AVIATION FORUM

15–19 JUNE 2020 | VIRTUAL EVENT

What's going on in the HUB

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American Institute of Aeronautics and Astronautics
12700 Sunrise Valley Drive, Suite 200, Reston, VA 20191-5807
703.264.7500 or 800.639.AIAA (2422) | Fax: 703.264.7657
custserv@aiaa.org | aiaa.org

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DESIGN ENGINEERING

Nijo Abraham, Georgetown University

Lisa Saam, ATA Engineering

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Derek Spear, U.S. Air Force

Starr Ginn, NASA Armstrong Flight Research Center

FLOW CONTROL

Stuart I. Benton, Air Force Research Laboratory

FLUID DYNAMICS

Timothy Eymann, Air Force Research Laboratory

Karthik Duraisamy, University of Michigan

GENERAL AVIATION

Nicholas Borer, NASA Langley Research Center

Anthony Linn

GROUND TESTING

Erin Hubbard, Jacobs / NASA Glenn Research Center

Chris Jorgens, The Boeing Company

ITAR

Scott Sherer, Air Force Research Laboratory

Rick Graves, Air Force Research Laboratory

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Carolyn Woeber, Pointwise, Inc.

Nitin Bhagat, University of Dayton Research Institute

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Peter Zaal, San José State University / NASA Ames Research Center

Christine Taylor, The MITRE Corporation

MULTIDISCIPLINARY DESIGN OPTIMIZATION

Justin Gray, NASA Glenn Research Center

Jason Hicken, Rensselaer Polytechnic Institute

PLASMADYNAMICS AND LASERS

Albina Tropina, Texas A&M University

THEORETICAL FLUID MECHANICS

Matthew J. Munson, U.S. Army Research Office

THERMOPHYSICS

Alexandre Martin, University of Kentucky

Charles Bersbach, Raytheon Missile Systems

TRANSFORMATIONAL FLIGHT SYSTEMS

Simon Briceno, Jaunt Air Mobility

Siddhartha Krishnamurthy, NASA Langley Research Institute

VERTICAL/SHORT TAKE-OFF AND LANDING (V/STOL) AIRCRAFT SYSTEMS

Mark Calvert, U.S. Army Combat Capabilities Development Command, Aviation and Missile Center

Craig Hange, NASA Ames Research Center

FLOW VISUALIZATION SHOWCASE

Manan Vyas, NASA

Sidra I. Silton, CCDC Army Research Laboratory

WELCOME TO AVIATION FORUM

The 2020 AIAA AVIATION Forum Executive Steering Committee welcomes you to AIAA's first virtual forum. Aerospace teaches us to adapt and because of the coronavirus pandemic, we've worked hard to transform an in-person event to all-virtual in just a few weeks. We have a slate of top-notch speakers and technical presentations to start conversations that will last long after this forum concludes. Thank you for joining us in this new frontier. We believe you will feel inspired about the future of our industry during this week!

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2020 AIAA AVIATION Forum

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SESSIONS AT A GLANCE

GROW — Technical Career Development

CONNECT — Networking

EXPLORE — the HUB & Exposition

DISCOVER — High Level

DEVELOPMENT — Student & Young Professionals

	Monday 15	Tuesday 16	Wednesday 17	Thursday 18	Friday 19
0800 hrs	Plenary	Plenary	Plenary	Plenary	Plenary
0830 hrs					
0900 hrs					
0930 hrs	Forum 360	Forum 360	Forum 360	Forum 360	Forum 360
1000 hrs					
1030 hrs					
1100 hrs	New Approaches to Aviation Cybersecurity	ESTECO Session	RLA: Speed Mentoring 1100–1245 hrs		
1130 hrs		Northrop Grumman Student Event		X-59 Quiet Supersonic Technology X-plane Overview	
1200 hrs					
1230 hrs	Exhibitors LIVE!	Exhibitors LIVE!	Exhibitors LIVE!	RLA: Embracing Generational Gaps in the Workplace	Exhibitors LIVE!
1300 hrs		U.S. Department of Energy Session			
1330 hrs		Meet the Author, Daniel P. Raymer	Lockheed Martin Student Event	When NASA Gives the Lead to Universities	
1400 hrs				Interview with *Aerospace America*	
1430 hrs					
1500 hrs		Forum 360	Forum 360	Forum 360	
1530 hrs					
1600 hrs		RLA: Collaboration with IFAR			
1630 hrs					
1700 hrs					
1730 hrs	Virtual Student Team Trivia	Tweet Up — Social Media During #AiaaAviation	Technical Networking Sessions		
1800 hrs		Technical Networking Sessions			
1830 hrs					
1900 hrs					

