENCE ON SOCIAL MEDIA!



#AIAAaviation



#ascendspace





The image is a composite graphic. The top half shows a satellite with large solar panels in space, with the Earth's blue and white horizon visible below. A network of white lines and dots, representing a data or communication network, is overlaid on the scene. The bottom half shows a dark grey fighter jet flying through a blue sky with white clouds. The jet is viewed from a low angle, showing its wings and tail. The overall theme is advanced technology and security.

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21<sup>ST</sup> CENTURY SECURITY

ENSURING THOSE WE SERVE ALWAYS STAY  
**AHEAD** OF **READY**

LOCKHEED MARTIN 

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## TWO EVENTS. ONE VENUE.

You have an all-access ticket to attend the sessions of your choice from these two signature events. Both events will deliver full technical programs, a hallmark that attendees count on from AIAA. This unique experience also includes full admission to networking events and receptions that are specially designed for everyone, with more opportunities to connect with leading industry executives, government officials, and academia.



### ON-SITE Wi-Fi

NETWORK NAME: **AIAA2024**

PASSWORD: **Airbusus2024**

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## TOP SPONSORS

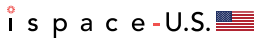


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# AIAA EVENTS APP



Download the AIAA Events App  
and click Open for the 2024  
AVIATION Forum and ASCEND

## Get immediate access to these features:

- View Program
- View Speakers
- View Schedule
- View Exhibitors
- View Technical Paper Abstracts
- View Committee Meeting List

## Create a login to gain access to these customized functions:

- Create your Profile
- Create your Personalized Onsite Schedule
- Sync your Planner (desktop schedule) to your mobile device app
- Add notes
- Favorite Sessions & Speakers
- Network with other attendees (login required for all parties)



## Login Information

Username: **Confirmation ID** *Found on your badge (4 digits) or in your Registration Confirmation email*

Password: **Last Name**



JOIN THE Q&A AT [AIAA.CNF.IO](https://AIAA.CNF.IO)

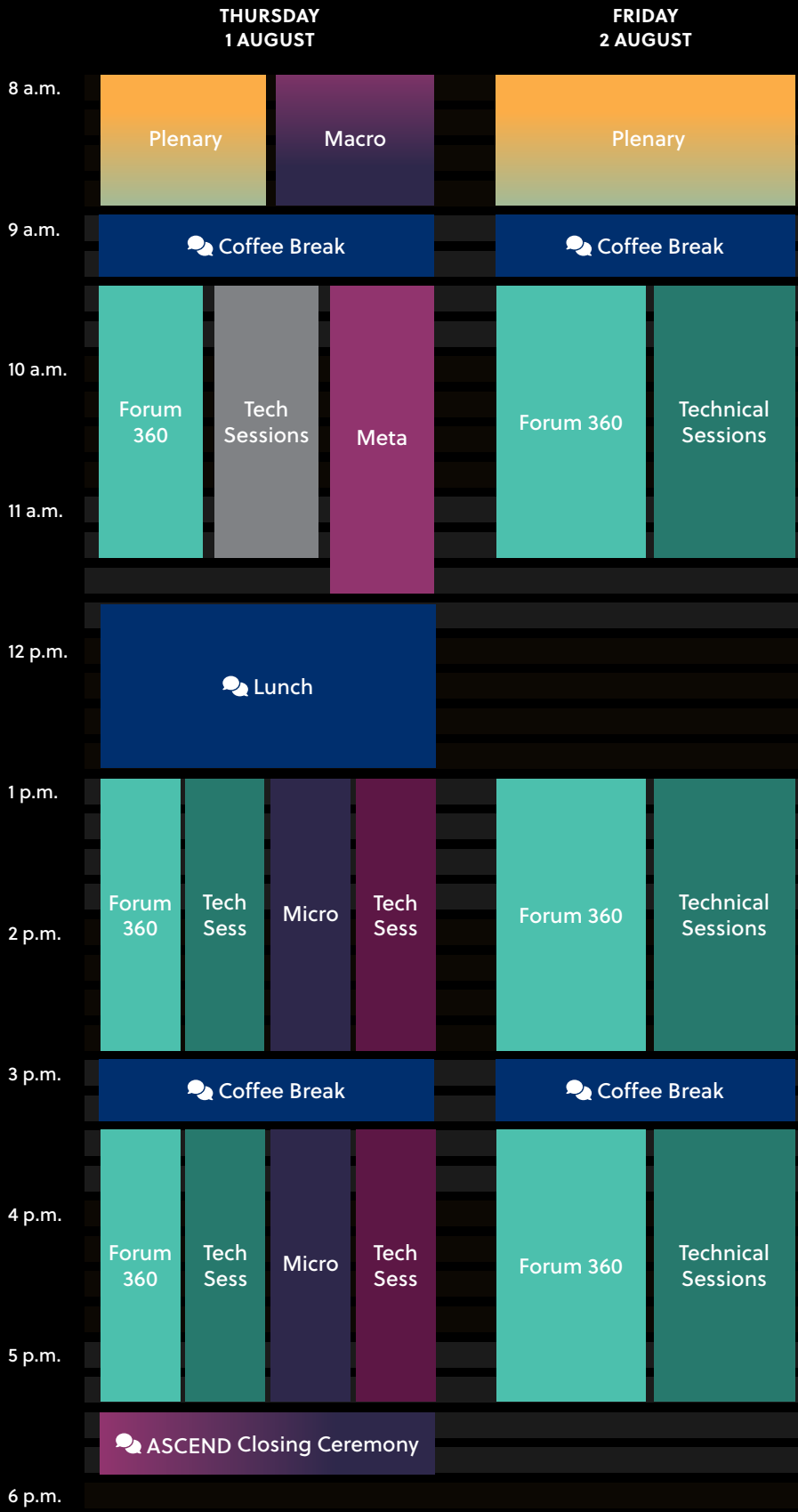


# COMBINED OVERVIEW

	MONDAY 29 JULY	TUESDAY 30 JULY	WEDNESDAY 31 JULY
8 a.m.	Plenary	Plenary	Plenary
9 a.m.	Coffee Break	Coffee Break	Coffee Break
10 a.m.	Forum 360	Forum 360	Forum 360
	Tech Sessions	Tech Sessions	Tech Sessions
		Meta	Meta
11 a.m.		von Kármán Lecture	
12 p.m.		Lunch	Lunch
		Thompson Lecture	Pickering Lecture
1 p.m.	Forum 360	Forum 360	Forum 360
	Tech Sessions	Tech Sess	Tech Sess
		Micro	Micro
		Tech Sess	Tech Sess
2 p.m.			
3 p.m.	Coffee Break	Coffee Break	Coffee Break
4 p.m.	Forum 360	Forum 360	Forum 360
	Tech Sessions	Tech Sess	Tech Sess
		Micro	Micro
		Tech Sess	Tech Sess
5 p.m.			
6 p.m.	EATS Social Hour (6–8 p.m.)		Aero + Space Reception with the Exhibitors



# COMBINED OVERVIEW



# NETWORKING AND JOINT AIAA AVIATION FORUM/ASCEND SESSIONS

## Monday, 29 July

### Meet the Employers

3-5 p.m.

Forum Ballroom 134

Network with recruiters from AIAA Corporate Members and industry supporters. Explore internships, full-time employment opportunities, organizational culture, fascinating company projects, and more.

### EATS Social Hour

6-8 p.m.

Alliance Ballroom 320

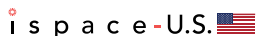
Join us for an evening exploring electrification! Meet and mix with fellow attendees, speakers, and organizers. This is the perfect opportunity to network, share insights, and get the week off to a great start!

## Tuesday, 30 July

### Coffee Break

9-9:30 a.m.

Expo Hall

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### Assembling the Jigsaw Puzzle: A Conversation with AIAA Domain Leads

9:30-10:30 a.m.

Forum Ballroom 113

Many disciplines and lines of enquiry intersect across the aerospace enterprise, creating complex challenges and opportunities — in a sense, vast aerospace science and technology jigsaw puzzles of global scale. AIAA's Domain approach is intended to align its many strengths with non-technical and non-aerospace stakeholders to complete the puzzles. Join the Aeronautics (Russ Boyce), Aerospace R&D (Greg Zacharias), and Space (Brent Sherwood) Domain Leads for an interactive exploration of the enormous challenges and the progress this shift has produced to date.

### Psychological Safety – Mission Success through Inclusive Dialogue

9:30-11 a.m.

Forum Ballroom 128

An interactive panel on implementing psychological safety to promote speaking up, a key element of a thriving, diverse workforce.

### von Kármán Lecture in Astronautics: 'Unlocking the Secrets of Our Solar System's History: The OSIRIS-REx Journey'

10:45 a.m.

Forum Ballroom 119

Dante S. Lauretta, Regents Professor, University of Arizona, Tucson, delves into the challenges, discoveries, and scientific implications of OSIRIS-REx as it unveils the ancient secrets of our solar system's history by discussing the mission's planning and execution.

### Luncheon

11:45 a.m.-1 p.m.

Expo Hall

### Thompson Lecture: 'Small Satellites – the Foundation of NewSpace'

12-12:45 p.m.

Forum Ballroom 134

Sir Martin Nicolas Sweeting, Executive Chairman, Surrey Satellite Technology Ltd; Distinguished Professor, Surrey Space Centre, University of Surrey, examines "Small Satellites – The Foundation of NewSpace." The lecture traces 20 years of small satellites' impact on life on Earth and look toward future developments.

### Rising Leaders in Aerospace: Speed Mentoring

1-3 p.m.

Forum Ballroom 109

Leaders in the aerospace industry will take time to meet with the Rising Leaders participants and share their experiences.

### Coffee Break

3-3:30 p.m.

Expo Hall

## Wednesday, 31 July

### Coffee Break

9-9:30 a.m.

Expo Hall

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### Generative AI in Defense: Is ChatGPT Good Enough for Aerospace?

9:30-10:30 a.m.

Alliance Ballroom 321

The whirlwind of generative AI (GenAI) has sent ripples in and outside of the defense industry since the pilot of ChatGPT last year. The industry has identified promising applications to this powerful technology. However, this first-generation technology comes with caveats that increasingly pose serious question as to whether GenAI is a technology mature enough and appropriate for application in aviation.

### Breaking AI: The Cyber Risks of AI in Aerospace

10:30-11:30 a.m.

Alliance Ballroom 321

As artificial intelligence (AI) becomes increasingly embedded in aviation systems, the cyber vulnerabilities that it is susceptible to are inherited along with it; machine learning (ML) comes with its own unique host of attack classes: poisoning, evasion, inference, and extraction. With these model technologies becoming increasingly

unexplainable (even by specialists), how will the industry protect itself from adversarial attack while pursuing state-of-the-art technology?

## Luncheon

11:45 a.m.-1 p.m.

Expo Hall

## Pickering Lecture, 'Europa Clipper: First NASA Mission to an Ocean World'

12-12:45 p.m.

Forum Ballroom 134

Bonnie Buratti, Deputy Project Scientist, Europa Clipper Mission, will showcase the mission's objectives and its role in the search for life beyond Earth. Europa almost certainly harbors a salty ocean underneath a thick ice crust, with all the requirements for a habitable zone where primitive life could potentially thrive. This is NASA's first detailed exploration of an ocean world.

## TinyML: The Role of Efficient Machine Learning in Aerospace

1-1:30 p.m.

Alliance Ballroom 321


Artificial intelligence (AI) is increasingly ubiquitous in the aviation industry; however, AI and the machine learning (ML) use increasingly large computational resources. TinyML provides promise of AI-enabled capabilities available to numerous resource-constrained edge devices (e.g., airplanes, drones, etc.). What will the role of TinyML be in aviation in the near and distant future? Will efficient ML be the keystone of the industry, or will traditional ML techniques be sufficient?

## Rising Leaders in Aerospace: Young Professionals Panel & Social Hour - Is the Grass Always Greener on the Other Side?

2-4 p.m.

Forum Ballroom 111

Join us to discuss the pros and cons of switching jobs, the frequency, and what is the best path forward in your career. Followed by time to network and enjoy snacks.

Panel sponsored by  **Astroscale**  
U.S.

## Coffee Break

3-3:30 p.m.

Expo Hall

## NASA's Agency and Center Chief Technologists: Technology Maturation and Infusion

3:30-5:30 p.m.

Academy Ballroom 421

NASA's Chief Technologist and Center Chief Technologists (CCTs) discuss their role in technology advancement at the agency. Among their many roles, the CCTs serve on the Center Technology Council, support the NASA SBIR/STTR program, and manage the NASA Early Career Initiative, Center Innovation Fund, and IRAD programs within the centers.

## Space and Aviation Cybersecurity Lightning Talks

3:30-4:15 p.m.

Forum Ballroom 127

The talks are an opportunity for participants to present rapid-fire insights into the latest developments, challenges, and solutions in the field of space and aviation cybersecurity. Participants from both space and aviation sectors, including government, academia, and industry, are invited to deliver concise, impactful presentations, each lasting just five minutes.

## Aero + Space Reception

6-7 p.m.

Expo Hall

Join us for an evening exploring air and space in the Expo Hall, mixing with fellow attendees, prominent speakers, and astronauts—analogue, ISS, and from the silver screen. This is the perfect opportunity to network, share insights, and maintain the momentum of this unique week.

Sponsored by



## Thursday, 1 August

### Coffee Break

9-9:30 a.m.

Expo Hall

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## Autonomy to Enable NASA Missions from Aeronautics to Space

9:30-11 a.m.

Alliance Ballroom 321

NASA will discuss the role that autonomy and A.I. will play as humanity moves off-world. Recent advances in general autonomy tools are changing the way NASA and its partners leverage autonomy for its air and space initiatives. Autonomy experts familiar with the current state of the art for autonomy across both aeronautical and space domains will discuss how those technologies could evolve as operations become more complex and which autonomy technologies can be used across domains.

## How to Fund Your Education with AIAA

10-11:30 a.m.

Summit Ballroom 206

Make the most of your AIAA Student Membership! Learn about opportunities for students to get involved and how to apply for AIAA scholarships and graduate awards.

## Luncheon

11:45 a.m.-1 p.m.

Expo Hall

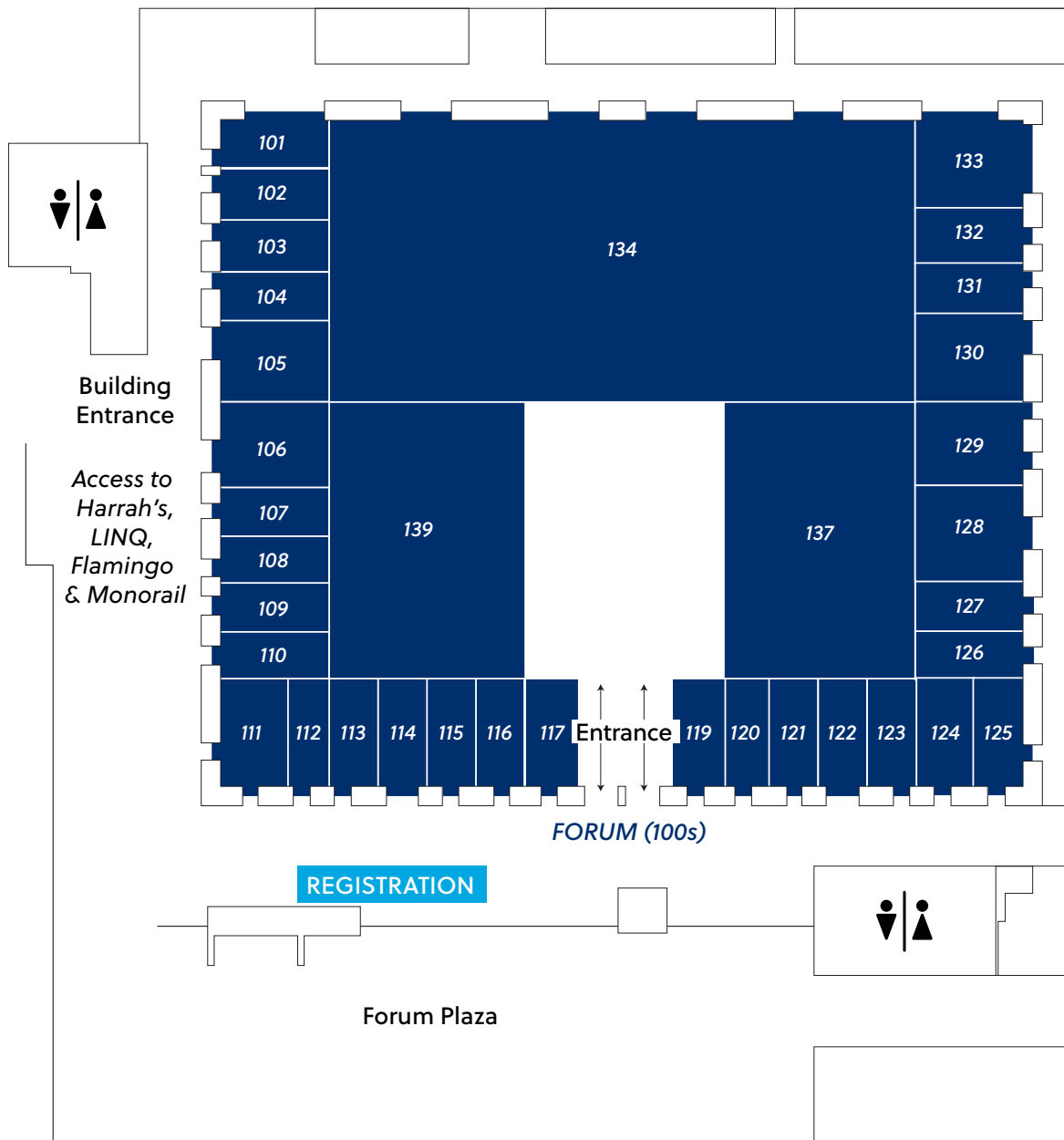
## Coffee Break

3-3:30 p.m.

Expo Hall



# FLOOR PLAN



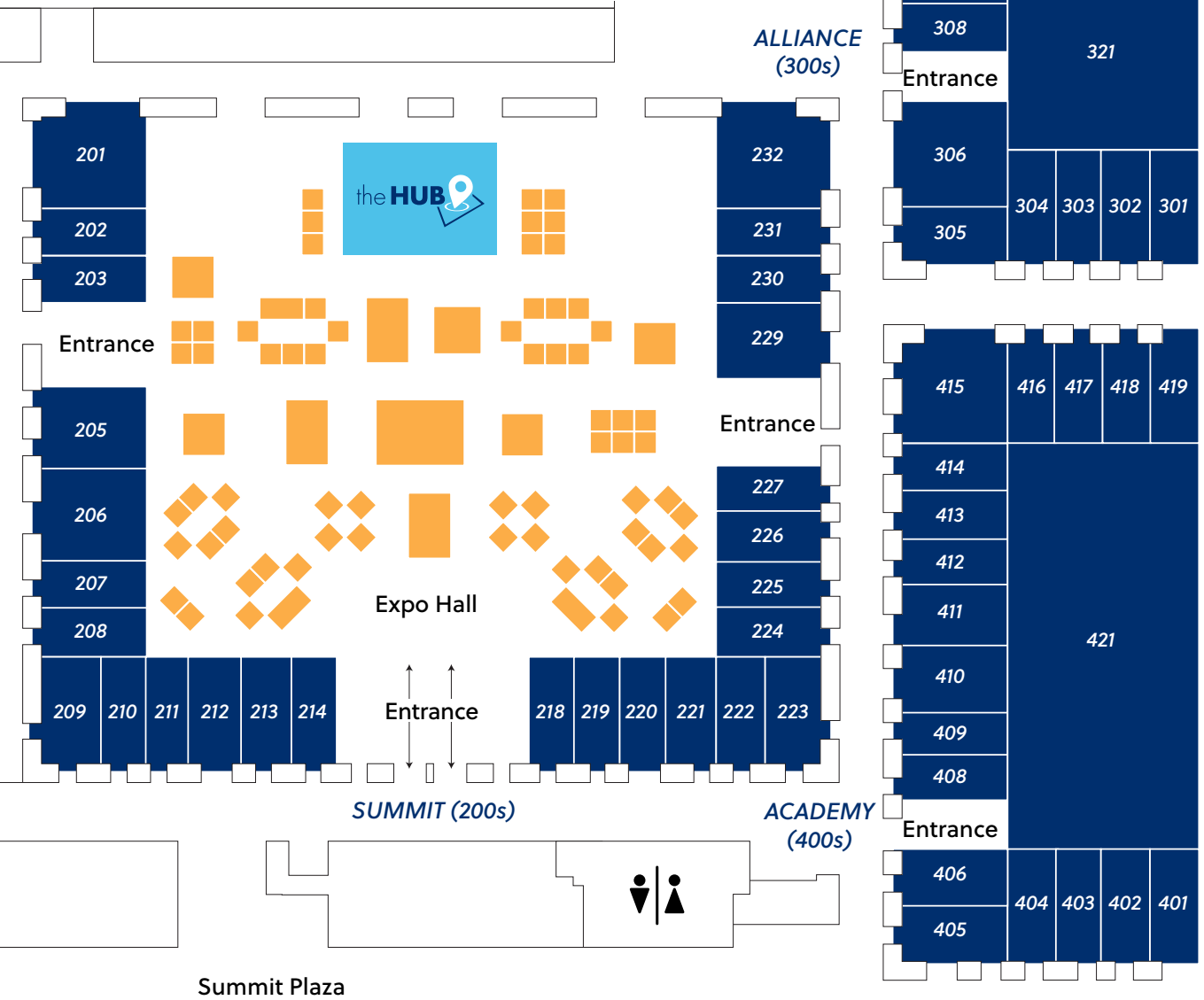
# Aero + Space Reception

Wednesday, 6-7 p.m.

Expo Hall

Join us for an evening exploring air and space in the Expo Hall, mixing with fellow attendees, prominent speakers, and astronauts—analogue, ISS, and from the silver screen. This is the perfect opportunity to network, share insights, and maintain the momentum of this unique week.

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# Defining Possible in Aviation and Space



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# EXPO HALL

Centrally located within the venue, the Expo Hall will serve as a bridge between both events' communities, showcasing the latest technologies, products, and services from exhibitors in both the air and space domains.

## The HUB is open Tuesday-Thursday during Expo Hall hours!

This multi-use area built into the heart of AIAA expositions features innovative programming, product demonstrations, charging stations, a lounge area, and more.