Technical Sessions: Monday 15 (0930–1700 hrs); Tuesday 16 (0930–1700 hrs); Wednesday 17 (0930–1700 hrs); Thursday 18 (0930–1700 hrs); Friday 19 (0930–1700 hrs)

Transformational Flight Certification Symposium: Wednesday 17 (1330–1700 hrs)

Exhibitors LIVE! *hours are when most exhibitors will be hosting their own live events and readily available to answer emails. Check with each exhibitor for additional times that they are available and hosting events during the forum.*

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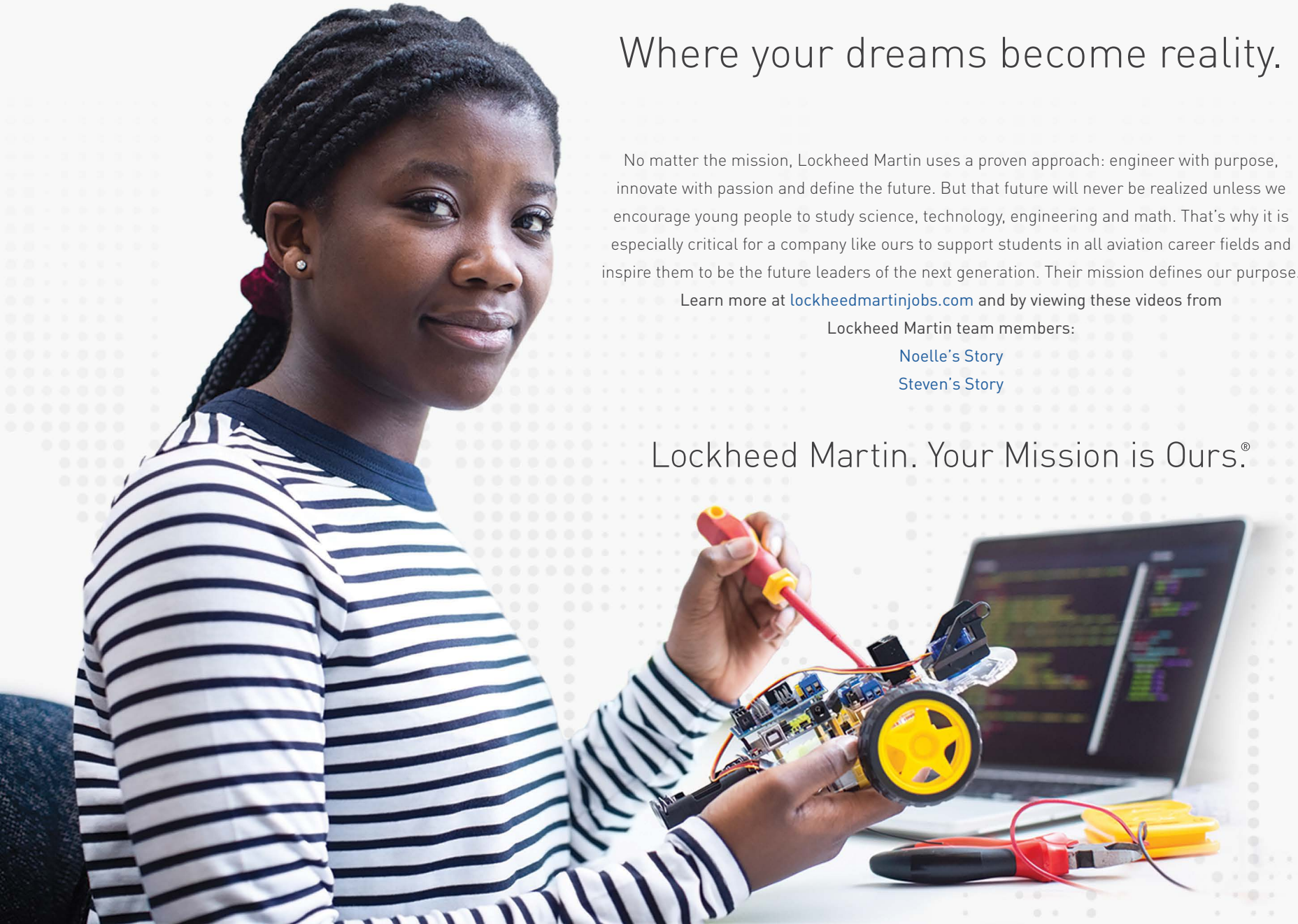