## Expo Hall Hours

**Tuesday, 30 July:** 9 a.m.-5 p.m.

**Lunch:** 11:45 a.m.-1 p.m.

**Wednesday, 31 July:** 9 a.m.-5 p.m.

**Lunch:** 11:45 a.m.-1 p.m.

**Aero + Space Reception:** 6-7 p.m.

**Thursday, 1 August:** 9 a.m.-5 p.m.

**Lunch:** 11:45 a.m.-1 p.m.



**Need to identify a place to meet up with colleagues?**

Make the HUB that place!



SESSION ROOMS

SESSION ROOMS

SESSION ROOMS

SESSION ROOMS

# EXHIBITORS

## ADS CFD Inc

21

[www.adscfd.com](http://www.adscfd.com)



ADS CFD specializes in fast and accurate high fidelity CFD analysis for the aerospace industry that can be applied by engineers. Using our GPU accelerated Flow Solver, companies can achieve 50X improvements in speed and a 50% reduction in simulation cost enabling innovation within the tight aerospace design cycle. Join the community today!

## Advanced Test Equipment Corp.

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[www.atecorp.com](http://www.atecorp.com)



Advanced Test Equipment Corp. (ATEC) is a leading provider of test & measurement equipment rentals, sales, calibration, and service. Since 1981, test engineers, government agencies, and Fortune 500 companies have relied on ATEC to guide them to the right equipment, ship it quickly, and offer them the industry's best technical expertise and customer care. ATEC's broad inventory includes EMC, Power Supplies & Loads, RF Safety, Electrical, NDT, Environmental, Communications, and General Purpose test equipment. Explore the ATEC inventory at [www.atecorp.com](http://www.atecorp.com).

## AIAA Los Angeles - Las Vegas Section

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[www.aiaa-lalv.org](http://www.aiaa-lalv.org)



The mission of the LA-LV Section is to benefit AIAA members within our territory by:

- Advancing the arts, sciences and technology of aeronautics, astronautics, and their allied fields
- Facilitating communication between scientists and engineers in the Section and with other professional groups
- Encouraging original research
- Fostering dissemination of new knowledge
- Furthering the professional development of those engaged in scientific and engineering activities
- Improving public understanding of the profession and its contributions
- Recognizing outstanding professional accomplishments

## Airborne Systems

84

[www.airborne-sys.com](http://www.airborne-sys.com)



Airborne Systems is a world leader in the design, development, and manufacture of best-of-class parachutes for space and air vehicle recovery systems, deceleration systems for high-performance aircraft, military, personnel, and cargo parachute systems as well as airbags, weapons delivery systems and ordnance flare chutes.

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# EXHIBITORS

## Altair

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[www.altair.com](http://www.altair.com)



Altair is a global leader in computational intelligence that provides software and cloud solutions in simulation, high-performance computing (HPC), data analytics, and AI. Altair enables organizations across all industries to compete more effectively and drive smarter decisions in an increasingly connected world – all while creating a greener, more sustainable future.

## Ansys

85

[www.ansys.com](http://www.ansys.com)



Our Mission: Powering Innovation That Drives Human Advancement™

When visionary companies need to know how their world-changing ideas will perform, they close the gap between design and reality with Ansys simulation. For more than 50 years, Ansys software has enabled innovators across industries to push boundaries by using the predictive power of simulation. From sustainable transportation to advanced semiconductors, from satellite systems to life-saving medical devices, the next great leaps in human advancement will be powered by Ansys.

## ARA

16

[www.ara.co.uk](http://www.ara.co.uk)



ARA is a leading independent specialist in aerodynamic research providing complementary services and bespoke solutions to international aerospace and defence clients to support their aerodynamic concept development

## Aurora Flight Sciences, A Boeing Company

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[www.aurora.aero](http://www.aurora.aero)



Aurora Flight Sciences, a Boeing Company, advances the future of flight by developing and applying innovations across aircraft configurations, autonomous systems, propulsion technologies, and manufacturing processes. With a passionate and agile team, Aurora delivers solutions to its customers' toughest challenges while meeting high standards of safety and quality. Learn more at [www.aurora.aero](http://www.aurora.aero).

## Bechtel National Inc.

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[www.bechtel.com](http://www.bechtel.com)



Bechtel is a trusted engineering, construction and project management partner to industry and government. Differentiated by the quality of our people and our relentless drive to deliver the most successful outcomes, we align our capabilities to our customers' objectives to create a lasting positive impact. Since 1898, we have helped customers complete more than 25,000 projects in 160 countries on all seven continents that have created jobs, grown economies, improved the resiliency of the world's infrastructure, increased access to energy, resources, and vital services, and made the world a safer, cleaner place.

## BETA CAE Systems USA, Inc.

50

[www.beta-cae.com](http://www.beta-cae.com)



BETA CAE Systems USA, Inc., est. 1997, is an engineering company based in Farmington Hills Michigan. For over 20 years it has been known for its distribution of the ANSA and META Software Suite and continued commitment to offering industry leading software support and services. In addition to this, the company also provides consulting services in high-end Finite Element modeling and analysis, and places specialists for contract positions on client sites.

## Boryung

75

[www.boryung.co.kr/en/](http://www.boryung.co.kr/en/)



The mission of Boryung is to pass on the fruits of new challenges through pioneering spirit to future generations. As we embrace the era of space exploration, Boryung will continue to pursue uncharted territories in space with distinctive strategies to shape the future of humanity.

## Cableteque

44

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The electronics OEM industry faces challenges in interconnect design due to component variability, evolving application parameters, differences in design software, late-in-the-cycle timing and a general lack of deeply skilled practitioners. Cableteque's Predictive Interconnect Analytics (PIA) is the "missing link" which as a SAAS addresses these issues by offering comprehensive design optimization, CAD validation, built-in subject matter knowledge and design enhancements for complex interconnect systems. By partnering with industry key players, Cableteque enables OEMs to focus on the interconnect's purpose while reducing the risk of costly mistakes and delays in the product design cycle. PIA revolutionizes the electronic interconnect industry, improving effectiveness, accuracy and predictability.

## Cadence

60

[www.cadence.com/en\\_US/home/tools/system-analysis/computational-fluid-dynamics.html](http://www.cadence.com/en_US/home/tools/system-analysis/computational-fluid-dynamics.html)



Cadence is a pivotal leader in electronic design, building upon more than 30 years of computational software expertise. We apply our underlying Intelligent System Design strategy to deliver software, hardware, and IP that turn design concepts into reality. Our customers are the world's most innovative companies, delivering extraordinary electronic products from chips to boards to systems for the most dynamic market applications, including consumer, hyperscale computing, 5G communications, automotive, mobile, aerospace, industrial, and healthcare. Seven years in a row, Fortune magazine has named Cadence one of the 100 Best Companies to Work For. Learn more at [www.cadence.com](http://www.cadence.com).



# EXHIBITORS

## Calspan

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[www.calspan.com](http://www.calspan.com)



For over 75 years, Calspan has been an industry-leading research, testing and manufacturing partner to the great innovators of the aerospace and automotive industries. We assist companies in overcoming developmental and technical challenges to ensure their creative concepts become viable commercial products. Our teams ensure a streamlined process from aerospace model design and manufacturing to wind tunnel testing and secure data delivery. We also excel at the design and build of test engine cells, turbomachinery, force measurement balances, and hypersonic model testing. Calspan diligently helps to accelerate pioneering innovations on land or into the sky.

## Caltech CTME

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[www.ctme.caltech.edu](http://www.ctme.caltech.edu)



Technology engineering leaders choose Caltech CTME for customized professional development and learning programs that build organizational capabilities, skilled teams, and solutions-oriented mindsets. Learners tackle project-based challenges guided by Caltech faculty and our networks of pioneering systems engineering experts. Programs specialties: Advanced Systems Engineering/MBSE, Data Analytics, Cybersecurity, Leadership, Production & Operations, Project & Program Management, and Strategic Technology Marketing. Client programs are uniquely tailored for company context, products, complexity/difficulty, team dynamics, client case studies and processes, location, format, guest speakers, group facilitation, skill-breadth/depth, and desired learning-outcomes. Programs are available for commercial, government, and individual learners across aerospace, chemical, electronics/high-tech, energy, life sciences, and manufacturing.

## Concurrent Real-Time

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[www.concurrent-rt.com](http://www.concurrent-rt.com)



Concurrent Real-Time is a global provider of real-time Linux computer hardware and software solutions for mission-critical applications in markets that include aerospace and defense, automotive, robotics, energy, transportation and finance. These solutions enable customers to minimize risk, reduce costs, speed time-to-market and maximize profits. Since 1966, customers have relied on Concurrent Real-Time solutions to deliver hard real-time performance for the most sophisticated XIL simulation, high-speed data acquisition, process control and low-latency transaction processing applications. Concurrent Real-Time is headquartered in Pompano Beach, FL, with sales and support available from offices throughout North America, Europe and Asia. For more information, visit [www.concurrent-rt.com](http://www.concurrent-rt.com). Concurrent Real-Time is part of HBK's Virtual Test Division.

## Continuum Dynamics, Inc.

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[www.continuum-dynamics.com](http://www.continuum-dynamics.com)



Continuum Dynamics, Inc. provides leading-edge research, analysis tools, and practical solutions to our clients' immediate engineering challenges, and is on the forefront of technology in areas related to aerospace, defense, wind and nuclear power, pharmaceuticals, and crop-protection chemical application. Examples of CDI technologies include: advanced helicopter rotor blades that provide improved performance to operators (including the President of the United States); truck drag reduction systems to improve fuel efficiency; and technologies to ensure safe nuclear power plant operation. Capabilities include:

-Fixed and rotary-wing aircraft analysis, modeling/simulation, design services and software;

-Fluid dynamics analysis/testing, scale-model development, fluid structure interaction diagnostics, and flow control devices for aerospace and marine applications;

-Aerially released material dispersion modeling;

-Numerical methods development, including CFD, and biomolecular modeling

## Convergent Science

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[www.convergecf.com](http://www.convergecf.com)



Convergent Science is an innovative, rapidly expanding computational fluid dynamics (CFD) company. Our flagship product, CONVERGE, is a revolutionary CFD software with truly autonomous meshing capabilities that eliminate the grid generation bottleneck from the simulation process. Convergent Science is headquartered in Madison, Wisconsin, and has offices in the United States, Europe, and India and distributors worldwide.

## Dassault Systemes SIMULIA

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[www.3ds.com/simulia](http://www.3ds.com/simulia)



Dassault Systèmes SIMULIA reveals the world we live in through realistic simulation of product, nature & life. We provide high-value end-to-end industry processes for digital engineering that employ state-of-the-art connected multidisciplinary-multiscale simulation applications. With SIMULIA, customers can reduce testing, increase confidence & quality, and get to market faster using always-available virtual worlds for discovery and testing.

## DEWESoft LLC

15

[www.dewesoft.com](http://www.dewesoft.com)

DEWESoft, offers a full suite of hardware for in-vehicle & lab data acquisition applications. Scalable from 4 to 1,000's of channels our instruments are available as small USB & EtherCat devices, stand-alone battery-powered systems, rack-mounted configurations, & ruggedized field-ready solutions. Powered by the latest DEWESoft X software, we acquire & control many multi-domain test sets that include analog in/out, digital in/out, video, CAN, FlexRay, XCP, GPS, & more.



# EXHIBITORS

## dSPACE

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[www.dspace.com/en/pub/home/applicationfields/ind-appl/aerospace.cfm](http://www.dspace.com/en/pub/home/applicationfields/ind-appl/aerospace.cfm)



The aerospace industry has the highest standards when it comes to validation and verification – no margin for error. In the toughest, most extreme situations of a mission, reliability is essential. dSPACE has been a trusted partner for development and testing of safety-critical systems in aeronautics and astronautics for decades. With high-performance hardware and software from dSPACE, engineers get the tools they need to rise to the challenges in design, implementation, and test of airborne or space systems.

## The Drake Group

81

[www.drake-group.com](http://www.drake-group.com)



The Drake Group Inc is an Aeronautical Engineering Services company providing clients with FAA DER Designated Engineering Representatives in all disciplines. The Drake Group also supports STC certifications and Special Mission aircraft.

## Enduralock

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[www.enduralock.com](http://www.enduralock.com)



Enduralock, the SBA 2022 winner for National Security and Defense, has:

- 1) Satellite docking system incorporating a mechanical latch, electrical connections, and fuel transfer in one connector
- 2) Eliminating safety wire with mechanically locking, high vibration resistant (10x aerospace requirement) fasteners, that are reversible & reusable with a standard hex socket. They remain locked with loss of preload. Through an AF Phase II SBIR, they were scaled to 3mm to eliminate safety wire in missiles & spacecraft. An end effector was developed for robotic installation.
- 3) Nut plates that engage off-axis bolts & then self-align. Through an AF Phase II SBIR, the first mechanically locking nut plate was developed for use in extreme vibration environments.
- 4) A mechanically locking, vibration resistant fuel line/hydraulic connector is being developed for the B-2 (AF Phase II SBIR).

Enduralock currently has 2 other AF Phase II SBIRs for qualifying its products on the B-1, B-2, KC-135 and AGE.

## Ennova Technologies Inc

6

[www.ennova-cfd.com](http://www.ennova-cfd.com)



Ennova Technologies delivers today's most scalable simulation platform combining the power of cloud based computing, advanced geometry repair tools, and mixed mode meshing to create an extremely efficient pre and post processing simulation environment.

## ESTECO

22

[www.esteco.com](http://www.esteco.com)



ESTECO is an independent software vendor who develops digital engineering technology for MDAO (multidisciplinary design analysis & optimization) and SPDM (simulation process data management). Its COTS products VOLTA and modeFRONTIER are used to integrate and automate simulation workflows, conduct design of experiments, trade - and numerical optimization studies, and collaborate among geographically dispersed engineering teams.

## Fabreeka International

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[www.fabreeka.com](http://www.fabreeka.com)



Headquartered in Stoughton, MA, Fabreeka International brings decades of expertise to the aerospace industry with high-tech low frequency vibration isolation solutions. Our talented engineers combine excellent results with great service to provide effective vibration and shock control systems across industries since 1936.

Our work in the aerospace industry assists engineers in developing safe, reliable aircraft for flight, space and beyond. Our Precision Aire™ Leveling (PAL) pneumatic isolators are exceptionally designed for applications in the aerospace industry. With our PAL pneumatic isolators, our engineers design advanced, low frequency soft support systems for ground vibration testing.

Fabreeka provides aerospace engineers with the capabilities to ensure their aircraft is ready for flight and to keep the industry soaring to new heights.

## Flexcompute

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[www.flexcompute.com](http://www.flexcompute.com)



Flexcompute is a solver technology company focused on dramatically reducing the time and costs of high-fidelity simulations. Run the fastest and most accurate CFD you've experienced from anywhere, without licenses or hardware, using the groundbreaking Flow360 solver.

With emerging hardware as our template, we rewrote from scratch, a full stack proprietary code that unlocked solving speeds orders of magnitude faster than anything else on the market. Run steady simulations in minutes and unsteady simulations in hours. This enables teams to run high-fidelity CFD at all stages of design. All with the goal of shortening your design cycles, reducing simulation costs, and improving product outcomes.

## General Atomic Aeronautical Systems, Inc.

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[www.ga-asi.com](http://www.ga-asi.com)



General Atomic-Aeronautical Systems, Inc. (GA-ASI), an affiliate of General Atomic, is a leading designer and manufacturer of proven, reliable remotely piloted aircraft (RPA) systems, radars, and electro-optic and related mission systems,

# EXHIBITORS

including the Predator® RPA series and the Lynx® Multi-mode Radar. GA-ASI is actively developing the next generation of RPA systems leveraging state-of-the-art technologies including multi-functional structures using additive manufacturing, airborne manned-unmanned teaming (MUM-T) capabilities, revolutionary controller capabilities that reduce manpower requirements, and low cost, modular RPA solutions. Additionally, GA-ASI produces ground control stations and sensor control/image analysis software, offers pilot training and support services, and develops meta-material antennas. [www.ga-asi.com](http://www.ga-asi.com)

## GITAI 41

[www.gitai.tech](http://www.gitai.tech)



GITAI aims to reduce the cost of labor in space by 100 times, thereby providing a safe and affordable means of work in space. GITAI operates in two business areas: on-orbit services and lunar infrastructure construction. For more on GITAI's products, services, and upcoming missions, visit: <https://gitai.tech/>

## Glenair 71

[www.glenair.com](http://www.glenair.com)



Glenair manufactures high-reliability connectors and cables for mission-critical land, sea, air, and space applications. The company began operations in 1956 producing electrical connector backshells and accessories. Building on that foundation, we now offer dozens of full-spectrum connector product lines designed to meet every electrical and optical interconnect requirement, including a broad range of military qualified and signature connector designs such as the MIL-DTL-38999 Series III and our micro miniature Series 80 Mighty Mouse.

## Gulfstream Aerospace 39

[www.gulfstream.com](http://www.gulfstream.com)



Inspired by the belief that aviation could fuel business growth, Gulfstream Aerospace Corp. invented the first purpose-built business aircraft, the Gulfstream I, which first flew in 1958. Today, more than 2,900 aircraft are in service around the world. Together with parent company General Dynamics, Gulfstream consistently invests in the future, dedicating resources to researching and developing innovative new aircraft, technologies and services. With a fleet that includes the super-midsize Gulfstream G280, the high-performing Gulfstream G650 and Gulfstream G650ER, and a next-generation family of aircraft including the all-new Gulfstream G400, the award-winning Gulfstream G500 and Gulfstream G600, the flagship Gulfstream G700 and the ultralong-range Gulfstream G800, Gulfstream offers an aircraft for every mission. All are backed by Gulfstream's Customer Support network and its worldwide team. Visit our website at [gulfstream.com](http://gulfstream.com).

## HEAD acoustics, Inc. 34

[www.headacoustics.com](http://www.headacoustics.com)



Since foundation in 1986, HEAD acoustics has been a reliable partner wherever acoustics, vibrations, or speech, audio and sound quality play an important role. We are not only one of the world's leading companies in the comprehensive analysis of sound and vibration; our expertise and pioneering role in the measurement and optimization of speech and audio quality in all areas of communications technology are also recognized worldwide. Our customers value the combination of cutting-edge measurement technology with decades of experience in an industrial setting. With our hardware and software, we offer scalable solutions for the specific problems posed by a wide variety of applications. As a service, our experts develop acoustic optimization approaches – in close cooperation with our customers and tailored to their individual needs.

## IC2 (Interdisciplinary Consulting Corp) 48

[www.thinkic2.com](http://www.thinkic2.com)



Delivering Scientific-Grade Sensors. Advancing Aerospace Test. With a deep knowledge of aerospace test and over two decades researching best-in-class sensor development techniques, IC2 delivers scientific-grade precision sensors that push the envelope of aerospace measurement accuracy and performance.

## Kulite Semiconductor Products, Inc. 19

[www.kulite.com](http://www.kulite.com)



Globally recognized as the leader in transducer technology, Kulite Semiconductor Products maintains its edge with vigilant research, ingenious designs and forward-thinking minds. Employing solid-state silicon on silicon technology, Kulite creates and customizes the most reliable transducers, designed to perform in the harshest conditions. Ongoing research and development has led to pioneering of new sensing technologies with applications in aviation, wind tunnel and flight test engineering.

## Lockheed Martin 38

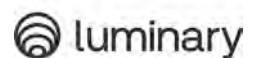
[www.lockheedmartin.com](http://www.lockheedmartin.com)



Lockheed Martin is a global defense technology company driving innovation and advancing scientific discovery. Our all-domain mission solutions and 21st Century Security vision accelerate the delivery of transformative technologies to ensure those we serve always stay ahead of ready. More information at [Lockheedmartin.com](http://Lockheedmartin.com).

## Luminary Cloud, Inc. 5

[www.luminarycloud.com](http://www.luminarycloud.com)



Luminary Cloud is a modern CAE SaaS platform, delivering insights in minutes rather than weeks, enabling analysis and iteration which were previously impossible.



# EXHIBITORS

## M4 Engineering, Inc.

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[www.m4-engineering.com](http://www.m4-engineering.com)



M4 Engineering, Inc. works with inventors, startups, established companies and government agencies to solve “unsolvable” problems, and move their ideas from concepts to prototypes. We also develop software using our expertise in multidisciplinary design analysis and optimization (MDAO) to support our customers, and can help you save time and reduce the costs associated with the design, analysis and optimization of high-performance systems and structures. The complex systems typically found in electric aircraft, eVTOL, Urban Air Mobility, as well as more conventional aircraft and spacecraft present unique challenges that many new and established companies may not have encountered before. This is where M4 Engineering comes in. We have a broad range of capabilities to complement in-house engineering resources when either specialized knowledge or extra bandwidth is needed.

## Metacomp Technologies, Inc.

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[www.metacomptech.com](http://www.metacomptech.com)



Metacomp Technologies is at the forefront of cutting edge simulation technology with software products for Computational Fluid Dynamics ICFD++, Aero-Acoustics ICAA++, Mesh Generation IMIME and Structural Mechanics ICSM++ including MetaFSI for fluid-structure interactions. Founded in 1994 by pioneers in CFD, validated by industry, government institutions, and universities worldwide, and with an unparalleled reputation for high-level support, Metacomp will be an Integral part of your success.

## Motiv Space Systems

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[www.motivss.com](http://www.motivss.com)

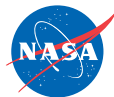


Motiv Space Systems is the leading provider of innovative space robotic systems, mechanisms and motion control solutions for mission critical orbital and planetary applications.

## NASA

53

[www.nasa.gov/topics/aeronautics/index.html](http://www.nasa.gov/topics/aeronautics/index.html)



Thanks to advancements in aeronautics developed by NASA, today’s aviation industry is better equipped than ever to transport passengers to their destinations. In fact, every U.S. aircraft flying today and every U.S. air traffic control tower uses NASA-developed technology.

## National Academies of Sciences, Engineering, and Medicine

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[www.nas.edu](http://www.nas.edu)



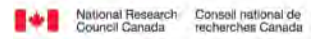
The National Academies of Sciences, Engineering, and Medicine are private, nonprofit institutions that provide expert advice on

some of the most pressing challenges facing the nation and the world. Our work helps shape sound policies, inform public opinion, and advance the pursuit of science, engineering, and medicine.

## National Research Council of Canada

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<https://nrc.canada.ca/en>



The National Research Council of Canada (NRC) partners with industry, academia and other research and technology organizations to make strong impacts by taking research from labs to industrial applications and consumers. The NRC’s Aerospace Research Center has unique research facilities and multidisciplinary expertise in sustainable aviation, digital technologies, manufacturing, and advanced air mobility. With these capabilities, we can provide cost-effective platforms to develop, test, validate and demonstrate your technologies. By working with our aerospace experts, our partners and clients have access to a variety of research and development facilities, including a suite of wind tunnels, a research aircraft fleet, propulsion and gas turbine laboratories, full-scale structural testing, automated manufacturing capabilities, and a center for air travel research.

## Northrop Grumman

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[www.northropgrumman.com](http://www.northropgrumman.com)



Northrop Grumman is a leading global aerospace and defense technology company. Our pioneering solutions equip our customers with the capabilities they need to connect and protect the world, and push the boundaries of human exploration across the universe. Driven by a shared purpose to solve our customers’ toughest problems, our employees define possible every day.

## NovaWurks

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[www.novawurks.com](http://www.novawurks.com)



NovaWurks is a pioneering aerospace company headquartered in Los Alamitos, California. We specialize in the development and production of SLEGO building blocks, a revolutionary type of space architecture that integrates diverse-sized space applications to create adaptable and configurable buses capable of supporting any payload. Our visionary approach to space architecture is redefining the future of space exploration and transportation. By focusing on payload-centric bus designs, NovaWurks aims to overcome the limitations of traditional spacecraft by offering a versatile and scalable platform capable of accommodating a wide range of payloads, regardless of their size or complexity.

# EXHIBITORS

## Oklahoma Aerospace Institute for Research and Education (OAIRE) 52

[oaire.okstate.edu](http://oaire.okstate.edu)



Acting as the center of gravity for a statewide initiative to answer industry and federal demand for innovation, excellence, and expertise in aerospace.

## Prefixa Inc 42

[www.prefixa.com](http://www.prefixa.com)



3D is everywhere, and digital technologies are advancing rapidly into XR and Spatial computing. With Prefixa, you can explore all XR and Spatial Computing possibilities and avoid staying in a 2D world.

## Purple Platypus 7

[www.purpleplatypus.com](http://www.purpleplatypus.com)



Purple Platypus, headquartered in Orange County, is the only Diamond-level Stratasys reseller covering CA, AZ, and NV. Through 3D printer machine sales, custom part printing, and engineering services, Purple Platypus offers superior solutions. Purple Platypus works closely with Fortune 100 companies, optimizing their design and manufacturing processes.

## Quartus Engineering 3

[www.quartus.com](http://www.quartus.com)



Quartus was established in 1997 as mechanical analysis services provider and has grown to support the full development lifecycle. We are employee owned. Our vision is to solve the world's most complex engineering problems, pushing the boundaries of what is possible. Quartus manages system lifecycles spanning concept definition, design, development, and fabrication to system assembly, integration, test, launch, operations, return, and post return data processing and analysis. We are a recognized and accomplished supplier of Optical and Opto-Mechanical systems for industry. Our capabilities include: detailed structural analysis spanning many specialties like aeroelastics and vibroacoustics, thermal analysis, mechanical design, optics and optomechanical design and analysis, electronics, software engineering, camera calibration, test services, prototyping and low rate production of specialized systems. Quartus now has offices in San Diego, CA (HQ), Herndon, VA, and Redmond, WA.

## Reaction Engines, Inc. 23

[www.reactionengines.com](http://www.reactionengines.com)



Reaction Engines is a privately held technology Company pioneering sustainable technologies, high-speed flight and space access. The Company is based in Culham, Oxfordshire, UK and Denver, Colorado, US and employs over 250 staff across its sites.

We have developed ground-breaking thermal management technologies that provide a step change in performance, efficiency and sustainability across a range of industries including energy, motorsport, aerospace and electric vehicles.

We are innovators and disruptors; leveraging our technology to respond to the scientific and technical challenges posed by the sustainability and net zero imperative.

The Company's SABRE-derived aerospace propulsion systems will enable significantly enhanced air-breathing flight performance, allowing the development of more sustainable propulsion systems, more capable high-speed vehicles and offer increased responsiveness and system reusability.

## Rescale, Inc. 14

[www.rescale.com](http://www.rescale.com)



Aerospace HPC R&D engineering requires high performance computing to perform large-scale structural, fluid dynamics, thermal, and electromagnetic analyses. Rescale's customers leverage the latest cloud hardware technology to analyze complex applications including wing structural strength, turbine flow, antenna placement, and lightning strike.

## Resono Pressure Systems, Inc. 9

[www.resonopressuresystems.com](http://www.resonopressuresystems.com)



Resono Pressure Systems, Inc. is a small engineering firm located in Laramie, Wyoming. Resono was founded to commercialize unsteady pressure measurement systems based on a decade of development of these systems as part of unsteady aerodynamics work performed for both the Department of Energy and the Department of Defense. Having a decade of experience with the hardware and software associated with these systems and experience performing unsteady pressure measurements in the wind tunnel, flight test and in field testing on wind turbine blades, Resono is well poised to offer innovative and reliable solutions for a wide range of measurement applications.

## Rolls-Royce 12

[www.rolls-royce.com/products-and-services/defence.aspx](http://www.rolls-royce.com/products-and-services/defence.aspx)



Rolls-Royce pioneers cutting-edge technologies delivering clean, safe and competitive solutions to meet our planet's vital power needs. We are one of the largest providers of defense and civil aero-engine products and services globally with 16,000 engines in the service of 160 customers in 103 countries. Looking to the future Rolls-Royce will provide the "Power to Explore," leveraging over a century of aerospace experience and an extensive six-decade reactor pedigree to provide high power, long duration systems across the space domain. Taken as a whole, Rolls-Royce is "Pioneering the Power that Matters."

# EXHIBITORS

## RTX

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[www.rtx.com](http://www.rtx.com)

With more than 185,000 global employees, RTX pushes the limits of technology and science to redefine how we connect and protect our world. Through industry-leading businesses – Collins Aerospace, Pratt & Whitney, and Raytheon – we are advancing aviation, engineering integrated defense systems, and developing next-generation technology solutions and manufacturing to help global customers address their most critical challenges. The company, with 2023 sales of \$69 billion, is headquartered in Arlington, Virginia.



## SharpCloud Software

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[www.sharpcloud.com](http://www.sharpcloud.com)

Embrace your organization's complexity and use SharpCloud to help uncover the hidden insights and gaps between strategy and execution. Transform your planning from doing projects right, to focusing on the right projects, accelerating business competitiveness, agility and performance.



## SoftInWay Inc

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[www.softinway.com](http://www.softinway.com)

SoftInWay is an international engineering R&D company specializing in the development of clean, efficient, reliable turbomachinery & propulsion systems.

SoftInWay supports its customers through its integrated & automated software, AxSTREAM® for all steps of the turbomachinery design, redesign, analysis, & optimization process (including complete 3D design, thermodynamic cycles, rotor dynamics, & secondary flow & cooling system simulation). We also offer a number of engineering services & educational courses.

SoftInWay is ISO 9001:2015 & AS9100:2016 certified & committed to providing our customers with products & services that meet international quality standards. We support more than 450 companies, research labs/universities & government organizations worldwide.



## Space Force Association

33

[www.ussfa.org](http://www.ussfa.org)

SFA's mission is to achieve superior national spacepower by shaping a Space Force that provides credible deterrence in competition, dominant capability in combat, and professional services for all partners.



## SpaceWorks Enterprises, Inc

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[www.spaceworks.aero](http://www.spaceworks.aero)

SpaceWorks Enterprises, Inc. (SEI), based in Atlanta, Georgia, is an aerospace engineering company specializing in concept design, systems analysis, rapid prototyping, product



development, software development, and economic assessment for a broad and diverse customer base. For over 20 years, SpaceWorks has been dedicated to advancing the state-of-the-art in the aerospace industry, from the early design phase through flight demonstrations and system operation.

## Special Aerospace Services

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[www.specialaerospaceservices.com](http://www.specialaerospaceservices.com)

Special Aerospace Services is a tactical engineering and advanced manufacturing firm with more than a decade of experience providing cutting-edge solutions to Aerospace, Aviation, Defense and Energy organizations worldwide.

SAS provides a full lifecycle of services from strategic advisory and business capture to tactical engineering, systems development, precision manufacturing and recurring program support.



## Stratolaunch

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[www.stratolaunch.com](http://www.stratolaunch.com)



Stratolaunch accelerates access to the hypersonic environment so our customers can achieve and our nation can advance. Stratolaunch designs, manufactures, and launches aerospace vehicles and technologies to fulfill several important national needs.

## Surgestreams

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[www.surgestreams.com](http://www.surgestreams.com)

Surgestreams has pioneered IT services in New York since 2018, consistently delivering business value with the latest technology.



## Technetics Group

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[www.technetics.com](http://www.technetics.com)

At Technetics Group, we deliver highly engineered solutions for critical applications in the most demanding environments leveraging our material, sealing and systems expertise. Our products are crafted from a passion for excellence. Our team is spurred by grit and determination to push beyond the expected. And our solutions are backed by knowledge and experience that makes it all possible.



## Tecplot

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[www.tecplot.com](http://www.tecplot.com)

Tecplot empowers those working fluid dynamics to discover, analyze and understand information in complex data. Whether performing simulations or experiments, visualization provides insight and understanding hidden inside your data. This information can be critical in pinpointing and solving problems, optimizing designs, and in explaining physical observations. Professional, high-resolution images and animations can be exported to help you effectively communicate your results to others.





# EXHIBITORS

## Tekna Plasma Systems

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[www.tekna.com](http://www.tekna.com)



Over the past 30 years, Tekna has designed and manufactured high enthalpy thermal plasma technologies for Defense, and Aerospace applications worldwide. Our PlasmaSonic Wind Tunnels simulate a wide range of flight conditions to accurately predict the viability of next generation thermal protection system materials, critical for hypersonic flight and orbital re-entry. Tekna also provides a broad array of reliable intrusive instrumentation and visual access ports for a comprehensive real-time evaluation of thermal protection system materials.

## The Aerospace Village

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[www.aerospacevillage.org](http://www.aerospacevillage.org)



The Aerospace Village is a diverse community of hackers, engineers, pilots, policy leaders and more from across the public and private sectors. We believe the flying public deserves safe, reliable, and trustworthy air travel, which is highly dependent on secure aviation and space operations. Our mission is to 1. Create, sustain, and grow an inclusive community focused on aerospace Cybersecurity; 2. Inspire the next generation of aerospace cybersecurity leaders; 3. Promote and develop aerospace cybersecurity expertise and knowledge.

## The Boeing Company

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[www.boeing.com](http://www.boeing.com)



Boeing is the world's largest aerospace company and leading manufacturer of commercial jetliners and defense, space and security systems. A top U.S. exporter, the company supports airlines and U.S. and allied government customers in 150 countries. Boeing products and services include commercial and military aircraft, satellites, weapons, C4ISR, electronic and defense systems, human-rated spacecraft and launch systems, and performance-based logistics and training. Boeing has a long tradition of aerospace innovation. Its broad range of capabilities includes creating new, more efficient members of its commercial airplane family, creating advanced technology solutions for military customers and integrating aircraft, defense systems and warfighters through network-enabled solutions.

## Thunderbird School of Global Management - Arizona State University

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[www.thunderbird.asu.edu](http://www.thunderbird.asu.edu)



As the world continues innovating, and technology changes the way we live and work, Thunderbird is developing nimble, ethical, global leaders who can seize the opportunities offered by the Fourth Industrial Revolution to create sustainable prosperity worldwide.

## Triton Space Technologies, LLC

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[www.Triton-Space.com](http://www.Triton-Space.com)



Triton Space specializes in off the shelf feed system components and other hardware developed specifically to meet the needs of the commercial spaceflight industry. Our products have been used in a number of applications ranging from rocket engine fuel priming solenoid valves to large cryogenic feed system fill and drain valves. Our customers span the spaceflight industry from rocket engine manufacturers to cutting edge spacecraft manufacturing companies, and even hypersonics research companies.

## University of Kansas Jayhawk Global

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<https://jayhawkglobal.ku.edu>



Jayhawk Global provides an engaging, accessible educational experience you can access anywhere around the world by bringing the exceptional educational programming you've come to expect from the University of Kansas and its renowned faculty and supportive student guidance.

## University of Southern California Viterbi School of Engineering

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<https://viterbigradadmission.usc.edu>



The University of Southern California, Viterbi School of Engineering offers 40+ graduate programs entirely online including the Masters and Graduate Certificate programs in Astronautical Engineering. These programs encompass the dynamic and cutting-edge field of advanced space technology, with a unique focus on spacecraft engineering.

## UTEP Aerospace Center

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[www.utep.edu/aerospace](http://www.utep.edu/aerospace)



The Aerospace Center at The University of Texas at El Paso (UTEP) is a leading research center that develops innovation, talent, and suppliers for the aerospace, defense, and energy sectors. Our vision is to use our research preeminence as an engine for economic mobility and to transform the Paso del Norte region into an advanced manufacturing and knowledge-based economy.

## Valcor Engineering Corporation

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[www.valcor.com](http://www.valcor.com)



Valcor Engineering Corporation ([www.valcor.com](http://www.valcor.com)), founded in 1951, designs and manufactures solenoid valves and control components for liquids and gases in critical applications in the aerospace, nuclear, light industrial and scientific industries. Headquartered in Springfield, New Jersey, Valcor's world-class staff of engineers, designers, and technical support personnel utilize fully-equipped, modern test facilities to test the most precise and exacting standards.

# EXHIBITORS

Valcor Aerospace specializes in the design and manufacture of custom valves and control components (solenoid, relief, check, fill & drain valves, pressure regulators, accumulators, actuators) for liquids (propellants and fuel) and gases in critical aerospace (launch vehicle, missile, spacecraft, etc.) applications.

## Volcano Platforms Inc.

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[www.volcanoplatforms.com](http://www.volcanoplatforms.com)

Volcano Platforms Inc., is an early-stage technology startup that focuses on providing solutions for physics-based SaaS modeling and simulations to accelerate digital transformation of physical prototyping to predictive, fast, and cost-effective computing. We provide the missing piece in digital-twin for industrial research & development. Our secret sauce is breakthrough-fast algorithms combining rapid pre- and post-processing with high-fidelity modeling. Volcano ScaLES exploits graphics co-processors to complete in hours what now takes weeks. Initial products will be targeting Aerospace & Defense, Automotive, Emerging Urban Air Mobility, and Space Vehicles market segments.



## Western Michigan University College of Engineering and Applied Sciences

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[www.wmich.edu/construction-research](http://www.wmich.edu/construction-research)



WESTERN MICHIGAN UNIVERSITY  
College of Engineering  
and Applied Sciences

Western Michigan University's College of Engineering and Applied Sciences is located at the heart of the University's Parkview Campus. The 343,000-square-foot facility was completed in the fall of 2003. The \$100 million high-tech academic facility is the University's largest.

## ZEISS Industrial Quality Solutions

8

[www.zeiss.com](http://www.zeiss.com)



ZEISS is an internationally leading technology enterprise operating in the optics and optoelectronics industries. As a company wholly owned by a foundation, ZEISS is rooted in and committed to responsibility in all its activities. As the pioneer of scientific optics, we continue to challenge the limits of human imagination. With our passion for excellence we create value for our customers and inspire the world to see in new ways.

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# WELCOME TO AVIATION

The 2024 AIAA AVIATION Forum Guiding Coalition  
welcomes you to Las Vegas!

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thought-provoking content around the forum theme, **From  
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### Information Systems Group

**Chetan Kulkarni**, NASA Ames Research Center

### Inlets, Nozzles, and Propulsion Systems Integration

**Ann Khidekel**, Collins Aerospace

### Intelligent Systems

**B. Danette Allen**, NASA Langley Research Center

**Liang Sun**, New Mexico State University

### Lighter-Than-Air-Systems

**Kyle Crawford**

### Meshing, Visualization, and Computational Environments

**Nick Wyman**, Cadence Design Systems

**Nitin Bhagat**, University of Dayton

### Modeling and Simulation Technologies

**Frederick Wieland**, Mosaic ATM Inc.

**Nishanth Goli**, Supernal

### Multidisciplinary Design Optimization

**Andrew Ning**, Brigham Young University

**John Hwang**, University of California, San Diego

### Plasmadynamics and Lasers

**Albina Tropina**, Texas A&M University

**Andrey Starikovskiy**, Princeton University

### Pressure Gain Combustion

**Mirko Gamba**, University of Michigan

### Solid Rockets

**Wes Ryan**, NASA Kennedy Space Center

**Scott Weinberg**, Johns Hopkins University

### Supersonics

**Darcy Allison**, Raytheon

**David Lazzara**, The Boeing Company

**Juliet Page**, Blue Ridge Research

**Gerald Carrier**, ONERA

### Terrestrial Energy Systems

**Xiuling Wang**, Purdue University Northwest

**Tarek Abdel-Salam**, East Carolina University

### Thermophysics

**Bob Tramel**

**Erin Mussoni**, Sandia National Laboratories

**Durgesh Chandel**, MIT

### Transformational Flight

**Cedric Justin**, Georgia Institute of Technology

**Siddhartha Krishnamurthy**, NASA Langley Research Center

### Uncrewed and Autonomous Systems

**Zohaib Mian**, Astra Space

**Omar Kassim Ariff**, University of Salford

**Sricharan Ayyalasomayajula**, Blue Halo

### Unidentified Anomalous Phenomena

**Patrick Donovan**, Schneider Electric

**Nick Orenstein**, HStar Space Transport

### Vertical/Short Take-Off and Landing (V/STOL) Aircraft Systems

**Geoffrey Jeram**, U.S. Army Combat Capabilities Command

**Kasey Ackerman**, National Aeronautics and Space Administration

**Puneet Singh**, Overair

**Matthew Clarke**, University of Illinois

# OVERVIEW

	MONDAY 29 JULY	TUESDAY 30 JULY	WEDNESDAY 31 JULY
8 a.m.	Plenary	Plenary	Plenary
9 a.m.	Coffee Break	Coffee Break	Coffee Break
10 a.m.	Forum 360	Forum 360	Forum 360
	Technical Sessions	Technical Sessions	Technical Sessions
11 a.m.		von Kármán Lecture	
12 p.m.		Lunch	Lunch
		Thompson Lecture	Pickering Lecture
1 p.m.	Forum 360	Forum 360	Forum 360
	Technical Sessions	Technical Sessions	Technical Sessions
2 p.m.	Forum 360	Forum 360	Forum 360
	Technical Sessions	Technical Sessions	Technical Sessions
3 p.m.	Coffee Break	Coffee Break	Coffee Break
4 p.m.	Forum 360	Forum 360	Forum 360
	Technical Sessions	Technical Sessions	Technical Sessions
5 p.m.			
6 p.m.			Aero + Space Reception with the Exhibitors

# OVERVIEW

	THURSDAY 1 AUGUST		FRIDAY 2 AUGUST	
8 a.m.	Plenary		Plenary	
9 a.m.	☕ Coffee Break		☕ Coffee Break	
10 a.m.	Forum 360	Technical Sessions	Forum 360	Technical Sessions
11 a.m.				
12 p.m.	☕ Lunch			
1 p.m.	Forum 360	Technical Sessions	Forum 360	Technical Sessions
2 p.m.	Forum 360	Technical Sessions	Forum 360	Technical Sessions
3 p.m.	☕ Coffee Break		☕ Coffee Break	
4 p.m.	Forum 360	Technical Sessions	Forum 360	Technical Sessions
5 p.m.				
6 p.m.				