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Noelle's Story

Steven's Story

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PLENARY & FORUM 360 SESSIONS

MONDAY, 15 JUNE

0800–0900 HRS

Monday Plenary

KEYNOTE: **Walt Odisho**, Vice President and General Manager, Manufacturing, Safety & Quality, 737 Program and Renton Site, Boeing Commercial Airplanes

MODERATOR: **Patrick "Pat" Schirmer**, Vice President, Engineering Strategy and Operations, The Boeing Company

FORUM 360° 0930–1100 HRS

Sustainable Product Lifecycle — Integration Everywhere

MODERATOR: **Teresa "Teri" M. Finchamp**, Director, Future Production System, Product Development, Boeing Commercial Airplanes

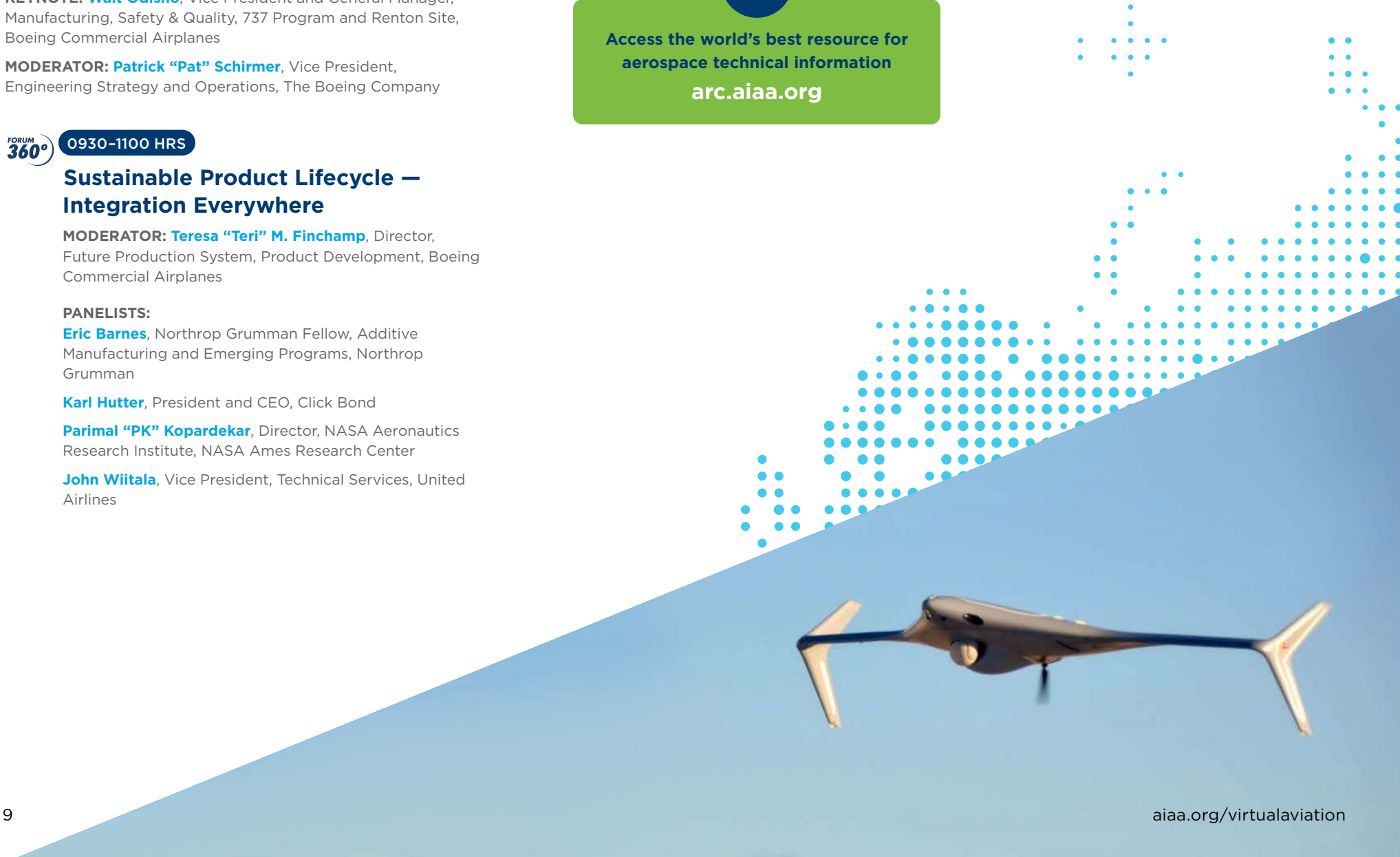
PANELISTS:

Eric Barnes, Northrop Grumman Fellow, Additive Manufacturing and Emerging Programs, Northrop Grumman

Karl Hutter, President and CEO, Click Bond

Parimal "PK" Kopardekar, Director, NASA Aeronautics Research Institute, NASA Ames Research Center

John Wiitala, Vice President, Technical Services, United Airlines



PLENARY & FORUM 360 SESSIONS

TUESDAY, 16 JUNE

0800–0900 HRS

Tuesday Plenary

KEYNOTE: **James Bridenstine**, Administrator, NASA

MODERATOR: **Graham Warwick**, Executive Editor, Technology, *Aviation Week*

FORUM 360° 0930–1130 HRS

NASA Aeronautics Shaping the New Era of Aviation

MODERATOR: **Richard Wahls**, Strategic Technical Advisor, Advanced Air Vehicles Program, Aeronautics Research Mission Directorate, NASA

OPENING REMARKS: **Robert Pearce**, Associate Administrator, Aeronautics Research Mission Directorate, NASA

PANELISTS:

John Cavolowsky, Director, Transformative Aeronautics Concepts, Aeronautics Research Mission Directorate, NASA

James Kenyon, Director, Advanced Air Vehicles Program, Aeronautics Research Mission Directorate, NASA

Lee Noble, Acting Director, Integrated Aviation Systems Program, Aeronautics Research Mission Directorate, NASA

Akbar Sultan, Director, Airspace Operations and Safety Program, Aeronautics Research Mission Directorate, NASA

FORUM 360° 1430–1600 HRS

CFD2030 – Aerospace Grand Challenges for Revolutionary CFD Capabilities

MODERATOR: **Juan Alonso**, Vance D. and Arlene C. Coffman Professor, Aeronautics & Astronautics, Stanford University

PANELISTS:

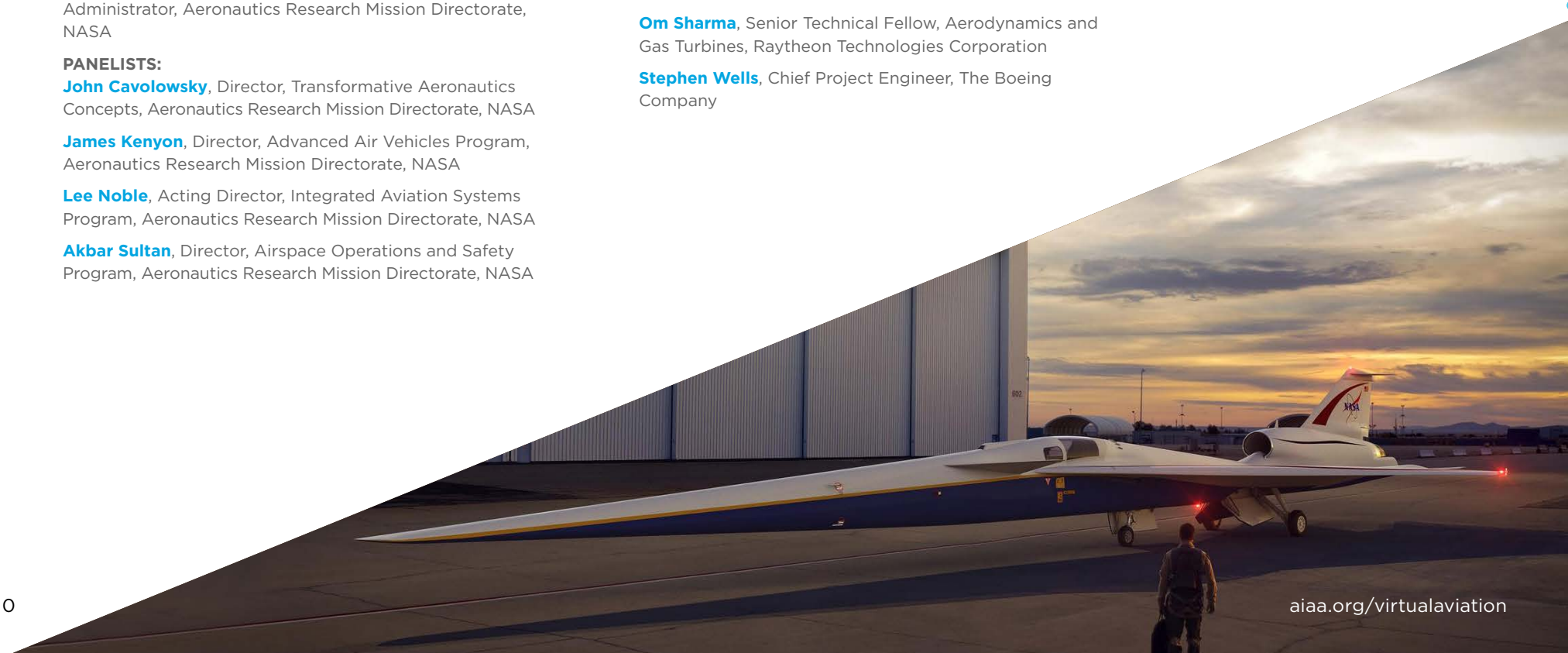
John Cavolowsky, Director, Transformative Aeronautics Concepts, Aeronautics Research Mission Directorate, NASA

Reynaldo "Ray" Gomez III, Aerodynamics Discipline Lead, NASA Johnson Space Center

Micah Howard, Principal Member, Technical Staff, Sandia National Laboratories

Om Sharma, Senior Technical Fellow, Aerodynamics and Gas Turbines, Raytheon Technologies Corporation

Stephen Wells, Chief Project Engineer, The Boeing Company



PLENARY & FORUM 360 SESSIONS

WEDNESDAY, 17 JUNE

0800–0900 HRS

Wednesday Plenary

KEYNOTE: **Tom Vice**, Chairman, President, and Chief Executive Officer, Aerion Corporation

MODERATOR: **JD McFarlan III**, Vice President, Functional Engineering, Lockheed Martin Aeronautics

FORUM 360° 0930–1100 HRS

Need for Speed

MODERATOR: **JD McFarlan III**, Vice President, Functional Engineering, Lockheed Martin Aeronautics

PANELISTS:

Peter Coen, Low Boom Flight Demonstration Mission Manager, Aeronautics Research Mission Directorate, NASA

Gene Holloway, Chief Sustainability Officer and Executive Vice President, Environment & Sustainability, Aerion Supersonic

Peter Iosifidis, Low Boom Flight Demonstrator (X-59) Program Manager, Lockheed Martin Corporation

Joel Kirk, Executive Leader, Advanced Systems Design and Technology, GE Aviation

Kevin Welsh, Executive Director, Office of Environment and Energy, FAA

FORUM 360° 1430–1600 HRS

Growing Today's Workforce for Tomorrow's Technology

MODERATOR: **Irene Gregory**, Senior Technologist, Advanced Control Theory and Application, NASA Langley Research Center

PANELISTS:

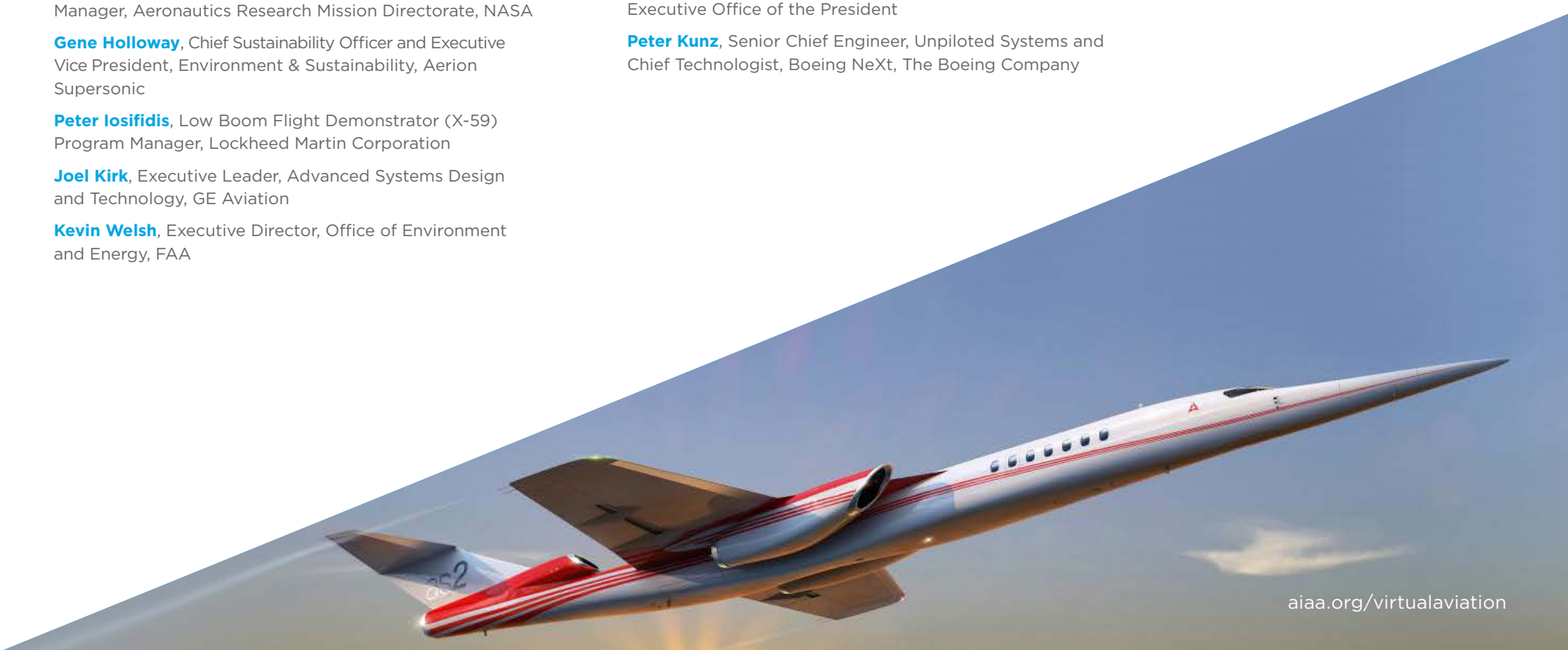
Jeanine Boyle, Vice President, Human Resources, Aurora Flight Sciences

P. Barry Butler, President, Embry-Riddle Aeronautical University

David Hamill, Director, Human Resources, and Lead, FAA Strategic Workforce Planning Initiative, FAA

Cindy Hasselbring, Senior Policy Advisor, STEM Education, Office of Science and Technology Policy, Executive Office of the President

Peter Kunz, Senior Chief Engineer, Unpiloted Systems and Chief Technologist, Boeing NeXt, The Boeing Company



PLENARY & FORUM 360 SESSIONS

THURSDAY, 18 JUNE

0800–0900 HRS

Thursday Plenary

KEYNOTE: **Grazia Vittadini**, Chief Technology Officer, Airbus

MODERATOR: **Amanda Simpson**, Vice President, Research and Technology, Airbus Americas

FORUM 360°

0930–1100 HRS

View from the Inside: The Promise of Electric Propulsion Across the Aviation Spectrum

MODERATOR: **Amanda Simpson**, Vice President, Research and Technology, Airbus Americas

PANELISTS:

Steven Barrett, Director, MIT Laboratory for Aviation and the Environment, and Lead, MIT Electric Aircraft Initiative, Massachusetts Institute of Technology

Starr Ginn, Advanced Air Mobility National Campaign Lead, NASA

Ed Lovelace, Technical Fellow, High Power Electrical Systems, Aurora Flight Sciences

Greg McDougall, Founder and CEO, Harbour Air

Luciano Serra, Head, Systems Integrity, magniX

FORUM 360°

1430–1630 HRS

View from Technology: A National Blueprint for Advanced Aerial Mobility

MODERATOR: **Ella Atkins**, Professor, Aerospace Engineering, University of Michigan