# PROGRAM

## MONDAY, 29 JULY

7:30–8 a.m.	Session Rooms	SP-01	Technical Papers Session Prep
8–9 a.m.	Academy Ballroom 421	PLNRY-01	The View from 50,000 Feet
9–9:30 a.m.	Summit Ballroom Foyer	CB-01	Coffee Break
9:30 a.m.–5:30 p.m.	Summit Ballroom 227	SUST-01	Sustainable Aviation Workshop
9:30–11:30 a.m.	Academy Ballroom 421	F360-01	Executive Panel – The View from 50,000 Feet
1–3 p.m.	Academy Ballroom 421	F360-06	Shifting the Transportation Paradigm
1–3 p.m.	Academy Ballroom 415	MDO-17	MDO Lecture
3–3:30 p.m.	Summit Ballroom Foyer	CB-02	Coffee Break
3–5 p.m.	Forum Ballroom 134	AIAA-01	Meet the Employers
3:30–5:30 p.m.	Academy Ballroom 421	F360-11	Navigating the Future: Audience-Judged Vision for Sustainable Infrastructure

## TUESDAY, 30 JULY

7:30–8 a.m.	Session Rooms	SP-02	Technical Papers Session Prep
8–9 a.m.	Academy Ballroom 421	PLNRY-02	Shifting the Transportation Paradigm
9–9:30 a.m.	Summit Ballroom/Expo Hall	CB-03	Coffee Break, Sponsored by ispace
9:30–11:30 a.m.	Academy Ballroom 421	F360-02	Modernizing the Commercial Transport System
9:30–11 a.m.	Forum Ballroom 128	AIAA-02	Psychological Safety – Mission Success Through Inclusive Dialogue
11:45 a.m.–1 p.m.	Summit Ballroom/Expo Hall	LUNCH-01	Luncheon
1–3 p.m.	Academy Ballroom 421	F360-07	Air Traffic Management Meets Space Traffic Management
1–3 p.m.	Forum Ballroom 109	AIAA-03	Rising Leaders in Aerospace: Speed Mentoring
3–3:30 p.m.	Summit Ballroom/Expo Hall	CB-04	Coffee Break
3:30–5:30 p.m.	Academy Ballroom 421	F360-12	Bridging Skies and Roads: The Seamless Integration of Aviation in Multi-Modal Transportation Networks
3:30–5:30 p.m.	Alliance Ballroom 305	LTA-02	Lighter Than Air History Lecture

## WEDNESDAY, 31 JULY

7:30–8 a.m.	Session Rooms	SP-03	Technical Papers Session Prep
8–9 a.m.	Academy Ballroom 421	PLNRY-03	Confronting Global Challenges
9–9:30 a.m.	Summit Ballroom/Expo Hall	CB-05	Coffee Break, Sponsored by ispace
9:30–11:30 a.m.	Academy Ballroom 421	F360-03	Modernization: How Will Platforms Fill the Capabilities
9:30–11 a.m.	Summit Ballroom 232	FD-12	Fluid Dynamics Award Lecture
9:30–11:30 a.m.	Alliance Ballroom 306	ADS-01	Aerodynamic Decelerator Systems Seminar
9:30–11:30 a.m.	Alliance Ballroom 305	LTA-03	Lighter Than Air Systems Progression, Operations, Future Challenges Lecture
11:45 a.m.–1 p.m.	Summit Ballroom/Expo Hall	LUNCH-02	Luncheon



## PROGRAM

1-3 p.m.	<i>Academy Ballroom 421</i>	<b>F360-08</b>	<b>Technical Challenges in Sustainable Aviation, hosted by SARES</b>
1-4 p.m.	<i>Academy Ballroom 417</i>	<b>FVS-01</b>	<b>Flow Visualization Showcase</b>
2-4 p.m.	<i>Forum Ballroom 111</i>	<b>AIAA-04</b>	<b>Rising Leaders in Aerospace: Young Professionals Panel and Social Hour</b>
3-3:30 p.m.	<i>Summit Ballroom/Expo Hall</i>	<b>CB-06</b>	<b>Coffee Break</b>
3:30-5:30 p.m.	<i>Academy Ballroom 421</i>	<b>F360-13</b>	<b>NASA's Agency and Center Chief Technologists: Technology Maturation and Infusion</b>
3:30-5:30 p.m.	<i>Summit Ballroom 226</i>	<b>FT-01</b>	<b>Autonomous Helicopter Flight Testing Over Long Island Sound Special Session</b>
3:30-4:30 p.m.	<i>Academy Ballroom 415</i>	<b>TP-14</b>	<b>Thermophysics Award Lecture</b>
3:30-4:30 p.m.	<i>Academy Ballroom 414</i>	<b>PDL-08</b>	<b>Plasmadynamics and Lasers Award Lecture</b>
6-7 p.m.	<i>Summit Ballroom/Expo Hall</i>	<b>HH-01</b>	<b>Aero + Space Reception, Sponsored by Northrop and Grumman &amp; Vast Space</b>

## THURSDAY, 1 AUGUST

7:30-8 a.m.	<i>Session Rooms</i>	<b>SP-04</b>	<b>Technical Papers Session Prep</b>
8-9 a.m.	<i>Academy Ballroom 421</i>	<b>PLNRY-04</b>	<b>There's Blue Sky Over the Horizon</b>
9-9:30 a.m.	<i>Summit Ballroom/Expo Hall</i>	<b>CB-07</b>	<b>Coffee Break, Sponsored by MORI Associates</b>
9:30-11:30 a.m.	<i>Academy Ballroom 421</i>	<b>F360-04</b>	<b>Sustainably Building the Next Generation of Aircraft</b>
9:30-11:30 a.m.	<i>Alliance Ballroom 320</i>	<b>FD-32</b>	<b>Transition Open Forum</b>
10-11:30 a.m.	<i>Forum Ballroom 110</i>	<b>AIAA-06</b>	<b>How to Fund Your Education with AIAA</b>
11:45 a.m.-1 p.m.	<i>Summit Ballroom/Expo Hall</i>	<b>LUNCH-03</b>	<b>Luncheon</b>
1-3 p.m.	<i>Academy Ballroom 421</i>	<b>F360-09</b>	<b>AI's Applications Across the Aviation System</b>
1-4 p.m.	<i>Academy Ballroom 415</i>	<b>FD-33</b>	<b>Flow Control Open Forum</b>
3-3:30 p.m.	<i>Summit Ballroom/Expo Hall</i>	<b>CB-08</b>	<b>Coffee Break</b>
3:30-5:30 p.m.	<i>Academy Ballroom 421</i>	<b>F360-14</b>	<b>NASA Sustainable Flight National Partnership Panel</b>

## FRIDAY, 2 AUGUST

7:30-8 a.m.	<i>Session Rooms</i>	<b>SP-05</b>	<b>Technical Papers Session Prep</b>
8-9 a.m.	<i>Academy Ballroom 421</i>	<b>PLNRY-05</b>	<b>Bringing It All Together</b>
9-9:30 a.m.	<i>Summit Ballroom Foyer</i>	<b>CB-09</b>	<b>Coffee Break</b>
9:30-11:30 a.m.	<i>Academy Ballroom 421</i>	<b>F360-05</b>	<b>Executive Panel - CTO Panel</b>
1-3 p.m.	<i>Academy Ballroom 421</i>	<b>F360-10</b>	<b>The Role of Demonstrators</b>
3-3:30 p.m.	<i>Summit Ballroom Foyer</i>	<b>CB-10</b>	<b>Coffee Break</b>

# AIAA/IEEE ELECTRICAL AIRCRAFT TECHNOLOGIES SYMPOSIUM (EATS)



**IEEE**  
**TRANSPORTATION**  
**ELECTRIFICATION**  
**COUNCIL**

## MONDAY, 29 JULY

- |                 |                       |  |
|-----------------|-----------------------|--|
| 9:30-10:15 a.m. | Alliance Ballroom 320 | <b>EATS Opening Keynote - GE Aerospace: Bringing Hybrid Electric Flight to Reality</b> |
| 6-8 p.m.        | Alliance Ballroom 320 | <b>EATS Social</b>   |

## TUESDAY, 30 JULY

- |                 |                       |   |
|-----------------|-----------------------|---|
| 9:30-10:15 a.m. | Alliance Ballroom 320 | <b>Aircraft Electrification: Unveiling the Imperative</b>                                 |
| 10:30 a.m.      | Alliance Ballroom 320 | <b>ARPA-E Sustainable Aerospace Programs Impact and Next Challenges and Opportunities</b> |
| 1 p.m.          | Alliance Ballroom 308 | <b>Aerospace Electrification Benefiting From AI and Beyond</b>                            |
| 1 p.m.          | Alliance Ballroom 320 | <b>Safety &amp; Reliability of High-Voltage Systems</b>                                   |
| 3:30 p.m.       | Alliance Ballroom 320 | <b>Standards and Certification Panel</b>  |

## WEDNESDAY, 31 JULY

- |                  |                       |  |
|------------------|-----------------------|--|
| 9:30-10:15 a.m.  | Alliance Ballroom 320 | <b>EATS Third Keynote</b>  |
| 10:30-11:30 a.m. | Alliance Ballroom 308 | <b>ARPA-E's Range Extenders for Electric Aviation with Low Carbon and High Efficiency (REEACH) Program</b> |
| 1 p.m.           | Alliance Ballroom 308 | <b>Electric Machine Design Considerations for Aerospace Applications</b>                                   |
| 3:30-5:30 p.m.   | Alliance Ballroom 305 | <b>Rolling Recap and Spotlight Panel Session with NASA EPFD</b>  |

## FRIDAY, 2 AUGUST

- |             |                       |  |
|-------------|-----------------------|--|
| 3:30-5 p.m. | Alliance Ballroom 310 | <b>Electric Aircraft Rolling Recap Closing</b> |
|-------------|-----------------------|--|

# EATS TECHNICAL SESSIONS

## ELECTRIFIED AIRCRAFT TECHNOLOGY

29-Jul	10:30 a.m.	Alliance Ballroom 309	<b>EATS-01</b>	<b>Electric Aircraft Testing I</b>
29-Jul	10:30 a.m.	Alliance Ballroom 310	<b>EATS-02</b>	<b>Electric Vehicle Design Considerations I</b>
29-Jul	10:30 a.m.	Alliance Ballroom 320	<b>EATS-03</b>	<b>Electrified Aircraft Rolling Recap Opening Panel Session</b>
29-Jul	10:30 a.m.	Alliance Ballroom 308	<b>EATS-04</b>	<b>Modeling Insights for Electric Aircraft Design I</b>
29-Jul	1 p.m.	Alliance Ballroom 320	<b>EATS-05</b>	<b>Electric Aircraft Battery Testing &amp; Analysis I</b>
29-Jul	1 p.m.	Alliance Ballroom 309	<b>EATS-06</b>	<b>Li-Ion Battery Thermal Runaway Simulation</b>
29-Jul	1 p.m.	Alliance Ballroom 310	<b>EATS-07</b>	<b>Modeling Insights for Electric Aircraft Design II</b>
29-Jul	1 p.m.	Alliance Ballroom 308	<b>EATS-08</b>	<b>NASA ULI Zero-E - Special Session - Aerodynamic Design and Aircraft System Configurations</b>
29-Jul	3:30 p.m.	Alliance Ballroom 320	<b>EATS-09</b>	<b>Electric Aircraft Battery Testing &amp; Analysis II</b>
29-Jul	3:30 p.m.	Alliance Ballroom 310	<b>EATS-10</b>	<b>Electric Aircraft Testing II</b>
29-Jul	3:30 p.m.	Alliance Ballroom 308	<b>EATS-11</b>	<b>NASA ULI Zero-E - Special Session - Electrified System Architectures</b>
30-Jul	10:30 a.m.	Alliance Ballroom 309	<b>EATS-13</b>	<b>Electric Aircraft Testing III</b>
30-Jul	10:30 a.m.	Alliance Ballroom 310	<b>EATS-14</b>	<b>Electric Vehicle Design Considerations II</b>
30-Jul	10:30 a.m.	Alliance Ballroom 308	<b>EATS-15</b>	<b>Modeling Insights for Electric Aircraft Design III</b>
30-Jul	1 p.m.	Alliance Ballroom 310	<b>EATS-17</b>	<b>Electric Aircraft Architecture Analysis I</b>
30-Jul	1 p.m.	Alliance Ballroom 309	<b>EATS-18</b>	<b>NASA ULI Zero-E - Special Session - Power System Safety and Fuel Handling</b>
30-Jul	3:30 p.m.	Alliance Ballroom 310	<b>EATS-20</b>	<b>Electric Aircraft Architecture Analysis II</b>
30-Jul	3:30 p.m.	Alliance Ballroom 309	<b>EATS-21</b>	<b>NASA ULI Zero-E - Special Session - Power System Technologies and Component Performance</b>
31-Jul	10:30 a.m.	Alliance Ballroom 310	<b>EATS-23</b>	<b>Electric Aircraft Design &amp; Analysis I</b>
31-Jul	10:30 a.m.	Alliance Ballroom 309	<b>EATS-24</b>	<b>Electric Vehicle Design Considerations III</b>
31-Jul	10:30 a.m.	Alliance Ballroom 320	<b>TF-05/EATS-25</b>	<b>X-57 Maxwell Lessons Learned I: Design &amp; Development Considerations for X-57</b>
31-Jul	1 p.m.	Alliance Ballroom 310	<b>EATS-26</b>	<b>Electric Aircraft Design &amp; Analysis II</b>
31-Jul	1 p.m.	Alliance Ballroom 309	<b>EATS-28</b>	<b>Electric Vehicle Design Considerations IV</b>
31-Jul	1 p.m.	Alliance Ballroom 320	<b>TF-07/EATS-29</b>	<b>X-57 Maxwell Lessons Learned II: Flight Performance, Handling and Testing</b>
31-Jul	3:30 p.m.	Alliance Ballroom 309	<b>EATS-30</b>	<b>Electric Vehicle Design Considerations V</b>
31-Jul	3:30 p.m.	Alliance Ballroom 310	<b>EATS-31</b>	<b>Operational Considerations for Electric Aircraft Design</b>
31-Jul	3:30 p.m.	Alliance Ballroom 320	<b>TF-09/EATS-34</b>	<b>X-57 Maxwell Lessons Learned III: Structural Analysis</b>
1-Aug	3:30 p.m.	Alliance Ballroom 320	<b>FL-10/EATS-35</b>	<b>Sustainable Aviation Panel</b>
2-Aug	3:30 p.m.	Alliance Ballroom 310	<b>EATS-37</b>	<b>Electric Aircraft Rolling Recap Closing</b>

# FLIGHT LAB SESSIONS

## MONDAY, 29 JULY

9:30–5:30 p.m. Alliance Ballroom 321 **FL-01** Sustainable Aviation Workshop

## TUESDAY, 30 JULY

11 a.m.–12 p.m. Alliance Ballroom 321 **FL-16** Certification Task Force Briefing  
 1–2 p.m. Alliance Ballroom 321 **FL-03** Challenges of In-Flight Icing for Disruptive Aircraft Designs and Advanced Air Mobility  
 2–3 p.m. Alliance Ballroom 321 **FL-05** The Aircraft Designers, A Northrop Grumman Historical Perspective  
 3:30–5 p.m. Alliance Ballroom 321 **FL-02** Blended Wing Body: Concept to Prototype

## WEDNESDAY, 31 JULY

9:30–10:30 a.m. Alliance Ballroom 321 **FL-07** Generative AI in Defense: is ChatGPT Good Enough for Aerospace?  
 10:30–11:30 a.m. Alliance Ballroom 321 **FL-08** Breaking AI: The Cyber Risks of AI in Aerospace  
 1–1:30 p.m. Alliance Ballroom 321 **FL-09** TinyML: The role of Efficient Machine Learning in Aerospace  
 1:30–3 p.m. Alliance Ballroom 321 **FL-11** Nowcast and Forecast for Safety Data Analytics  
 3:30–4:30 p.m. Alliance Ballroom 321 **FL-19** Crossing the Chasm: Building Expert Level Generative AI Applications

## THURSDAY, 1 AUGUST

9:30–11 a.m. Alliance Ballroom 321 **FL-12** Autonomy to Enable NASA Missions from Aeronautics to Space  
 1–2 p.m. Alliance Ballroom 321 **FL-13** Development and Application on Non-CO2 Technology Roadmap – A European Perspective  
 2–3 p.m. Alliance Ballroom 321 **FL-18** FAA’s Continuous Lower Energy, Emissions, and Noise (CLEEN) Program – Charting Progress Toward Quieter, More Efficient and Cleaner Aircraft  
 3:30–5 p.m. Alliance Ballroom 321 **FL-14** Aviation Operations and Other Applications of Autonomy  
 3:30–5:30 p.m. Alliance Ballroom 320 **FL-10/  
EATS-35** Technical Challenges in Sustainable Aviation hosted by SARES

## FRIDAY, 2 AUGUST

9:30–10:30 a.m. Alliance Ballroom 321 **FL-17** Flight Testing the World’s Largest Hydrogen-Powered Aircraft  
 10:30–11:30 a.m. Alliance Ballroom 321 **FL-15** Achieving Escape Velocity: Developing Financial Acumen to Propel the Aerospace, Defense, and Space Industries Forward



# TECHNICAL SESSIONS

## AERODYNAMIC DECELERATOR SYSTEMS

31-Jul	9:30 a.m.	Alliance Ballroom 306	<b>ADS-01</b>	<b>Aerodynamic Decelerator Systems Seminar</b>
1-Aug	9:30 a.m.	Alliance Ballroom 306	<b>ADS-02</b>	<b>Aerodynamic Decelerator Systems Space I</b>
1-Aug	1 p.m.	Alliance Ballroom 306	<b>ADS-03</b>	<b>Aerodynamic Decelerator Systems Space II</b>
1-Aug	3:30 p.m.	Alliance Ballroom 306	<b>ADS-04</b>	<b>Aerodynamic Decelerator Systems Modeling &amp; Simulation</b>
2-Aug	9:30 a.m.	Alliance Ballroom 306	<b>ADS-05</b>	<b>Aerodynamic Decelerator Systems Airdrop</b>

## AEROSPACE TRAFFIC MANAGEMENT

29-Jul	1 p.m.	Summit Ballroom 232	<b>TF-02/ ATM-01</b>	<b>Airspace and ATM Considerations for Transformational Flight</b>
1-Aug	3:30 p.m.	Summit Ballroom 232	<b>ATM-02</b>	<b>UAM Advancements</b>
2-Aug	9:30 a.m.	Summit Ballroom 232	<b>ATM-03</b>	<b>Airspace Interactions</b>
2-Aug	1 p.m.	Summit Ballroom 232	<b>ATM-04</b>	<b>Operational Impacts</b>

## AIR TRANSPORTATION SYSTEMS

30-Jul	9:30 a.m.	Summit Ballroom 226	<b>ATS-01</b>	<b>Advanced Air Mobility and Urban Air Mobility I</b>
30-Jul	1 p.m.	Summit Ballroom 226	<b>ATS-02</b>	<b>Advanced Air Mobility and Urban Air Mobility II</b>
30-Jul	1 p.m.	Summit Ballroom 227	<b>ATS-03</b>	<b>Noises in Aviation Operations</b>
30-Jul	3:30 p.m.	Summit Ballroom 226	<b>ATS-04</b>	<b>Advanced Air Mobility and Urban Air Mobility III</b>
30-Jul	3:30 p.m.	Summit Ballroom 227	<b>ATS-05</b>	<b>Pilot and ATC Human Factors</b>
31-Jul	9:30 a.m.	Summit Ballroom 226	<b>ATS-06</b>	<b>Advanced Air Mobility and Urban Air Mobility IV</b>
31-Jul	9:30 a.m.	Summit Ballroom 227	<b>ATS-07</b>	<b>NAS Safety and Air Traffic Control</b>
31-Jul	1 p.m.	Summit Ballroom 226	<b>ATS-08</b>	<b>Advanced Air Mobility and Urban Air Mobility V</b>
31-Jul	1 p.m.	Summit Ballroom 227	<b>ATS-09</b>	<b>Airport and Airline Operations I</b>
31-Jul	3:30 p.m.	Summit Ballroom 227	<b>ATS-10</b>	<b>Airport and Airline Operations II</b>
1-Aug	9:30 a.m.	Summit Ballroom 227	<b>ATS-11</b>	<b>Machine Learning and Artificial Intelligence for Aviation I</b>
1-Aug	9:30 a.m.	Summit Ballroom 226	<b>ATS-12</b>	<b>Regional Air Mobility and General Aviation</b>
1-Aug	1 p.m.	Summit Ballroom 227	<b>ATS-13</b>	<b>Machine Learning and Artificial Intelligence for Aviation II</b>
1-Aug	1 p.m.	Summit Ballroom 226	<b>ATS-14</b>	<b>Small UAS Technologies and Operations I</b>
1-Aug	3:30 p.m.	Summit Ballroom 226	<b>ATS-15</b>	<b>Small UAS Technologies and Operations II</b>
1-Aug	3:30 p.m.	Summit Ballroom 227	<b>ATS-16</b>	<b>Traffic Flow Management and Congestion Management</b>
2-Aug	9:30 a.m.	Summit Ballroom 227	<b>ATS-17</b>	<b>Sustainable Aviation</b>
2-Aug	9:30 a.m.	Alliance Ballroom 320	<b>ATS-18</b>	<b>System-Wide Safety I</b>
2-Aug	9:30 a.m.	Summit Ballroom 226	<b>ATS-19</b>	<b>Trajectory Planning, Prediction and Analysis I</b>
2-Aug	1 p.m.	Alliance Ballroom 320	<b>ATS-20</b>	<b>System-Wide Safety II</b>
2-Aug	1 p.m.	Summit Ballroom 226	<b>ATS-21</b>	<b>Trajectory Planning, Prediction and Analysis II</b>
2-Aug	1 p.m.	Summit Ballroom 227	<b>ATS-22</b>	<b>Weather and Aviation Operations</b>
2-Aug	3:30 p.m.	Alliance Ballroom 320	<b>ATS-23</b>	<b>System-Wide Safety III</b>

## AIRCRAFT DESIGN

29-Jul	9:30 a.m.	Alliance Ballroom 306	<b>ACD-01</b>	<b>Structural Synthesis in Aircraft Design</b>
29-Jul	1 p.m.	Alliance Ballroom 306	<b>ACD-02</b>	<b>Unconventional Missions</b>
29-Jul	3:30 p.m.	Alliance Ballroom 306	<b>ACD-03</b>	<b>Hydrogen Aircraft Design Challenges &amp; Opportunities</b>
30-Jul	9:30 a.m.	Alliance Ballroom 306	<b>ACD-04</b>	<b>Innovative Aircraft Concepts</b>
30-Jul	1 p.m.	Summit Ballroom 232	<b>TF-04/ACD-05</b>	<b>Electric Flight - Battery Modeling and Considerations</b>

# TECHNICAL SESSIONS

30-Jul	3:30 p.m.	Alliance Ballroom 304	<b>ACD-06</b>	<b>Aircraft Performance</b>
31-Jul	9:30 a.m.	Alliance Ballroom 304	<b>ACD-07</b>	<b>Sustainable Aircraft Design</b>
31-Jul	1 p.m.	Alliance Ballroom 304	<b>ACD-08</b>	<b>Flight Dynamics Issues in Aircraft Design</b>
31-Jul	3:30 p.m.	Alliance Ballroom 304	<b>ACD-09</b>	<b>High-Speed Aircraft Design Challenges</b>
1-Aug	9:30 a.m.	Alliance Ballroom 304	<b>ACD-10</b>	<b>Aircraft Concept Design Tools &amp; Processes</b>
1-Aug	1 p.m.	Alliance Ballroom 304	<b>ACD-11</b>	<b>Aircraft Design Policy, System and Market Studies</b>
1-Aug	3:30 p.m.	Alliance Ballroom 304	<b>ACD-12</b>	<b>eVTOL Vehicle Design and Analysis</b>
2-Aug	9:30 a.m.	Alliance Ballroom 304	<b>DE-02/ACD-13</b>	<b>Design Methods, Tools, and Processes for Aircraft Design</b>

## APPLIED AERODYNAMICS

29-Jul	9:30 a.m.	Academy Ballroom 405	<b>APA-01/MDO-01</b>	<b>Aerodynamic Design I</b>
29-Jul	9:30 a.m.	Academy Ballroom 403	<b>APA-02</b>	<b>Aerodynamic Flow Control: Analytical, Computational, and Experimental I</b>
29-Jul	9:30 a.m.	Academy Ballroom 404	<b>APA-03/GT-01</b>	<b>Aerodynamic Testing: Ground, Wind-Tunnel, and Flight Testing I</b>
29-Jul	9:30 a.m.	Academy Ballroom 402	<b>APA-04</b>	<b>Aero-Propulsive Interactions and Aerodynamics of Integrated Propeller Systems I</b>
29-Jul	1 p.m.	Academy Ballroom 405	<b>APA-05/MDO-03</b>	<b>Aerodynamic Design II</b>
29-Jul	1 p.m.	Academy Ballroom 403	<b>APA-06</b>	<b>Aerodynamic Flow Control: Analytical, Computational, and Experimental II</b>
29-Jul	1 p.m.	Academy Ballroom 404	<b>APA-07/GT-03</b>	<b>Aerodynamic Testing: Ground, Wind-Tunnel, and Flight Testing II</b>
29-Jul	1 p.m.	Academy Ballroom 402	<b>APA-08</b>	<b>Aero-Propulsive Interactions and Aerodynamics of Integrated Propeller Systems II</b>
29-Jul	3:30 p.m.	Academy Ballroom 405	<b>APA-09/MDO-04</b>	<b>Aerodynamic Design III</b>
29-Jul	3:30 p.m.	Academy Ballroom 403	<b>APA-10</b>	<b>Aerodynamic Flow Control: Analytical, Computational, and Experimental III</b>
29-Jul	3:30 p.m.	Academy Ballroom 404	<b>APA-11/GT-04</b>	<b>Aerodynamic Testing: Ground, Wind-Tunnel, and Flight Testing III</b>
29-Jul	3:30 p.m.	Academy Ballroom 402	<b>APA-12/CFD-07/MST-01</b>	<b>CFD Methods for Applied Aerodynamics I</b>
30-Jul	9:30 a.m.	Academy Ballroom 405	<b>APA-13/MDO-05</b>	<b>Aerodynamic Design IV</b>
30-Jul	9:30 a.m.	Academy Ballroom 403	<b>APA-14</b>	<b>Aerodynamic Flow Control: Analytical, Computational, and Experimental IV</b>
30-Jul	9:30 a.m.	Academy Ballroom 404	<b>APA-15/GT-05</b>	<b>Aerodynamic Testing: Ground, Wind-Tunnel, and Flight Testing IV</b>
30-Jul	9:30 a.m.	Academy Ballroom 402	<b>APA-16</b>	<b>Applied Computational Fluid Dynamics I</b>
30-Jul	1 p.m.	Academy Ballroom 405	<b>APA-17/MDO-06</b>	<b>Aerodynamic Design V</b>
30-Jul	1 p.m.	Academy Ballroom 402	<b>APA-19</b>	<b>Applied Aeroelasticity I</b>
30-Jul	1 p.m.	Academy Ballroom 404	<b>APA-20/GT-07/CFD2030-02</b>	<b>ICE TAG 1 Panel Session: Mutual Accountability and Validation Dialog</b>
30-Jul	3:30 p.m.	Academy Ballroom 403	<b>APA-21/INPSI-01</b>	<b>Aerodynamics of Inlets and Nozzles</b>
30-Jul	3:30 p.m.	Academy Ballroom 404	<b>APA-22</b>	<b>Application and Development of Experimental Optical Techniques</b>
30-Jul	3:30 p.m.	Academy Ballroom 402	<b>APA-23</b>	<b>Applied Computational Fluid Dynamics II</b>

# TECHNICAL SESSIONS

30-Jul	3:30 p.m.	Academy Ballroom 405	<b>GT-08/APA-24</b>	<b>Testing and CFD Analysis of Supersonic Retropropulsion in the Langley Unitary Plan Wind Tunnel (Special Session)</b>
31-Jul	9:30 a.m.	Academy Ballroom 403	<b>APA-25</b>	<b>Applied Computational Fluid Dynamics III</b>
31-Jul	9:30 a.m.	Academy Ballroom 405	<b>APA-26</b>	<b>Boundary Layer Transition</b>
31-Jul	9:30 a.m.	Academy Ballroom 402	<b>CFD-21/APA-27/MST-02</b>	<b>CFD Methods for Applied Aerodynamics II</b>
31-Jul	1 p.m.	Academy Ballroom 402	<b>APA-29</b>	<b>Applied Aeroelasticity II</b>
31-Jul	1 p.m.	Academy Ballroom 404	<b>APA-33</b>	<b>NATO/STO AVT-351 on Enhanced Computational Performance and Prediction for NATO Military Vehicles I</b>
31-Jul	1 p.m.	Summit Ballroom 232	<b>TF-06/APA-34</b>	<b>Small/Medium Uncrewed Bio Inspired and Solar Powered Aircraft System Concepts</b>
31-Jul	1 p.m.	Expo Hall	<b>FVS-01</b>	<b>Flow Visualization Showcase</b>
31-Jul	3:30 p.m.	Academy Ballroom 402	<b>APA-36/CFD-25</b>	<b>Airfoil/Wing/Configuration Aerodynamics I</b>
31-Jul	3:30 p.m.	Academy Ballroom 403	<b>APA-37</b>	<b>APA Student Paper Competition</b>
31-Jul	3:30 p.m.	Academy Ballroom 405	<b>APA-38/FD-21</b>	<b>Hypersonic Aerodynamics I</b>
31-Jul	3:30 p.m.	Academy Ballroom 404	<b>APA-39</b>	<b>NATO/STO AVT-351 on Enhanced Computational Performance and Prediction for NATO Military Vehicles II</b>
1-Aug	9:30 a.m.	Academy Ballroom 406	<b>APA-42/FD-17</b>	<b>Hypersonic Aerodynamics II</b>
1-Aug	9:30 a.m.	Academy Ballroom 404	<b>APA-44</b>	<b>NATO/STO AVT-390: Aerodynamics of a Generic Missile Airframe</b>
1-Aug	9:30 a.m.	Academy Ballroom 402	<b>APA-45</b>	<b>Propeller/Rotorcraft/Wind Turbine Aerodynamics I</b>
1-Aug	1 p.m.	Academy Ballroom 403	<b>APA-46</b>	<b>Applied Computational Fluid Dynamics IV</b>
1-Aug	1 p.m.	Academy Ballroom 406	<b>APA-47/FD-22</b>	<b>Hypersonic Aerodynamics III</b>
1-Aug	1 p.m.	Academy Ballroom 402	<b>APA-48</b>	<b>Propeller/Rotorcraft/Wind Turbine Aerodynamics II</b>
1-Aug	1 p.m.	Academy Ballroom 404	<b>APA-49</b>	<b>Reduced Order Aerodynamics Modeling &amp; System Identification I</b>
1-Aug	3:30 p.m.	Academy Ballroom 402	<b>APA-51/CFD-32</b>	<b>Airfoil/Wing/Configuration Aerodynamics II</b>
1-Aug	3:30 p.m.	Academy Ballroom 403	<b>APA-52</b>	<b>Applied Computational Fluid Dynamics V</b>
1-Aug	3:30 p.m.	Academy Ballroom 404	<b>APA-55</b>	<b>Reduced Order Aerodynamics Modeling &amp; System Identification II</b>
2-Aug	9:30 a.m.	Academy Ballroom 404	<b>PDL-06/APA-56</b>	<b>Diagnostics in High-Speed Flows</b>
2-Aug	9:30 a.m.	Academy Ballroom 402	<b>APA-57</b>	<b>Propeller/Rotorcraft/Wind Turbine Aerodynamics III</b>
2-Aug	9:30 a.m.	Academy Ballroom 403	<b>APA-58/SPSN-01</b>	<b>Transonic and Supersonic Aerodynamics I</b>
2-Aug	9:30 a.m.	Academy Ballroom 405	<b>APA-59/FD-31</b>	<b>Unsteady Aerodynamics and Massively Separated Flows</b>
2-Aug	1 p.m.	Academy Ballroom 405	<b>APA-60</b>	<b>Low Speed, Low Reynolds Number Aerodynamics</b>
2-Aug	1 p.m.	Academy Ballroom 404	<b>APA-62</b>	<b>Special Session: Cavity Flow Effects on Stores and Store Separation</b>
2-Aug	1 p.m.	Academy Ballroom 403	<b>APA-63/SPSN-02</b>	<b>Transonic and Supersonic Aerodynamics II</b>

## ATMOSPHERIC AND SPACE ENVIRONMENTS

29-Jul	9:30 a.m.	Academy Ballroom 409	<b>ASE-01</b>	<b>SENS4ICE Flight Tests and ICE-GENESIS Project</b>
29-Jul	1 p.m.	Academy Ballroom 409	<b>ASE-02</b>	<b>2nd Ice Prediction Workshop I</b>
29-Jul	3:30 p.m.	Academy Ballroom 409	<b>ASE-03</b>	<b>2nd Ice Prediction Workshop II</b>

# TECHNICAL SESSIONS

30-Jul	9:30 a.m.	Academy Ballroom 409	<b>ASE-04</b>	<b>Aircraft Wake Turbulence and Contrails and Other Atmospheric Hazards</b>
30-Jul	9:30 a.m.	Academy Ballroom 406	<b>ASE-05</b>	<b>ICE-MACR and ICE-GENESIS Project</b>
30-Jul	1 p.m.	Alliance Ballroom 306	<b>ASE-06/TP-09</b>	<b>Engine Ice Crystal Icing - Experimental</b>
30-Jul	1 p.m.	Academy Ballroom 409	<b>ASE-07</b>	<b>Observations and Modeling of the Atmospheric Environment</b>
30-Jul	3:30 p.m.	Academy Ballroom 406	<b>ASE-08</b>	<b>Engine Ice Crystal Icing and Simulation</b>
30-Jul	3:30 p.m.	Academy Ballroom 409	<b>ASE-09</b>	<b>Observations and Modeling of the Atmospheric Environment and Impacts to the National Airspace</b>
31-Jul	9:30 a.m.	Academy Ballroom 409	<b>ASE-10</b>	<b>Icing Aerodynamics and Roughness Modeling</b>
31-Jul	1 p.m.	Alliance Ballroom 306	<b>ASE-11/TP-13</b>	<b>De-Icing/Anti-Icing and Ice Adhesion</b>
31-Jul	3:30 p.m.	Academy Ballroom 409	<b>ASE-12</b>	<b>Airframe Icing - Simulation</b>
1-Aug	9:30 a.m.	Academy Ballroom 409	<b>ASE-13</b>	<b>Icing Certification and Facility Capabilities</b>
1-Aug	1 p.m.	Academy Ballroom 409	<b>ASE-14</b>	<b>Advanced Air Mobility Icing I</b>
1-Aug	3:30 p.m.	Academy Ballroom 409	<b>ASE-15</b>	<b>Advanced Air Mobility Icing II</b>
2-Aug	9:30 a.m.	Academy Ballroom 409	<b>ASE-16</b>	<b>Advanced Air Mobility Icing and Simulation</b>

## COMPUTATIONAL FLUID DYNAMICS

29-Jul	9:30 a.m.	Academy Ballroom 410	<b>CFD-01</b>	<b>Boundary Layer Transition Modeling and Applications I</b>
29-Jul	9:30 a.m.	Academy Ballroom 411	<b>CFD-02</b>	<b>CFD for Emerging HPC Architectures</b>
29-Jul	9:30 a.m.	Academy Ballroom 412	<b>CFD-03</b>	<b>Turbulence Modeling: Recent Progress (Invited)</b>
29-Jul	1 p.m.	Academy Ballroom 410	<b>CFD-04</b>	<b>Boundary Layer Transition Modeling and Applications II</b>
29-Jul	1 p.m.	Academy Ballroom 411	<b>CFD-05</b>	<b>Convergence Acceleration for CFD</b>
29-Jul	1 p.m.	Academy Ballroom 412	<b>CFD-06</b>	<b>Fluid Structure/Particle Interaction</b>
29-Jul	3:30 p.m.	Academy Ballroom 402	<b>APA-12/CFD-07/MST-01</b>	<b>CFD Methods for Applied Aerodynamics I</b>
29-Jul	3:30 p.m.	Academy Ballroom 411	<b>CFD-08</b>	<b>Data-Driven Methods for Modeling and Applications</b>
29-Jul	3:30 p.m.	Academy Ballroom 410	<b>CFD-09</b>	<b>DNS/LES of Shock-Boundary Layer Interactions</b>
29-Jul	3:30 p.m.	Academy Ballroom 412	<b>CFD-10</b>	<b>High-Fidelity CFD Verification Workshop 2024: Summary (Invited)</b>
30-Jul	9:30 a.m.	Academy Ballroom 412	<b>CFD-11</b>	<b>Numerical Methods I: High-Order/Low-Dissipation Schemes</b>
30-Jul	9:30 a.m.	Academy Ballroom 411	<b>CFD-12</b>	<b>Supersonic/Hypersonic Applications I</b>
30-Jul	9:30 a.m.	Academy Ballroom 415	<b>CFD-13/CFD2030-01</b>	<b>Tools for Flight and Engine Characteristics Prediction I (Invited)</b>
30-Jul	1 p.m.	Academy Ballroom 412	<b>CFD-14</b>	<b>Numerical Methods II: Shock-Capturing/Novel Algorithms</b>
30-Jul	1 p.m.	Academy Ballroom 411	<b>CFD-15</b>	<b>Supersonic/Hypersonic Applications II</b>
30-Jul	1 p.m.	Academy Ballroom 415	<b>CFD-16/CFD2030-03</b>	<b>Tools for Flight and Engine Characteristics Prediction II (Invited)</b>
30-Jul	1 p.m.	Academy Ballroom 406	<b>CFD-17</b>	<b>Turbulence Modeling and Applications I</b>
30-Jul	3:30 p.m.	Alliance Ballroom 306	<b>CFD-18/TP-10</b>	<b>CFD for Nonequilibrium Flow Physics I</b>
30-Jul	3:30 p.m.	Academy Ballroom 412	<b>CFD-19</b>	<b>Numerical Methods III: High-Order Methods</b>
30-Jul	3:30 p.m.	Academy Ballroom 411	<b>CFD-20</b>	<b>Supersonic/Hypersonic Applications III: DNS/LES</b>
31-Jul	9:30 a.m.	Academy Ballroom 402	<b>CFD-21/APA-27/MST-02</b>	<b>CFD Methods for Applied Aerodynamics II</b>
31-Jul	1 p.m.	Academy Ballroom 410	<b>CFD-24</b>	<b>Turbulence Modeling and Applications II</b>
31-Jul	1 p.m.	Expo Hall	<b>FVS-01</b>	<b>Flow Visualization Showcase</b>



# TECHNICAL SESSIONS

31-Jul	3:30 p.m.	Academy Ballroom 402	APA-36/CFD-25	Airfoil/Wing/Configuration Aerodynamics I
31-Jul	3:30 p.m.	Academy Ballroom 410	CFD-27	Turbulence Modeling and Applications III: Wall-Modeled LES
1-Aug	9:30 a.m.	Academy Ballroom 410	CFD-28	Meshing Strategies/ Adaptation for CFD Applications
1-Aug	9:30 a.m.	Academy Ballroom 411	CFD-29	Scale-Resolving Simulation Including DNS/LES/ Hybrid Methods I
1-Aug	1 p.m.	Academy Ballroom 410	CFD-30/TP-15	CFD for Nonequilibrium Flow Physics II
1-Aug	1 p.m.	Academy Ballroom 411	CFD-31	Scale-Resolving Simulation Including DNS/LES/ Hybrid Methods II
1-Aug	3:30 p.m.	Academy Ballroom 402	APA-51/CFD-32	Airfoil/Wing/Configuration Aerodynamics II
1-Aug	3:30 p.m.	Academy Ballroom 411	CFD-33	Scale-Resolving Simulation Including DNS/LES/ Hybrid Methods III
1-Aug	3:30 p.m.	Academy Ballroom 410	CFD-34/TP-16	Verification, Validation, and Uncertainty Quantification

## CFD VISION 2030

30-Jul	9:30 a.m.	Academy Ballroom 415	CFD-13/ CFD2030-01	Tools for Flight and Engine Characteristics Prediction I (Invited)
30-Jul	1 p.m.	Academy Ballroom 404	APA-20/GT-07/ CFD2030-02	ICE TAG 1 Panel Session: Mutual Accountability and Validation Dialog
30-Jul	1 p.m.	Academy Ballroom 415	CFD-16/ CFD2030-03	Tools for Flight and Engine Characteristics Prediction II (Invited)

## CYBERSECURITY

2-Aug	1 p.m.	Alliance Ballroom 308	CSS-01	Cybersecurity in Aviation
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## DESIGN ENGINEERING

1-Aug	1 p.m.	Alliance Ballroom 305	DE-01	Model-Based Complex Systems Design, Education, and Innovation
2-Aug	9:30 a.m.	Alliance Ballroom 304	DE-02/ACD-13	Design Methods, Tools, and Processes for Aircraft Design
2-Aug	1 p.m.	Alliance Ballroom 304	DE-03	Design, Optimization, and Prototyping for Structural Manufacturing
2-Aug	3:30 p.m.	Alliance Ballroom 304	DE-04	Design Science Research and Applications of AI and ML

## DIGITAL ENGINEERING

2-Aug	1 p.m.	Academy Ballroom 415	DGE-01	Digital Engineering
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## FLIGHT TESTING

31-Jul	3:30 p.m.	Summit Ballroom 226	FT-01	Autonomous Helicopter Flight Testing Over Long Island Sound Special Session
1-Aug	1 p.m.	Academy Ballroom 417	FT-02	UAV Testing
1-Aug	3:30 p.m.	Academy Ballroom 417	FT-03	Sub Sonic Manned Flight Testing
2-Aug	9:30 a.m.	Academy Ballroom 417	FT-04	Super and Hyper Sonics, and Out of This World Flight Testing

# TECHNICAL SESSIONS

## FLUID DYNAMICS

29-Jul	9:30 a.m.	<i>Academy Ballroom 414</i>	<b>FD-01</b>	<b>Flow Control Devices and Applications</b>
29-Jul	9:30 a.m.	<i>Academy Ballroom 413</i>	<b>FD-02</b>	<b>Shock-Boundary Layer Interactions I</b>
29-Jul	1 p.m.	<i>Academy Ballroom 414</i>	<b>FD-03</b>	<b>Flow Control Devices and Applications: Fluidic Injection</b>
29-Jul	1 p.m.	<i>Academy Ballroom 413</i>	<b>FD-04</b>	<b>Shock-Boundary Layer Interactions II</b>
29-Jul	3:30 p.m.	<i>Academy Ballroom 414</i>	<b>FD-05</b>	<b>Flow Control Devices and Applications: Optimization and Modeling</b>
29-Jul	3:30 p.m.	<i>Academy Ballroom 413</i>	<b>FD-07</b>	<b>Shock-Boundary Layer Interactions III</b>
30-Jul	9:30 a.m.	<i>Academy Ballroom 414</i>	<b>FD-08</b>	<b>Flow Control Devices and Application: Wings and Airfoils</b>
30-Jul	9:30 a.m.	<i>Academy Ballroom 413</i>	<b>FD-09</b>	<b>Shock-Boundary Layer Interactions IV</b>
30-Jul	1 p.m.	<i>Academy Ballroom 413</i>	<b>FD-10</b>	<b>Supersonic and Hypersonic Flow Physics: Supersonics</b>
30-Jul	3:30 p.m.	<i>Academy Ballroom 413</i>	<b>FD-11</b>	<b>Supersonic and Hypersonic Flow Physics: Hypersonics</b>
31-Jul	9:30 a.m.	<i>Summit Ballroom 232</i>	<b>FD-12</b>	<b>Fluid Dynamics Award Lecture</b>
31-Jul	1 p.m.	<i>Academy Ballroom 414</i>	<b>FD-13</b>	<b>Physics and Control of Dynamic Stall and Reversed Flow Over Airfoils</b>
31-Jul	1 p.m.	<i>Academy Ballroom 413</i>	<b>FD-14</b>	<b>Surrogate and Reduced-Order Modeling</b>
31-Jul	1 p.m.	<i>Expo Hall</i>	<b>FVS-01</b>	<b>Flow Visualization Showcase</b>
31-Jul	3:30 p.m.	<i>Academy Ballroom 413</i>	<b>FD-15</b>	<b>Modal Flow Analysis</b>
31-Jul	3:30 p.m.	<i>Academy Ballroom 412</i>	<b>FD-16</b>	<b>Stability and Transition: High-Speed Flows I</b>
31-Jul	3:30 p.m.	<i>Academy Ballroom 405</i>	<b>APA-38/FD-21</b>	<b>Hypersonic Aerodynamics I</b>
1-Aug	9:30 a.m.	<i>Academy Ballroom 406</i>	<b>APA-42/FD-17</b>	<b>Hypersonic Aerodynamics II</b>
1-Aug	9:30 a.m.	<i>Academy Ballroom 412</i>	<b>FD-18</b>	<b>Intermittent Effects in Aerodynamic Flows: Pressure Gradients, Vortex Interactions, and Turbulence</b>
1-Aug	9:30 a.m.	<i>Academy Ballroom 414</i>	<b>FD-19</b>	<b>Multiphysics: Experiments I</b>
1-Aug	9:30 a.m.	<i>Academy Ballroom 413</i>	<b>FD-20</b>	<b>Stability and Transition: High-Speed Flows II</b>
1-Aug	9:30 a.m.	<i>Alliance Ballroom 320</i>	<b>FD-32</b>	<b>Transition Open Forum</b>
1-Aug	1 p.m.	<i>Academy Ballroom 406</i>	<b>APA-47/FD-22</b>	<b>Hypersonic Aerodynamics III</b>
1-Aug	1 p.m.	<i>Academy Ballroom 414</i>	<b>FD-23</b>	<b>Multiphysics: Experiments II</b>
1-Aug	1 p.m.	<i>Academy Ballroom 413</i>	<b>FD-24</b>	<b>Turbulent Flows</b>
1-Aug	1 p.m.	<i>Academy Ballroom 412</i>	<b>FD-26</b>	<b>Vortex and Viscous Effects in Compressible Aerodynamic Flows</b>
1-Aug	1 p.m.	<i>Academy Ballroom 415</i>	<b>FD-33</b>	<b>Flow Control Open Forum</b>
1-Aug	3:30 p.m.	<i>Academy Ballroom 412</i>	<b>FD-27</b>	<b>Actuation and Unsteady Effects in Aerodynamic Flows</b>
1-Aug	3:30 p.m.	<i>Academy Ballroom 414</i>	<b>FD-29</b>	<b>Multiphysics: Multi-Phase Flow Modeling &amp; Simulation</b>
1-Aug	3:30 p.m.	<i>Academy Ballroom 413</i>	<b>FD-30</b>	<b>Stability and Transition: Boundary Layers and Vortices</b>
2-Aug	9:30 a.m.	<i>Academy Ballroom 405</i>	<b>APA-59/FD-31</b>	<b>Unsteady Aerodynamics and Massively Separated Flows</b>

## GENERAL AVIATION

30-Jul	9:30 a.m.	<i>Academy Ballroom 410</i>	<b>GA-01</b>	<b>Improving GA Certification, Safety, and Experience</b>
30-Jul	1 p.m.	<i>Academy Ballroom 410</i>	<b>GA-02</b>	<b>Advanced Air Mobility and UAS - Operations, Sustainability, and Safety</b>