OPENING REMARKS:

NAE Advancing Aerial Mobility Report Overview

Nick Lappos, Senior Technical Fellow, Advanced Technology, Sikorsky, A Lockheed Martin Company, and Chair, Committee on Enhancing Air Mobility, National Academy of Engineering

PANELISTS:

Nick Lappos, Senior Technical Fellow, Advanced Technology, Sikorsky, A Lockheed Martin Company, and Chair, Committee on Enhancing Air Mobility, National Academy of Engineering

Constantine "Costa" Samaras, Associate Professor, Civil and Environmental Engineering, Carnegie Mellon University

Paul McDuffee, Business Development Executive, Boeing HorizonX

Atherton Carty, Aeronautical Engineer, Lockheed Martin Advanced Development Programs

Peter Shannon, Founder, Managing Director, Radius Capital

PLENARY & FORUM 360 SESSIONS

FRIDAY, 19 JUNE

0800–0900 HRS

COVID-19 And Civil Aviation Markets: A Bit Like Falling Off A Cliff, Only Without the Nice View

KEYNOTE: **Richard Aboulafia**, Vice President, Analysis, Teal Group Corporation

MODERATOR: **Brian Yutko**, Chief Technologist, Boeing NeXt, and Chief Strategy Officer, Aurora Flight Sciences

FORUM 360°

0930–1100 HRS

"Sometimes you will never know the value of something, until it becomes a memory."

MODERATOR: **Thomas Irvine**, Consultant, TBI Aerospace Consulting LLC

PANELISTS:

Brian Yutko, Chief Technologist, Boeing NeXt, and Chief Strategy Officer, Aurora Flight Sciences

Ella Atkins, Professor, Aerospace Engineering, University of Michigan

Christopher Hernandez, Vice President, Research, Technology, & Engineering, Northrop Grumman

W. Allen "Al" Kilgore, Deputy Director, Aeronautics, NASA Langley Research Center

JD McFarlan III, Vice President, Functional Engineering, Lockheed Martin Aeronautics

Patrick "Pat" Schirmer, Vice President, Engineering Strategy and Operations, The Boeing Company

Amanda Simpson, Vice President, Research and Technology, Airbus Americas

Edgar "Ed" Waggoner, Director, Integrated Aviation Systems Program, Aeronautics Research Mission Directorate, NASA

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SPECIAL SESSIONS

WEDNESDAY, 17 JUNE

0930–1700 HRS

Transformational Flight Certification Symposium

This symposium focuses on building type certification into the design of advanced aircraft. Attendees will learn about the FAA certification process and the role of ASTM, SAE, GAMA, and RTCA standards and guidelines in the certification process. The symposium will feature panelists from FAA certification and flight standards offices, and leaders of standards committees discussing their roadmaps. A panel of advanced aircraft manufacturers will speak about their experiences working through product development toward design certification.

0930–1030 HRS

The Road from Dreams to Certification

SPEAKER: Lowell Foster, Director of Global Innovation and Engineering, GAMA

Foster will provide a realistic and useful guide to aircraft designers who are turning their dreams into a marketable product. This includes questions that the applicant needs to answer to define special conditions and certification plans for design, and operational approaches not presently covered under certification standards.

1030–1130 HRS

Certification for Electric and Advanced Aircraft: Lessons Learned and How-Tos

MODERATOR: Wes Ryan, Unmanned and Pilotless Aircraft Technology Lead, Policy & Innovation Division, FAA

PANELISTS:
Gary Horan, Propulsion Standards Staff, Electric/Hybrid-Electric Focal, Policy & Innovation Division, FAA

David Jenson, Small Airplane Standards, Electric Propulsion Lead, Policy & Innovation Division, FAA

Andy Supinie, Propulsion Standards Staff, Electric/Hybrid-Electric Focal Policy & Innovation Division, FAA

The FAA perspective on certification on novel and emerging aircraft technologies and operations. Learn how to work with the FAA and get your aircraft certified and into service.