# TECHNICAL SESSIONS

## GROUND TESTING

29-Jul	9:30 a.m.	Academy Ballroom 404	<b>APA-03/GT-01</b>	<b>Aerodynamic Testing: Ground, Wind-Tunnel, and Flight Testing I</b>
29-Jul	9:30 a.m.	Academy Ballroom 406	<b>GT-02</b>	<b>Arcjet Facility Development and Characterization</b>
29-Jul	1 p.m.	Academy Ballroom 404	<b>APA-07/GT-03</b>	<b>Aerodynamic Testing: Ground, Wind-Tunnel, and Flight Testing II</b>
29-Jul	3:30 p.m.	Academy Ballroom 404	<b>APA-11/GT-04</b>	<b>Aerodynamic Testing: Ground, Wind-Tunnel, and Flight Testing III</b>
30-Jul	9:30 a.m.	Academy Ballroom 404	<b>APA-15/GT-05</b>	<b>Aerodynamic Testing: Ground, Wind-Tunnel, and Flight Testing IV</b>
30-Jul	9:30 a.m.	Summit Ballroom 232	<b>GT-06</b>	<b>Small to Mid-Size Facilities</b>
30-Jul	1 p.m.	Academy Ballroom 404	<b>APA-20/GT-07/ CFD2030-02</b>	<b>ICE TAG 1 Panel Session: Mutual Accountability and Validation Dialog</b>
30-Jul	3:30 p.m.	Academy Ballroom 405	<b>GT-08/APA- 24</b>	<b>Testing and CFD Analysis of Supersonic Retropropulsion in the Langley Unitary Plan Wind Tunnel (Special Session)</b>
31-Jul	9:30 a.m.	Academy Ballroom 406	<b>GT-09</b>	<b>Development and Refinement of Advanced Measurement Technologies in Ground Test</b>
31-Jul	1 p.m.	Academy Ballroom 406	<b>GT-10</b>	<b>Novel Test Facilities and Capabilities in Ground Testing</b>
31-Jul	3:30 p.m.	Academy Ballroom 406	<b>GT-11</b>	<b>Development and Characterization of Wind Tunnel Facilities</b>
1-Aug	9:30 a.m.	Alliance Ballroom 303	<b>GT-12</b>	<b>Advancements in Wind Tunnel Diagnostics and Test Instrumentation</b>
2-Aug	9:30 a.m.	Academy Ballroom 406	<b>GT-13</b>	<b>Other Topics in Ground Testing</b>

## HIGH-SPEED AIR BREATHING PROPULSION

29-Jul	9:30 a.m.	Alliance Ballroom 303	<b>HSABP-01</b>	<b>Next Generation Materials for High-Speed Propulsion</b>
29-Jul	1 p.m.	Alliance Ballroom 303	<b>HSABP-02</b>	<b>Workforce Needs for High-Speed Airbreathing Propulsion</b>
30-Jul	9:30 a.m.	Alliance Ballroom 303	<b>HSABP-04</b>	<b>High-Speed Combustion Experiments and Modeling</b>
30-Jul	1 p.m.	Alliance Ballroom 303	<b>HSABP-05</b>	<b>High-Speed Propulsion System Design and Integration</b>
30-Jul	3:30 p.m.	Alliance Ballroom 303	<b>HSABP-06/ INPSI-02</b>	<b>High-Speed Intakes and Isolators</b>
31-Jul	9:30 a.m.	Academy Ballroom 404	<b>HSABP-03</b>	<b>Sensing in Flight and High-Temperature Environments</b>
31-Jul	1 p.m.	Alliance Ballroom 303	<b>INPSI-04/ HSABP-07</b>	<b>High Speed Inlet and Nozzle Experimental and Numerical Optimization</b>
31-Jul	3:30 p.m.	Alliance Ballroom 303	<b>HSABP-08</b>	<b>Design of High-Speed Inlets</b>

## HUMAN MACHINE TEAMING

1-Aug	9:30 a.m.	Alliance Ballroom 308	<b>HMT-01</b>	<b>Innovative Human-Machine Interfaces</b>
1-Aug	1 p.m.	Alliance Ballroom 308	<b>HMT-02</b>	<b>Human Factors and Human-Machine Performance</b>
1-Aug	3:30 p.m.	Alliance Ballroom 308	<b>HMT-03</b>	<b>AI, xAI, and ML for Human-Machine Teaming</b>
2-Aug	9:30 a.m.	Alliance Ballroom 308	<b>HMT-04</b>	<b>Data-Driven Human-Machine Systems</b>

## INFORMATION SYSTEMS

1-Aug	9:30 a.m.	Alliance Ballroom 309	<b>ISG-01</b>	<b>Information Systems</b>
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# TECHNICAL SESSIONS

## INLETS, NOZZLES & PROPULSION SYSTEMS INTEGRATION

30-Jul	3:30 p.m.	<i>Academy Ballroom 403</i>	<b>APA-21/ INPSI-01</b>	<b>Aerodynamics of Inlets and Nozzles</b>
30-Jul	3:30 p.m.	<i>Alliance Ballroom 303</i>	<b>HSABP-06/ INPSI-02</b>	<b>High-Speed Intakes and Isolators</b>
31-Jul	9:30 a.m.	<i>Alliance Ballroom 303</i>	<b>INPSI-03</b>	<b>Inlets Nozzles and Propulsion Optimization and Integration</b>
31-Jul	1 p.m.	<i>Alliance Ballroom 303</i>	<b>INPSI-04/ HSABP-07</b>	<b>High Speed Inlet and Nozzle Experimental and Numerical Optimization</b>

## INTELLIGENT SYSTEMS

1-Aug	9:30 a.m.	<i>Alliance Ballroom 310</i>	<b>IS-02</b>	<b>Guidance and Navigation Systems</b>
1-Aug	1 p.m.	<i>Alliance Ballroom 310</i>	<b>IS-03</b>	<b>Intelligent Operations</b>
1-Aug	3:30 p.m.	<i>Alliance Ballroom 310</i>	<b>IS-04</b>	<b>Verification, Validation, and Safety Systems</b>
2-Aug	9:30 a.m.	<i>Alliance Ballroom 310</i>	<b>IS-05</b>	<b>Advanced Control Systems</b>
2-Aug	1 p.m.	<i>Alliance Ballroom 310</i>	<b>IS-06</b>	<b>Machine Learning Systems</b>

## LIGHTER-THAN-AIR-SYSTEMS

30-Jul	1 p.m.	<i>Alliance Ballroom 305</i>	<b>LTA-01</b>	<b>Field Observations, Autonomous Vehicles, Advanced Controls</b>
30-Jul	3:30 p.m.	<i>Alliance Ballroom 305</i>	<b>LTA-02</b>	<b>Lighter Than Air History</b>
31-Jul	9:30 a.m.	<i>Alliance Ballroom 305</i>	<b>LTA-03</b>	<b>Lighter Than Air Systems Progression, Operations, Future Challenges</b>
31-Jul	1 p.m.	<i>Alliance Ballroom 305</i>	<b>LTA-04</b>	<b>Concept Design, CFD, Electric Propulsion, STEM</b>

## MESHING, VISUALIZATION, AND COMPUTATIONAL ENVIRONMENTS

31-Jul	1 p.m.	<i>Expo Hall</i>	<b>FVS-01</b>	<b>Flow Visualization Showcase</b>
1-Aug	9:30 a.m.	<i>Alliance Ballroom 305</i>	<b>MVCE-01</b>	<b>Geometry and Mesh Generation</b>
1-Aug	3:30 p.m.	<i>Alliance Ballroom 305</i>	<b>MVCE-02</b>	<b>Parallel Meshing, Error Estimation, and Knowledge Extraction</b>

## MODELING AND SIMULATION TECHNOLOGIES

29-Jul	3:30 p.m.	<i>Academy Ballroom 402</i>	<b>APA-12/CFD-07/MST-01</b>	<b>CFD Methods for Applied Aerodynamics I</b>
31-Jul	9:30 a.m.	<i>Academy Ballroom 402</i>	<b>CFD-21/APA-27/MST-02</b>	<b>CFD Methods for Applied Aerodynamics II</b>
31-Jul	1 p.m.	<i>Academy Ballroom 416</i>	<b>MST-04</b>	<b>Modeling and Simulation for Digital Engineering</b>
31-Jul	3:30 p.m.	<i>Academy Ballroom 416</i>	<b>MST-05</b>	<b>Modeling and Simulation of Vehicle Concepts</b>
1-Aug	9:30 a.m.	<i>Academy Ballroom 416</i>	<b>MST-06</b>	<b>Advanced Modeling and Simulation Techniques</b>
1-Aug	1 p.m.	<i>Academy Ballroom 416</i>	<b>MST-07</b>	<b>Modeling and Simulation of Vehicle Dynamics I</b>
1-Aug	3:30 p.m.	<i>Academy Ballroom 416</i>	<b>MST-08</b>	<b>Modeling and Simulation of Vehicle Dynamics II</b>
2-Aug	9:30 a.m.	<i>Academy Ballroom 416</i>	<b>MST-09</b>	<b>Modeling and Simulation of Advanced Aircraft</b>
2-Aug	1 p.m.	<i>Academy Ballroom 416</i>	<b>MST-10</b>	<b>UAS Modeling and Simulation</b>

## MULTIDISCIPLINARY DESIGN OPTIMIZATION

29-Jul	9:30 a.m.	<i>Academy Ballroom 405</i>	<b>APA-01/MDO-01</b>	<b>Aerodynamic Design I</b>
29-Jul	9:30 a.m.	<i>Alliance Ballroom 302</i>	<b>MDO-02</b>	<b>MDO Student Paper Competition</b>




# TECHNICAL SESSIONS

29-Jul	1 p.m.	Academy Ballroom 405	APA-05/MDO-03	Aerodynamic Design II
29-Jul	1 p.m.	Academy Ballroom 415	MDO-17	MDO Lecture
29-Jul	3:30 p.m.	Academy Ballroom 405	APA-09/MDO-04	Aerodynamic Design III
30-Jul	9:30 a.m.	Academy Ballroom 405	APA-13/MDO-05	Aerodynamic Design IV
30-Jul	1 p.m.	Academy Ballroom 405	APA-17/MDO-06	Aerodynamic Design V
30-Jul	3:30 p.m.	Alliance Ballroom 302	MDO-08	Multifidelity Methods
31-Jul	9:30 a.m.	Alliance Ballroom 302	MDO-09	Aeroelastic and Aero-Structures Optimization
31-Jul	3:30 p.m.	Alliance Ballroom 302	MDO-11	Physics-Informed Machine Learning
1-Aug	9:30 a.m.	Alliance Ballroom 302	MDO-12	Aircraft Design Optimization
1-Aug	1 p.m.	Alliance Ballroom 302	MDO-13	Emerging Methods, Software, and Challenges
2-Aug	9:30 a.m.	Alliance Ballroom 302	MDO-15	Metamodeling and Reduced-Order Models
<b>PLASMADYNAMICS AND LASERS</b>				
29-Jul	3:30 p.m.	Academy Ballroom 417	PDL-01	Plasma and Laser Diagnostics
30-Jul	1 p.m.	Academy Ballroom 417	PDL-02	Plasma Assisted Combustion and Ignition
30-Jul	3:30 p.m.	Academy Ballroom 417	PDL-03	Computational Modeling of Plasmas
31-Jul	1 p.m.	Expo Hall	FVS-01	Flow Visualization Showcase
31-Jul	3:30 p.m.	Academy Ballroom 414	PDL-08	Plasmadynamics and Lasers Award Lecture
1-Aug	9:30 a.m.	Academy Ballroom 417	PDL-05	Plasma, Combustion and Flow Physics and Optics
2-Aug	9:30 a.m.	Academy Ballroom 404	PDL-06/APA-56	Diagnostics in High-Speed Flows
2-Aug	9:30 a.m.	Academy Ballroom 415	PDL-07	Flow Control
<b>PRESSURE GAIN COMBUSTION</b>				
1-Aug	1 p.m.	Alliance Ballroom 303	PGC-01	Numerical Analysis of Pressure Gain Devices
<b>SOLID ROCKETS</b>				
2-Aug	9:30 a.m.	Alliance Ballroom 303	SR-01	Solid Rocket Propulsion Design, Modeling, and Manufacturing
<b>SUPERSONICS</b>				
2-Aug	9:30 a.m.	Academy Ballroom 403	APA-58/SPSN-01	Transonic and Supersonic Aerodynamics I
2-Aug	1 p.m.	Academy Ballroom 403	APA-63/SPSN-02	Transonic and Supersonic Aerodynamics II
2-Aug	3:30 p.m.	Academy Ballroom 403	SPSN-03	Supersonics
<b>THERMOPHYSICS</b>				
29-Jul	9:30 a.m.	Academy Ballroom 416	TP-01	Aerothermodynamics, Thermal Protection Systems, and Ablation I
29-Jul	9:30 a.m.	Academy Ballroom 415	TP-02	Topics in Heat Transfer
29-Jul	1 p.m.	Academy Ballroom 416	TP-03	Aerothermodynamics, Thermal Protection Systems, and Ablation II
29-Jul	3:30 p.m.	Academy Ballroom 416	TP-04	Aerothermodynamics, Thermal Protection Systems, and Ablation III


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## Guidance and Control of Hypersonic Vehicles

 Starts 3 September


## Safety Management System in Aviation

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
## Aircraft Reliability & Reliability Centered Maintenance

 Starts 17 September

## Advanced Hydrogen Aerospace Technologies and Design

 Starts 8 October

## Hypersonic Propulsion Concepts: Design, Control, Operation, and Testing

 Starts 22 October

## Aircraft Maintenance Management

 Starts 13 November



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# TECHNICAL SESSIONS

30-Jul	9:30 a.m.	Academy Ballroom 416	<b>TP-06</b>	<b>Aerothermodynamics, Thermal Protection Systems, and Ablation IV</b>
30-Jul	9:30 a.m.	Academy Ballroom 417	<b>TP-07</b>	<b>Theoretical and Computational Heat Transfer I</b>
30-Jul	1 p.m.	Alliance Ballroom 306	<b>ASE-06/TP-09</b>	<b>Engine Ice Crystal Icing - Experimental</b>
31-Jul	9:30 a.m.	Academy Ballroom 416	<b>TP-11</b>	<b>Aerothermodynamics, Thermal Protection Systems, and Ablation V</b>
31-Jul	9:30 a.m.	Academy Ballroom 415	<b>TP-12</b>	<b>Theoretical and Computational Heat Transfer II</b>
31-Jul	1 p.m.	Alliance Ballroom 306	<b>ASE-11/TP-13</b>	<b>De-Icing/Anti-Icing and Ice Adhesion</b>
31-Jul	1 p.m.	Expo Hall	<b>FVS-01</b>	<b>Flow Visualization Showcase</b>
31-Jul	3:30 p.m.	Academy Ballroom 415	<b>TP-14</b>	<b>Thermophysics Award Lecture</b>
1-Aug	1 p.m.	Academy Ballroom 410	<b>CFD-30/TP-15</b>	<b>CFD for Nonequilibrium Flow Physics II</b>
1-Aug	3:30 p.m.	Academy Ballroom 410	<b>CFD-34/TP-16</b>	<b>Verification, Validation, and Uncertainty Quantification</b>

## TRANSFORMATIONAL FLIGHT

29-Jul	9:30 a.m.	Summit Ballroom 232	<b>TF-01</b>	<b>Advanced Air Mobility Concept of Operations</b>
29-Jul	1 p.m.	Summit Ballroom 232	<b>TF-02/ATM-01</b>	<b>Airspace and ATM Considerations for Transformational Flight</b>
29-Jul	3:30 p.m.	Summit Ballroom 232	<b>TF-03</b>	<b>Advanced Air Mobility Operations and Sustainability Considerations</b>
30-Jul	1 p.m.	Summit Ballroom 232	<b>TF-04/ACD-05</b>	<b>Electric Flight - Battery Modeling and Considerations</b>
31-Jul	10:30 a.m.	Alliance Ballroom 320	<b>TF-05/EATS-25</b>	<b>X-57 Maxwell Lessons Learned I: Design &amp; Development Considerations for X-57</b>
31-Jul	1 p.m.	Summit Ballroom 232	<b>TF-06/APA-34</b>	<b>Small/Medium Uncrewed Bio Inspired and Solar Powered Aircraft System Concepts</b>
31-Jul	1 p.m.	Alliance Ballroom 320	<b>TF-07/EATS-29</b>	<b>X-57 Maxwell Lessons Learned II: Flight Performance, Handling and Testing</b>
31-Jul	3:30 p.m.	Alliance Ballroom 320	<b>TF-09/EATS-34</b>	<b>X-57 Maxwell Lessons Learned III: Structural Analysis</b>
1-Aug	1 p.m.	Summit Ballroom 232	<b>TF-11/VSTOL-01</b>	<b>Novel and Advanced Configurations</b>

## UNCREWED AND AUTONOMOUS SYSTEMS

29-Jul	9:30 a.m.	Alliance Ballroom 305	<b>UAS-01</b>	<b>Systems Design &amp; Optimization for UAS I</b>
29-Jul	1 p.m.	Alliance Ballroom 305	<b>UAS-02</b>	<b>Systems Design &amp; Optimization for UAS II</b>
29-Jul	3:30 p.m.	Alliance Ballroom 305	<b>UAS-03</b>	<b>Autonomous Mission Management Concepts</b>
30-Jul	9:30 a.m.	Alliance Ballroom 305	<b>UAS-04</b>	<b>Optimizing Human-Machine Relationship</b>
30-Jul	1 p.m.	Alliance Ballroom 304	<b>UAS-05</b>	<b>Unmanned Systems Student Papers</b>

## UNIDENTIFIED ANOMALOUS PHENOMENA

29-Jul	3:30 p.m.	Alliance Ballroom 304	<b>UAP-01</b>	<b>Advancing the Scientific Understanding of UAP to Improve Aviation Safety</b>
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## VERTICAL/SHORT TAKE-OFF AND LANDING (V/STOL) AIRCRAFT SYSTEMS

1-Aug	1 p.m.	Summit Ballroom 232	<b>TF-11/VSTOL-01</b>	<b>Novel and Advanced Configurations</b>
1-Aug	1 p.m.	Alliance Ballroom 309	<b>VSTOL-02</b>	<b>V/STOL Handling Qualities, Control Laws, and Human Machine Interfaces</b>
1-Aug	3:30 p.m.	Alliance Ballroom 309	<b>VSTOL-03</b>	<b>Exploiting the V/STOL Regime</b>



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# RECOGNITION

AIAA is committed to ensuring that aerospace professionals are recognized and celebrated for their achievements, innovations, and discoveries that make the world safer, more connected, more accessible, and more prosperous. From the major missions that reimagine how our nation utilizes air and space to the inventive new applications that enhance everyday living, aerospace professionals leverage their knowledge for the benefit of society. AIAA continues to celebrate that pioneering spirit showcasing the very best in the aerospace industry.

## TECHNICAL EXCELLENCE AWARDS

### Monday, 29 July

#### 2024 AIAA Fluid Dynamics Award

8 a.m. *Academy Ballroom 421*

This award is presented for outstanding contributions to the understanding of the behavior of liquids and gases in motion as related to need in aeronautics and astronautics.

**Mark Glauser**, Syracuse University

“For seminal contributions on the innovative use of multi-point low dimensional methods for understanding and control of turbulent flows.”

#### 2024 AIAA Ground Testing Award

8 a.m. *Academy Ballroom 421*

This award is presented for outstanding achievement in the development or effective utilization of technology, procedures, facilities, or modeling techniques for flight simulation, space simulation, propulsion testing, aerodynamic testing, or other ground testing associated with aeronautics and astronautics.

**Marvin Sellers**, Axient, Inc.

“In recognition of decades of tremendous contributions to the national ground test and evaluation community, most particularly in the advancement of pressure-sensitive paint techniques.”

### Tuesday, 30 July

#### 2024 AIAA Losey Atmospheric Sciences Award

8 a.m. *Academy Ballroom 421*

This award is presented in recognition of outstanding contributions to the atmospheric sciences as applied to the advancement of aeronautics and astronautics.

**Duane Waliser**, NASA Jet Propulsion Laboratory

“For highly impactful science and leadership contributions to atmospheric and Earth system science that have progressively advanced and leveraged space-based Earth observations.”

#### 2024 AIAA Plasmadynamics and Lasers Award

8 a.m. *Academy Ballroom 421*

This award is presented to an individual who has made outstanding contributions to the understanding of the physical properties and dynamical behavior of matter in the plasma state and lasers as related to aeronautics and astronautics.

**Kurt A. Polzin**, NASA Marshall Space Flight Center

“For seminal modeling of pulsed inductive plasma accelerators providing both a fundamental understanding of underlying physics and practical approaches to optimization of energy deposition.”

#### 2024 AIAA Thermophysics Award

8 a.m. *Academy Ballroom 421*

This award is presented for an outstanding singular or sustained technical or scientific contribution by an individual in thermophysics, specifically as related to the study and application of the properties and mechanisms involved in thermal energy transfer and the study of environmental effects on such properties and mechanisms.

**Greg F. Naterer**, University of Prince Edward Island

“For significant contributions to heat transfer in multiphase flows, thermochemical processes, and thermal design using entropy and the second law of thermodynamics.”

### Wednesday, 31 July

#### 2024 AIAA Aircraft Design Award

8 a.m. *Academy Ballroom 421*

This award is presented to an individual or team for an original concept or career contributions leading to a significant advancement in aircraft design or design technology.

**Paul L. Fontenrose**, Northrop Grumman Aeronautics Systems

“For the design of the next evolution of the U.S. Air Force strategic bomber fleet and the world’s first sixth-generation aircraft to reach the skies.”

# RECOGNITION

## 2024 AIAA Multidisciplinary Design Optimization Award

8 a.m.

Academy Ballroom 421

This award is presented to an individual for outstanding contributions to the development and/or application of techniques of multidisciplinary design optimization in the context of aerospace engineering.

**Kumar Bhatia**, The Boeing Company (Retired)

“For pioneering the use of multidisciplinary design optimization in transport aircraft and developing a rapid approach for aircraft MDO employing appropriate fidelity analyses.”

## 2024 AIAA Piper General Aviation Award

8 a.m.

Academy Ballroom 421

This award is presented for outstanding contributions leading to the advancement of general aviation by an individual or group.

**Noel Duerksen**, Consultant

“For contributions to general aviation safety and ease of use including the first certified envelope protection system and the first certified autonomous emergency landing system in general aviation.”

## Friday, 2 August

### 2024 AIAA STUDENT PAPER COMPETITIONS

Aerodynamic Decelerator Systems

Air Transportation Systems

Aerodynamic Decelerator Systems

Applied Aerodynamics

Atmospheric and Space Environments

Computational Fluid Dynamics

Intelligent Systems

Multidisciplinary Design Optimization

Uncrewed and Autonomous Systems

### BEST PAPERS

#### 2023 AIAA Aircraft Design Best Paper Award

“Design and Assessment of Long Range Aircraft Concepts with focus on Fossil Kerosene, Sustainable Aviation Fuel and Liquid Hydrogen as Energy Carriers” (AIAA 2023-3229)

Authors: Sebastian Wöhler, Tim Burschky, Jannik Häßy, and Michael Iwanizki, German Aerospace Center (DLR)

#### 2023 AIAA Aircraft Operations Best Paper Award

“Trajectory-related measures to mitigate the climate impact of aviation: A comparative study” (AIAA 2023-4220)

Authors: Zarah Lea Zengerling, Florian Linke, Benjamin Lührs, and Christian Martin Weder, German Aerospace Center (DLR); and Volker Gollnick, Hamburg University of Technology

#### 2023 AIAA Fluid Dynamics Best Paper Award

“Studies of transonic aircraft flows and prediction of initial buffet onset using large-eddy simulations” (AIAA 2023-4338)

Authors: Konrad A. Goc and Rahul Agrawal, Stanford University; Sanjeeb T. Bose, Cadence Design Systems; and Parviz Moin, Stanford University

#### 2023 AIAA Ground Testing Best Paper Award

“Optical aerodynamic measurements of hypersonic free-flight using Bayesian state estimation” (AIAA 2023-3713)

Authors: Andrew Lock, Gerard Armstrong, Flynn Hack, Byrenn Birch, David Buttsworth, and Ingo Jahn, University of Southern Queensland

#### 2023 AIAA Plasmadynamics and Lasers Best Paper Award

“Burst-mode Nitric Oxide PLIF for Visualization and Mode Spectral Analysis of Hypersonic Shear Layers” (AIAA 2023-4382)

Authors: Boris S. Leonov, Tyler S. Dean, Donovan E. McGruder, Rodney D. Bowersox, and Richard B Miles, Texas A&M University; and Christopher M. Limbach, University of Michigan, Ann Arbor

# RECOGNITION

## 2024 AIAA Applied Aerodynamics Best Paper Award

“Dynamic f<sub>k</sub> Estimates for Partially-Averaged Navier-Stokes Around a Circular Cylinder” (AIAA 2024-2514)

Authors: Andrea Petrocchi and George N. Barakos, University of Glasgow

## 2024 AIAA Modeling and Simulation Best Paper Award

“Command and Control Concepts for a Lift Plus Cruise Electric Vertical Takeoff and Landing Vehicle” (AIAA 2023-3910)

Authors: John Kaneshige, Thomas Lombaerts, Kimberlee Shish, and Mike Feary, NASA Ames Research Center

## 2024 AIAA Thermophysics Best Paper Award

“Development of an Optical Model for the MEDLI2 Radiometer” (AIAA 2023-4037)

Authors: James B. Scoggins, Alireza Mazaheri, Christopher O. Johnston, NASA Langley Research Center

## STUDENT BEST PAPERS

### 2024 AIAA David Weaver Thermophysics Best Student Paper Award

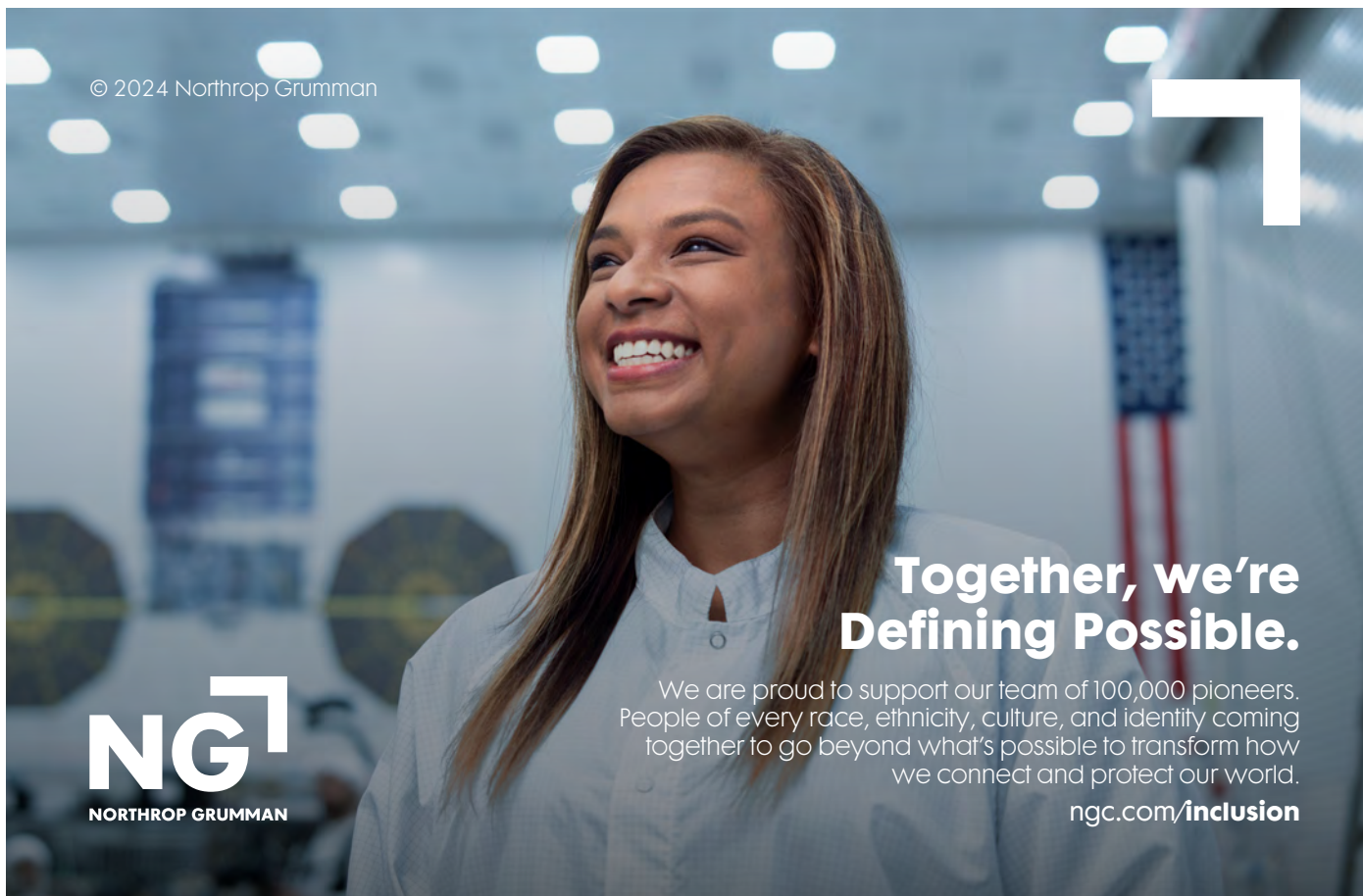
“Uncertainty Analysis of Slug Calorimeters in the HyMETS Arc-Jet Facility” (AIAA 2023-4038)

Authors: Chelsey C. Morrow and Andrew J. Brune, NASA Langley Research Center

### 2023 AIAA Plasmadynamics and Lasers Best Student Paper Award

“Radio frequency signal propagation through a stagnant flow in a plasma facility for analysis of the communication blackout phenomenon” (AIAA 2024-1421)

Authors: Diana Luís, Alan Viladegut, and Olivier Chazot, von Karman Institute for Fluid Dynamics, and Adriano Camps, Universitat Politècnica de Catalunya



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**Mark Mozena**  
Planet Federal

**Johnathon Olson**  
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**Shawna Pandya**  
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**Pat Remias**  
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# UPCOMING ONLINE SHORT COURSES

## Guidance and Control of Hypersonic Vehicles

 STARTS 3 SEPTEMBER

## EVA 101: Life Support Systems

 STARTS 9 SEPTEMBER


## Orbital Mechanics and Mission Simulation

 STARTS 9 SEPTEMBER

## Space Domain Awareness

 STARTS 9 SEPTEMBER

## Advanced Solid Rockets

 STARTS 24 SEPTEMBER

## Spacecraft Lithium-Ion Battery Power Systems

 STARTS 30 SEPTEMBER

## Spacecraft Design, Development, and Operations

 STARTS 16 OCTOBER

## Space Domain Cybersecurity

 STARTS 28 OCTOBER

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# OVERVIEW

	TUESDAY 30 JULY	WEDNESDAY 31 JULY	THURSDAY 1 AUGUST
8 a.m.	Macro	Macro	Macro
9 a.m.	Coffee Break	Coffee Break	Coffee Break
10 a.m.	Meta	Meta	Meta
11 a.m.	von Kármán Lecture		
12 p.m.	Lunch Thompson Lecture	Lunch Pickering Lecture	Lunch
1 p.m.			
2 p.m.	Micro Tech	Micro Tech	Micro Tech
3 p.m.	Coffee Break	Coffee Break	Coffee Break
4 p.m.	Micro Tech	Micro Tech	Micro Tech
5 p.m.			
			Closing Ceremony
6 p.m.	Aero + Space Reception with the Exhibitors		



**Special Programming & Networking Sessions** include the von Kármán Lecture in Astronautics, David W. Thompson Lecture in Space Commerce, William H. Pickering Lecture, AIAA committee-led sessions, daily opening sessions, finale closing session, networking coffee breaks, and receptions.



**Macro Sessions** include some of the world's most inspired thinkers and speakers, providing broad and bold perspectives on a wide range of topics around building our off-world future.



**Meta Sessions** offer mind-expanding knowledge from industry leaders and doers, and focus on spurring large-scale discussions of the trends, economic forces, technical challenges, and policymaking hurdles facing every member of the space ecosystem.



**Micro Sessions** include presentations, discussions, and interactive roundtables/workshops featuring different perspectives and opinions across one of our 16 targeted session topics.



**Technical Sessions** explore the wide array of research and developments focused on interdisciplinary approaches to the art and science of space technology, exploration, economics, and more via one of our six paper topic themes.

## PROGRAM TUESDAY

7:30–8 a.m.	<i>Session Rooms</i>	<b>SP-02</b>	<b>Technical Papers Session Prep</b>
8–9 a.m.	<i>Forum Ballroom 134</i>	<b>MACRO-01</b>	<b>Keys to a Sustainable Space Ecosystem</b>
9–9:30 a.m.	<i>Summit Ballroom/Expo Hall</i>	<b>CB-03</b>	<b>Coffee Break, Sponsored by ispace</b>
9:30–10:30 a.m.	<i>Forum Ballroom 134</i>	<b>META-01</b>	<b>Diverse Dozen</b>
9:30–10:30 a.m.	<i>Forum Ballroom 139</i>	<b>META-03</b>	<b>Space to Grow: Unlocking the Final Economic Frontier</b>
9:30–10:30 a.m.	<i>Forum Ballroom 113</i>	<b>META-04</b>	<b>Assembling the Jigsaw Puzzle: A Conversation with AIAA Domain Leads</b>
9:30–10:30 a.m.	<i>Forum Ballroom 137</i>	<b>META-06</b>	<b>Outmaneuver the Threats: Strategies for On-Orbit Servicing and Logistics</b>
10:45–11:45 a.m.	<i>Forum Ballroom 113</i>	<b>META-08</b>	<b>Vulcan Flying!</b>
10:45–11:45 a.m.	<i>Forum Ballroom 139</i>	<b>META-18</b>	<b>American Dynamism: Driving Investment and Innovation in Space and Defense Tech</b>
10:45–11:45 a.m.	<i>Forum Ballroom 134</i>	<b>META-24</b>	<b>Nuclear-Enabled, Water-Based Lunar Economy</b>
10:45–11:45 a.m.	<i>Forum Ballroom 137</i>	<b>MICRO-29</b>	<b>Future-Proofing Government Procurement: Flexibility, Speed, and Hybrid Contracting Solutions</b>
10:45–11:45 a.m.	<i>Forum Ballroom 119</i>	<b>SPEC-07</b>	<b>von Kármán Lecture: “Unlocking the Secrets of Our Solar System’s History: The OSIRIS-REx Journey”</b>
11:45 a.m.–1 p.m.	<i>Summit Ballroom/Expo Hall</i>	<b>LUNCH-01</b>	<b>Luncheon</b>
12–12:45 p.m.	<i>Forum Ballroom 134</i>	<b>SPEC-09</b>	<b>Thompson Lecture: “Small Satellites – the Foundation of NewSpace”</b>
1–2 p.m.	<i>Forum Ballroom 139</i>	<b>META-05</b>	<b>Mars Sample Return (MSR) Reimagined</b>
1–2 p.m.	<i>Forum Ballroom 134</i>	<b>MICRO-01</b>	<b>Founder’s Panel</b>
1–2 p.m.	<i>Forum Ballroom 137</i>	<b>MICRO-20</b>	<b>An Introduction to the AIAA Lunar Surface Exploration Task Force</b>
1–3 p.m.	<i>Forum Ballroom 119</i>	<b>MICRO-19</b>	<b>Conjunction Assessment Performance Metrics and Current Performance Trends</b>
2:15–3 p.m.	<i>Forum Ballroom 134</i>	<b>MICRO-04</b>	<b>Overcoming the Cold Start Problem</b>
2:15–3 p.m.	<i>Forum Ballroom 139</i>	<b>MICRO-06</b>	<b>America’s Future in Orbit: Commercial Space Stations</b>
2:15–3 p.m.	<i>Forum Ballroom 137</i>	<b>MICRO-08</b>	<b>Smithsonian Air and Space Museum/AIAA Outer Space Heritage Summit Outbrief</b>
3–3:30 p.m.	<i>Summit Ballroom/Expo Hall</i>	<b>CB-04</b>	<b>Coffee Break</b>
3:30–4:15 p.m.	<i>Forum Ballroom 137</i>	<b>MICRO-05</b>	<b>Staking a Claim Together: Moonshots Achieved Through the Power of Enterprise Integration</b>
3:30–4:15 p.m.	<i>Forum Ballroom 134</i>	<b>MICRO-07</b>	<b>Should Technology Advances Drive Decadal Survey Science or Vice Versa?</b>
3:30–4:15 p.m.	<i>Forum Ballroom 139</i>	<b>MICRO-09</b>	<b>ISRU to Achieve a Sustained Presence on the Lunar Surface and Beyond: Industry and Academia Perspectives</b>
3:30–5:30 p.m.	<i>Forum Ballroom 119</i>	<b>MICRO-45</b>	<b>SGAC/ASCEND Workshop: Shaping the Cosmos: Young Voices on Responsible Space Behavior (Workshop)</b>
4:30–5:30 p.m.	<i>Forum Ballroom 134</i>	<b>MICRO-10</b>	<b>Technology Microtrends that are Shaping the Future of Aerospace</b>
4:30–5:30 p.m.	<i>Forum Ballroom 137</i>	<b>MICRO-11</b>	<b>Detection, Characterization, and Evaluation of Unidentified Anomalous Phenomena (UAP)</b>
4:30–5:30 p.m.	<i>Forum Ballroom 139</i>	<b>MICRO-12</b>	<b>Bringing Mobility to Market: Igniting Drivers to Make ISAM Routine</b>



# TECHNICAL SESSIONS TUESDAY

1-3 p.m.	<i>Summit Ballroom 207</i>	<b>ECON-01</b>	<b>Space Cost Drivers and Market Analysis</b>
1-3 p.m.	<i>Summit Ballroom 206</i>	<b>EXPL-01</b>	<b>Autonomous Operations in Space</b>
1-3 p.m.	<i>Forum Ballroom 124</i>	<b>EXPL-02</b>	<b>Deep Space Mission Concepts</b>
1-3 p.m.	<i>Forum Ballroom 126</i>	<b>EXPL-03</b>	<b>Expanding Human Presence in Space</b>
1-3 p.m.	<i>Forum Ballroom 125</i>	<b>STM-01</b>	<b>Managing Cislunar Space Traffic</b>
1-3 p.m.	<i>Forum Ballroom 127</i>	<b>SPEC-11</b>	<b>Power and Propulsion: Nuclear Space Technologies</b>
3:30-5:30 p.m.	<i>Summit Ballroom 207</i>	<b>ECON-02</b>	<b>Public-Private Partnership and Space Policy</b>
3:30-5:30 p.m.	<i>Forum Ballroom 125</i>	<b>EXPL-06</b>	<b>Lunar Infrastructure Development</b>
3:30-5:30 p.m.	<i>Forum Ballroom 126</i>	<b>EXPL-07</b>	<b>Space Habitats: State of the Art and Beyond</b>
3:30-5:30 p.m.	<i>Summit Ballroom 206</i>	<b>SEC-01</b>	<b>On-orbit Threats and Satellite Safety</b>
3:30-5:30 p.m.	<i>Forum Ballroom 127</i>	<b>SPEC-12</b>	<b>Power and Propulsion: Space Constellation Missions</b>

## ASCENDxWEBINAR

### A Phobos Telescope for Science and Exploration

A telescope which resides on the north or south pole of Phobos would provide a significant number of advantages by facilitating high-capacity optical communication links, offering a backup for data transmission during dust storms, and high resolution surface imaging in support of humans living, working, and exploring the surface of Mars.

Learn what a Phobos telescope could mean for space exploration and science in the on-demand ASCENDxWebinar.

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#### DISCOVER MORE THIS WEEK

Join us on site for an in-depth look into a telescope on Phobos with the ASCEND technical presentation **Deep Space Telescope: An SLS Launched Space Telescope Landed on the Far-Side of Phobos (AIAA-2024-4814)**.

**WHEN:** Tuesday, 30 July, 2-2:20 p.m.

**WHERE:** Forum Ballroom 124



## PROGRAM WEDNESDAY

7:30–8 a.m.	<i>Session Rooms</i>	<b>SP-03</b>	<b>Technical Papers Session Prep</b>
8–9 a.m.	<i>Forum Ballroom 134</i>	<b>MACRO-02</b>	<b>Charting the Path Together: The Importance of International Collaboration in Space Exploration and Commerce</b>
9–9:30 a.m.	<i>Summit Ballroom/Expo Hall</i>	<b>CB-05</b>	<b>Coffee Break, Sponsored by ispace</b>
9:30–10:30 a.m.	<i>Forum Ballroom 134</i>	<b>META-09</b>	<b>Astrodebates: Part I</b>
9:30–10:30 a.m.	<i>Forum Ballroom 137</i>	<b>META-10</b>	<b>Fostering Strategic International Partnerships Within the Space Domain</b>
9:30–10:30 a.m.	<i>Forum Ballroom 139</i>	<b>META-11</b>	<b>Migration of SSA/STC Services from DoD to the Office of Space Commerce</b>
9:30–10:30 a.m.	<i>Forum Ballroom 113</i>	<b>META-12</b>	<b>Lessons Learned from Artemis I: The Path to Artemis II</b>
10:45–11:45 a.m.	<i>Forum Ballroom 134</i>	<b>META-13</b>	<b>Astrodebates: Part II</b>
10:45–11:45 a.m.	<i>Forum Ballroom 139</i>	<b>META-15</b>	<b>Orbital Debris Remediation</b>
10:45–11:45 a.m.	<i>Forum Ballroom 113</i>	<b>META-16</b>	<b>Developing and Recruiting the Workforce of Tomorrow, Today</b>
10:45–11:45 a.m.	<i>Forum Ballroom 137</i>	<b>META-23</b>	<b>The Good, the Fad, and the Buggy: Harnessing AI's Potential for Space</b>
11:45 a.m.–1 p.m.	<i>Summit Ballroom/Expo Hall</i>	<b>LUNCH-02</b>	<b>Luncheon</b>
12–12:45 p.m.	<i>Forum Ballroom 134</i>	<b>SPEC-08</b>	<b>Pickering Lecture: “Europa Clipper: First NASA Mission to an Ocean World”</b>
1–2 p.m.	<i>Forum Ballroom 139</i>	<b>MICRO-15</b>	<b>The Most Cost-Effective Actions for Space Sustainability</b>
1–2 p.m.	<i>Forum Ballroom 134</i>	<b>MICRO-18</b>	<b>Move Fast &amp; Build Things: Accelerating resilient space industrial mobilization with the Defense Production Act</b>
1–2 p.m.	<i>Forum Ballroom 113</i>	<b>MICRO-21</b>	<b>What the Success of Spaceborne Optical Communications Means for the Future of Solar System Exploration</b>
1–2 p.m.	<i>Forum Ballroom 137</i>	<b>MICRO-22</b>	<b>STEM Gen: Igniting the 21st-Century Workforce</b>
1–3 p.m.	<i>Forum Ballroom 119</i>	<b>MICRO-44</b>	<b>What is Your Why: Defining and Communicating the Strategy of Space</b>
1–3 p.m.	<i>Forum Ballroom 127</i>	<b>MICRO-55</b>	<b>Atmospheric and Space Environments</b>
2:15–3 p.m.	<i>Forum Ballroom 134</i>	<b>MICRO-14</b>	<b>Accelerating Space Innovation: SDA's Journey and Roadmap</b>
2:15–3 p.m.	<i>Forum Ballroom 139</i>	<b>MICRO-52</b>	<b>Leading the New Age of Space Healthcare with “Humans In Space”</b>
2:15–3 p.m.	<i>Forum Ballroom 113</i>	<b>MICRO-53</b>	<b>Cybersecurity in the Rising Space Economy</b>
3–3:30 p.m.	<i>Summit Ballroom/Expo Hall</i>	<b>CB-06</b>	<b>Coffee Break</b>
3:30–4:15 p.m.	<i>Forum Ballroom 113</i>	<b>MICRO-16</b>	<b>Defining Symbiotic Relationships with Humans and Robots</b>
3:30–4:15 p.m.	<i>Forum Ballroom 139</i>	<b>MICRO-23</b>	<b>Can Large Strategic Science Missions Benefit from Class-D/ SmallSat Mission Lesson's Learned?</b>
3:30–4:15 p.m.	<i>Forum Ballroom 134</i>	<b>MICRO-25</b>	<b>Lunar Terrain Vehicles: Business Model of the Future</b>
3:30–4:15 p.m.	<i>Forum Ballroom 137</i>	<b>MICRO-26</b>	<b>Millennials and Gen Z: The New Space Age</b>
3:30–4:15 p.m.	<i>Forum Ballroom 127</i>	<b>SPEC-01</b>	<b>Space and Aviation Cybersecurity Lightning Talks</b>
3:30–5:30 p.m.	<i>Forum Ballroom 119</i>	<b>MICRO-47</b>	<b>Space Policy for the Next Decade</b>
4:30–5:30 p.m.	<i>Forum Ballroom 137</i>	<b>MICRO-02</b>	<b>Civilization Vulnerabilities to Space Weather Events</b>
4:30–5:30 p.m.	<i>Forum Ballroom 113</i>	<b>MICRO-24</b>	<b>Accelerating Development of the Space Ecosystem - an AIAA Task Force</b>
4:30–5:30 p.m.	<i>Forum Ballroom 139</i>	<b>MICRO-27</b>	<b>In-space Incident Response and Rescue Responsibilities</b>
4:30–5:30 p.m.	<i>Forum Ballroom 134</i>	<b>MICRO-54</b>	<b>From Art to Architecture: Inspiring and Building Our Version of a Star Trek Future</b>
6–7 p.m.	<i>Summit Ballroom/Expo Hall</i>	<b>HH-01</b>	<b>Aero + Space Reception, Sponsored by Northrop Grumman &amp; Vast Space</b>

# TECHNICAL SESSIONS WEDNESDAY

1-3 p.m.	<i>Summit Ballroom 207</i>	<b>ECON-03</b>	<b>Emerging Space Commercial Services, Capabilities, and Drivers</b>
1-3 p.m.	<i>Summit Ballroom 206</i>	<b>EXPL-08</b>	<b>Autonomous Systems for the Moon and Mars II: AI, Agency, Authority, and Agility in Autonomous Systems Capability Maturation</b>
1-3 p.m.	<i>Forum Ballroom 128</i>	<b>EXPL-09</b>	<b>Expanding Capabilities on Mars</b>
1-3 p.m.	<i>Forum Ballroom 125</i>	<b>EXPL-10</b>	<b>Technology Advances for Space Systems</b>
1-3 p.m.	<i>Forum Ballroom 126</i>	<b>EXPL-11</b>	<b>Space Stations and Humans in Orbit</b>
1-3 p.m.	<i>Forum Ballroom 124</i>	<b>EXPL-12</b>	<b>The Expanding Smallsat Universe: Ambitions and Capabilities</b>
3:30-5:30 p.m.	<i>Forum Ballroom 124</i>	<b>EXPL-13</b>	<b>Launch Systems</b>
3:30-5:30 p.m.	<i>Forum Ballroom 125</i>	<b>EXPL-14</b>	<b>Lunar Commodities Production: Technologies and Power</b>
3:30-5:30 p.m.	<i>Forum Ballroom 128</i>	<b>EXPL-15</b>	<b>Rovers at Work: Next Generation</b>
3:30-5:30 p.m.	<i>Forum Ballroom 126</i>	<b>EXPL-16</b>	<b>Space Structure and Building Blocks</b>
3:30-5:30 p.m.	<i>Summit Ballroom 206</i>	<b>SEC-02</b>	<b>Orbital Debris: Challenges and Solutions</b>
3:30-5:30 p.m.	<i>Summit Ballroom 207</i>	<b>SOCIETY-01</b>	<b>Educating and Inspiring the Next Space Generation</b>

## 2024 ASCEND HOST PROGRAM

# ASCEND™

30 JULY-1 AUGUST 2024

**The ASCEND Host Program** is designed to offer young professionals in the space industry an intimate look at the inner workings of content development and an opportunity to enhance your public speaking skills as you prepare for your future as a thought leader. As an ASCEND Host you'll have the opportunity to meet and network with the brightest minds in the field and gain a greater understanding of how you can develop your message and personal brand as you expand your universe.

This year AIAA is proud to welcome the following rising leaders to our community as ASCEND Hosts!

**CHIRAG AGILE**  
The Boeing Company

**CHRISTINE DUBBERT**  
BryceTech

**STEPHEN MCNIERNEY**  
NASA Johnson Space Center

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**JENN HILL**  
The Aerospace Corporation

**JOHN RANGEL**  
NASA Johnson Space Center

**NICK BOENSCH**  
BryceTech

**SIERRA LEWIS**  
The Aerospace Corporation

## PROGRAM THURSDAY

7:30-8 a.m.	<i>Session Rooms</i>	<b>SP-04</b>	<b>Technical Papers Session Prep</b>
8-9 a.m.	<i>Forum Ballroom 134</i>	<b>MACRO-03</b>	<b>Human Health and Performance Challenges for A City on Mars</b>
9-9:30 a.m.	<i>Summit Ballroom/Expo Hall</i>	<b>CB-07</b>	<b>Coffee Break Sponsored by MORI Associates</b>
9:30-10:30 a.m.	<i>Forum Ballroom 137</i>	<b>META-07</b>	<b>Building the Commercial Space Ecosystem</b>
9:30-10:30 a.m.	<i>Forum Ballroom 134</i>	<b>META-17</b>	<b>Updates from NASA's Space Technology Mission Directorate</b>
9:30-10:30 a.m.	<i>Forum Ballroom 113</i>	<b>META-25</b>	<b>The Nuclear Road to Moon, Mars and Beyond: Establishing an Evolutionary Trajectory from First-Generation Space Nuclear Systems</b>
9:30-10:30a.m.	<i>Forum Ballroom 139</i>	<b>META-26</b>	<b>Sustainable Space</b>
10:45-11:45 a.m.	<i>Forum Ballroom 134</i>	<b>META-14</b>	<b>Space Development Agency Update with Derek Tournear</b>
10:45-11:45 a.m.	<i>Forum Ballroom 137</i>	<b>META-21</b>	<b>CLPS on the Moon!</b>
10:45-11:45 a.m.	<i>Forum Ballroom 139</i>	<b>META-22</b>	<b>Space 2050: Our Future Shaped by Today's Space Technology Advances</b>
11:45 a.m.-1 p.m.	<i>Summit Ballroom/Expo Hall</i>	<b>LUNCH-03</b>	<b>Luncheon</b>
1-2 p.m.	<i>Forum Ballroom 134</i>	<b>MICRO-31</b>	<b>Talent Strategies to Fuel the Aerospace Pipeline</b>
1-2 p.m.	<i>Forum Ballroom 139</i>	<b>MICRO-34</b>	<b>Quantum Landscape at NASA</b>
1-2 p.m.	<i>Forum Ballroom 137</i>	<b>MICRO-49</b>	<b>Power Technologies and Environmental Impacts to Sustain a Lunar Surface Infrastructure</b>
1-3 p.m.	<i>Forum Ballroom 119</i>	<b>SPEC-04</b>	<b>Brainstorm the Future: A Space 2050 Workshop</b>
1-3 p.m.	<i>Forum Ballroom 127</i>	<b>SPEC-05</b>	<b>NASA Space Technology Mission Directorate: Functional Domain Session Pt. I</b>
2:15-3 p.m.	<i>Forum Ballroom 113</i>	<b>MICRO-30</b>	<b>AI and Autonomy for Robotic Lunar Rover Surface Exploration</b>
2:15-3 p.m.	<i>Forum Ballroom 137</i>	<b>MICRO-33</b>	<b>Funding Space Infrastructure</b>
2:15-3 p.m.	<i>Forum Ballroom 139</i>	<b>MICRO-35</b>	<b>Setting the Stage for a Future Commercial Lunar Economy</b>
2:15-3 p.m.	<i>Forum Ballroom 134</i>	<b>MICRO-36</b>	<b>Mission Protection: Using Prevention, Proliferation, and Collaboration to Defuse Tomorrow's Threats</b>
3-3:30 p.m.	<i>Summit Ballroom/Expo Hall</i>	<b>CB-08</b>	<b>Coffee Break</b>
3:30-4:15 p.m.	<i>Forum Ballroom 134</i>	<b>MICRO-37</b>	<b>Recommendations for an Interdisciplinary Approach to the Development of the First Human Mars Mission Architecture</b>
3:30-4:15 p.m.	<i>Forum Ballroom 139</i>	<b>MICRO-39</b>	<b>New Treaty Enabling Lunar Missions; Management of Orbital Resources; and New Space Capabilities: How WRC-23 Advances Space Missions</b>
3:30-4:15 p.m.	<i>Forum Ballroom 113</i>	<b>MICRO-40</b>	<b>Emotional Allure: Catalyst for Cross-Industry Entry Into Cislunar Exploration</b>
3:30-4:15 p.m.	<i>Forum Ballroom 137</i>	<b>MICRO-48</b>	<b>Success &amp; Inclusion of Non-Traditional Experiences &amp; Backgrounds in Aerospace Industries: A panel by Women of Aeronautics and Astronautics</b>
3:30-5:30 p.m.	<i>Summit Ballroom 206</i>	<b>MICRO-50</b>	<b>SPACE DOLES: A R&amp;D Strategy and Road Mapping exercise</b>
3:30-5:30 p.m.	<i>Forum Ballroom 127</i>	<b>SPEC-06</b>	<b>NASA Space Technology Mission Directorate - Functional Domain Session Pt. II</b>
4:30-5:30 p.m.	<i>Forum Ballroom 113</i>	<b>MICRO-28</b>	<b>Resilient Capacity for Cislunar Infrastructure and Ops - an AIAA Task Force</b>
4:30-5:30 p.m.	<i>Forum Ballroom 134</i>	<b>MICRO-41</b>	<b>Planet 6.0: Japan's unique initiative by Lunar Industry Vision Council(LIVC)</b>
4:30-5:30 p.m.	<i>Forum Ballroom 139</i>	<b>MICRO-43</b>	<b>Space Architecture Decadal Survey</b>
4:30-5:30 p.m.	<i>Forum Ballroom 137</i>	<b>MICRO-51</b>	<b>Evolving with Industry: Leveraging Nascent Commercial Capabilities to Accelerate Technology Testing</b>
5:30-6 p.m.	<i>Forum Ballroom 134</i>	<b>SPEC-10</b>	<b>Closing Ceremony</b>



# TECHNICAL SESSIONS THURSDAY

1-3 p.m.	<i>Summit Ballroom 206</i>	<b>EXPL-17</b>	<b>Autonomous Systems for the Moon and Mars I: Autonomous System Capabilities for In-Space Assembly</b>
1-3 p.m.	<i>Forum Ballroom 125</i>	<b>EXPL-18</b>	<b>Landing Systems</b>
1-3 p.m.	<i>Forum Ballroom 124</i>	<b>EXPL-19</b>	<b>Nuclear Technology for Space Mission</b>
1-3 p.m.	<i>Forum Ballroom 126</i>	<b>EXPL-20</b>	<b>Orbital Space Infrastructure</b>
1-3 p.m.	<i>Summit Ballroom 207</i>	<b>SOCIETY-02</b>	<b>Societal Impact of Space Activity I</b>
3:30-5:30 p.m.	<i>Forum Ballroom 126</i>	<b>EXPL-21</b>	<b>In-Space Servicing/Assembly/Manufacturing</b>
3:30-5:30 p.m.	<i>Summit Ballroom 207</i>	<b>SOCIETY-03</b>	<b>Societal Impact of Space Activity II</b>



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# ASCENDxTexas

26-27 FEBRUARY 2025 | HOUSTON, TEXAS

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# RECOGNITION

AIAA is committed to ensuring that aerospace professionals are recognized and celebrated for their achievements, innovations, and discoveries that make the world safer, more connected, more accessible, and more prosperous. From the major missions that reimagine how our nation utilizes air and space to the inventive new applications that enhance everyday living, aerospace professionals leverage their knowledge for the benefit of society. AIAA continues to celebrate that pioneering spirit showcasing the very best in the aerospace industry.

## Tuesday, 30 July

### PREMIER LECTURES

#### 2024 AIAA David W. Thompson Lecture in Space Commerce

12 p.m.

*Forum Ballroom 134*

This premier lecture recognizes a prominent industry leader or senior management team who has created or grown a space-related business and generated substantial economic benefits and market value.

**Sir Martin Nicholas Sweeting**, Executive Chairman, Surrey Satellite Technology Ltd, Distinguished Professor, Surrey Space Centre, University of Surrey

Lecture: “Small Satellites – The Foundation of NewSpace”

#### 2024 AIAA von Kármán Lecture in Astronautics

10:45 a.m.

*Forum Ballroom 119*

Honoring Theodore von Kármán, world famous authority on aerospace sciences, the von Kármán Lecture in Astronautics Award recognizes an individual who has performed notably and distinguished themselves technically in the field of astronautics.

**Dante S. Lauretta**, Regents Professor, University of Arizona, Tucson

Lecture: “Unlocking the Secrets of Our Solar System’s History: The OSIRIS-REx Journey”

### MANAGEMENT AWARD

#### 2024 AIAA Hap Arnold Award for Excellence in Aeronautical Program Management

8 a.m.

*Forum Ballroom 134*

This award is presented to an individual for outstanding contributions in the management of a significant aeronautical or aeronautical-related program or project.

**MiMi Aung**, Director, Technical Program Management, Project Kuiper, Amazon (Formerly Project Manager for Ingenuity Mars Helicopter, NASA Jet Propulsion Laboratory)

“For exceptional project management and leadership in delivery of the first aircraft on another planet, Ingenuity Mars Helicopter, advancing planetary exploration state of the art, and providing a new Mars exploration technology.”

## Wednesday, 31 July

### TECHNICAL EXCELLENCE AWARD

#### 2024 AIAA Space Systems Award

8 a.m.

*Forum Ballroom 134*

This award is presented to recognize outstanding achievements in the architecture, analysis, design, and implementation of space systems.

**Elena Adams**, DART Mission Systems Engineer

**Elizabeth A. Congdon**, DART Mechanical Systems Engineer

**Geffrey K. Ottman**, DART Electrical Systems Engineer

**Evan James Smith**, DART Deputy Mission Systems Engineer

Johns Hopkins University Applied Physics Laboratory

“For outstanding achievement in the development and operation of the DART spacecraft, completing humanity’s first in-space demonstration of planetary defense technology.”

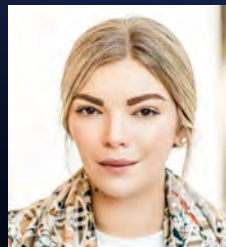
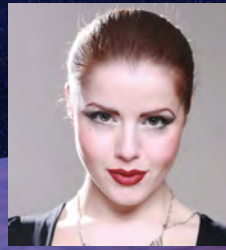


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The 2024 cohort of the Diverse Dozen are influential thinkers and emerging leaders from around the globe. These individuals represent an exclusive ASCEND community built over the past five years of exceptionally minded and passionate activists devoted to realizing a sustainable future beyond Earth. These authors are the featured speakers in a series of rapid-fire lightning talks highlighting their vision for a sustainable space ecosystem. What needs to happen for space to be more transparent, more predictable? How can we use a globally accessible pool of evidence to help us make decisions and hold people accountable for their behaviors in this shared domain?

Find out by attending their ASCEND session.

Read their OpEds and access the full archive of Diverse Dozen OpEds at [ascend.events/d12](https://ascend.events/d12)



# DEFENSE FORUM

15-17 APRIL 2025 | LAUREL, MD  
Secret/NOFORN

## CALL FOR TECHNICAL BRIEFINGS IS OPEN!

The AIAA DEFENSE Forum is focused on aerospace technologies and their applications in national security.

ABSTRACTS DUE 15 AUGUST 2024,  
8 P.M. EST, USA

[aiaa.org/defense](https://aiaa.org/defense)

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# COMMITTEE MEETINGS

All meetings are taking place within Caesars Forum.

Please use the QR code to access the committee meeting schedule.



## JOIN A COMMITTEE

### What are AIAA Technical Committees?

AIAA Technical Committees (TCs) bring together worldwide experts in their fields to shape the future of aerospace. As a TC member, you'll contribute to developing, supporting, and administering AIAA products and services, including forums, publications, awards, and student design contests and competitions.

### How to Apply for Technical Committee Membership

#### APPLICATION PORTAL:

The application portal opens 1 September annually.

#### TERM DURATION:

TC members serve one-year terms, renewable for up to three years.

#### ACTIVE PARTICIPATION:

TC members actively participate in committee meetings and contribute to technical products.

#### MEMBERSHIP REQUIREMENT:

TC members must also be AIAA members.

To learn more about AIAA Technical Committees  
[aiaa.org/technicalcommittees](https://aiaa.org/technicalcommittees)

#### QUESTIONS?

Reach out to Angie Lander at [AngieL@aiaa.org](mailto:AngieL@aiaa.org) for more information.



# GENERAL INFORMATION

## AIAA Registration Hours

Registration is in the Foyer outside Forum Ballroom.

Sunday, 28 July:	3-7 p.m.
Monday, 29 July:	7 a.m.-7 p.m.
Tuesday, 30 July:	7 a.m.-5:30 p.m.
Wednesday, 31 July:	7 a.m.-5:30 p.m.
Thursday, 1 August:	7 a.m.-5:30 p.m.
Friday, 2 August:	7 a.m.-5:30 p.m.

## Student Lounge Hours Sponsored by

An exclusive, students-only place to unwind, connect, and relax. Location in the Room Summit 211. Access through the Expo Hall.

Tuesday, 30 July:	9 a.m.-5 p.m.
Wednesday, 31 July:	9 a.m.-5 p.m.
Thursday, 1 August:	9 a.m.-5 p.m.

## Wi-Fi Internet Access Sponsored by

AIAA provides limited Wi-Fi service for attendees to use while onsite. To keep this service available and optimized for all attendees, please do not download files larger than 2MB, create multiple sessions across multiple devices, or download multiple files in one session. If you receive an error message that an AIAA server is blocking your current IP address, please inform the AIAA registration desk.

**Network Name: AIAA2024 Password: Airbusus2024**

## Social Media at #AIAA | #AIAAaviation | #ascendspace

Connect with us on social media and tag us in your posts! Visit our Linktree at [@aiaaerospace](https://www.aiaaerospace.com) to stay up to date and never miss a beat.

## Conference Proceedings

Proceedings for the forum will be available online. The cost is included in the registration fee where indicated. Online proceedings will be available for viewing and downloading around 25 July 2024. Please follow the instructions below to access the proceedings:



- To view proceedings visit [aiaa.org](https://www.aiaa.org) >ARC>Meeting Papers.
  - Log in with the link at the top right of the page.
  - Select the appropriate forum from the list.
  - Search for individual papers** with the **Quick Search** toolbar at the top of the page:
    - By paper number, click on the “Anywhere” dropdown and select “Find by paper,” select the forum year, and enter the paper number.
    - Use the Search textbox to find papers by author, title, or keyword. The Advanced Search link provides additional search information and options.
- Direct any questions concerning access to proceedings and/or ARC to [arcsupport@aiaa.org](mailto:arcsupport@aiaa.org).

## Manuscript Corrections

- The manuscript in the proceedings

is the version of record and may not be edited or replaced. Corrections to manuscripts will be available through the Crossmark feature. To view corrections made to a manuscript click the Crossmark icon, located on every article’s webpage and PDF.

- Corrections **will be available online** approximately 15 business days after the last day of the conference.

## Certificate of Attendance

All attendees will receive a Certificate of Attendance on the last day of the AIAA forum via email. Claims of hours or applicability toward professional education requirements are the responsibility of the participant.

## Badge Policy

AIAA forum badges are provided to those individuals who have paid for a registration to the event. Badges must be worn at all times to participate in all forum activities. Badges are not provided at the registration desk for committee meetings attendance. In order to obtain an event badge, one must register for the forum.

## Nondiscriminatory Practices

AIAA accepts registrations irrespective of age, race, creed, sex, sexual orientation, color, physical handicap, and national or ethnic origin.

## Anti-Harassment Policy

It is the policy of AIAA to maintain a professional environment at its events that is free from all forms of discrimination, harassment and conduct that can be considered unprofessional, disruptive, inappropriate or discourteous. Full details can be found at [aiaa.org/about/Governance/Anti-Harassment-Policy](https://www.aiaa.org/about/Governance/Anti-Harassment-Policy)

## Restrictions

Photos, video, or audio recording of sessions or exhibits, as well as the unauthorized sale of AIAA-copyrighted material, is prohibited.

## AIAA Photography and Video Notice

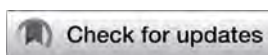
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## Membership

AIAA is your vital lifelong link to the collective creativity and brainpower of the aerospace profession and a champion for its achievements. [aiaa.org/member](https://www.aiaa.org/member).

## Employment Opportunities

AIAA members can post and browse resumes, browse job listings, and access other online employment resources by visiting the AIAA Career Center at [careercenter.aiaa.org](https://www.aiaa.org/careercenter).





# AUTHOR & SESSION CHAIR INFORMATION

## Technical Papers Session Prep in Session Rooms

Authors who are presenting papers will meet with session chairs and co-chairs in their session rooms for a short 30-minute briefing on the day of their sessions to exchange bios and review final details prior to the session. Please attend on the day of your session(s). Laptops preloaded with the Speakers' preparation slides will be provided in each session room. Speakers' Prep will be held, 29 July - 2 August: 7:30 a.m.

## Speaker Ready Room

Speakers who wish to practice their presentations may do so in the Summit Ballroom 224. A sign-up sheet will be posted on the door.

## Session Chair Reports

All session chairs are asked to complete a session chair report to evaluate their session for future planning purposes, including session topics and room allocations. Please submit your session chair report electronically 7 August 2024.

## Audiovisual

Each session room will be preset with the following: Laptop computer, LCD projector, screen, microphone and sound system (if necessitated by room size), and a laser pointer. You may use your own laptop if you wish. Any additional audiovisual equipment requested onsite will be at cost to the presenter. Please note that AIAA does not provide security in the session rooms and recommends that items of value not be left unattended.

## “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 forum. It is also the responsibility of those authors whose papers or presentations are accepted to ensure that one of the authors attends the forum to present the paper. If a paper is not presented at the forum, it will be withdrawn from the forum proceedings. These policies are intended to eliminate no-shows, to improve the quality of the forum for all participants, and to ensure that the published proceedings accurately represent the presentations made at a forum.

## Journal Publication

Authors of appropriate papers are encouraged to submit them for possible publication in one of the Institute's archival journals: *AIAA Journal*; *Journal of Aerospace Information Systems*; *Journal of Air Transportation*; *Journal of Aircraft*; *Journal of Guidance, Control, and Dynamics*; *Journal of Propulsion and Power*; *Journal of Spacecraft and Rockets*; or *Journal of Thermophysics and Heat Transfer*. You may now submit your paper online at <http://mc.manuscriptcentral.com/aiaa>.

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