1130–1330 HRS

Manufacturers on Certification for Electric Aircraft

MODERATOR: Lowell Foster, Director of Global Innovation and Engineering, GAMA

PANELISTS:
Greg Bowles, Head of Government Affairs, Joby

Patrick Darmstadt, Drive and Power Systems Engineer and Technologist at the Boeing Company

Andrew Gibson, President, ES Aero

Tom Gunnarson, Wisk

Luciano Serra, Head of Systems Integrity, magniX

Tine Tomazsic, Group CTO, Pipistrel Vertical Solutions

Manufacturers share their experiences introducing electric propulsion into operational aircraft, and the challenges they experienced with their civil aviation authorities around the world. They will also share their lessons, in which the civil aviation authorities have evolved their certification, and in some cases, regulatory framework, to address the new technologies. The manufacturers discuss the importance of building standards from which means-of-compliance can be established, and its effect on the manufacturing process.

1400–1630 HRS

Automation Certification Path

MODERATOR: Wes Ryan, Unmanned and Pilotless Aircraft Technology Lead at Federal Aviation Administration

PANELISTS:
Ella Atkins, Professor, Aerospace Engineering Department, University of Michigan

Anna Dietrich, Consultant, Policy for Innovative General Aviation

Noel Duerksen, Consultant

Borja Martos, President, Flight Level Engineering

David Sizoo, Project Manager, FAA

New research and work is being poured into increasing automation onboard aircraft toward future autonomy. How will autonomy be certified? Emergency autonomous autoland was slated for certification by the FAA in 2019. ASTM working group 377 is working on the Three Pillars of Autonomy to set a standardization path leading to certifiable avionics. This panel will discuss these breakthroughs, what's coming next, and how to work within these paths to lead a new design to certification.

NASA AERONAUTICS

REAL PROGRESS
REAL BENEFITS

ATD AAM LOW-BOOM NEXTGEN AIRLINER DRIVING INNOVATION

RECOGNITION

Join us at the 2020 AIAA AVIATION Forum as we recognize the very best in our industry—those individuals and teams who have taken aerospace technology to the next level, who have advanced the quality and depth of the aerospace profession, who have leveraged their aerospace knowledge for the benefit of society. Their achievements have inspired us to dream and to explore new frontiers

AEROSPACE DESIGN AND STRUCTURES

Technical Awards

2020 AIAA Multidisciplinary Design Optimization Award
Raymond M. Kolonay, Air Force Research Laboratory (AFRL)

For visionary leadership in the MDO community and development of nonlinear unsteady aeroelastic optimization methods and collaborative/distributed architectures enabling large-scale multidisciplinary aircraft design.

AEROSPACE SCIENCES

Technical Awards

2020 AIAA Aeroacoustics Award
Robert P. Dougherty, OptiNav, Inc.

For seminal contributions to experimental aeroacoustics through development and use of phased array technology and for development and use of optimal nacelle design analytical tools.

2020 AIAA Aerodynamics Award
Mark D. Maughmer, Pennsylvania State University

For foundational developments in airfoil and wing design, advancement of novel airfoil configurations, and contributions to rotorcraft aeromechanics.

2020 AIAA Fluid Dynamics Award
Nadine Aubry, Tufts University

For outstanding contributions to the reduced order modeling of turbulent flows and to microfluidics.

2020 AIAA Ground Testing Award
Mark R. Melanson, Lockheed Martin Aeronautics (retired)

For contributions to development/ground testing of the F-35, for decades of wind tunnel testing, and for sustained contributions to AIAA in multiple leadership roles.

2020 AIAA James A. Van Allen Space Environments Award
Louis J. Lanzerotti, New Jersey Institute of Technology

For significant contributions to our understanding of the space environment of the Van Allen radiation belts and leadership in establishing societal awareness of space weather.

2020 AIAA Losey Atmospheric Sciences Award
George C. Greene, Federal Aviation Administration (retired)

For outstanding contributions and leadership applied to fundamental understanding of aircraft wake turbulence.

2020 AIAA Plasmadynamics and Lasers Award
Mikhail N. Shneider, Princeton University

For seminal contributions to the theory and modeling of electric discharges and theoretical foundations of diagnostics based on coherent microwave and laser scattering.

2020 AIAA Thermophysics Award
Tom I-P. Shih, Purdue University

For significant contributions in the development and application of computational design tools for the thermal management of gas turbines to improve efficiency and service life.

Best Papers

2020 Aerodynamic Measurement Technology Best Paper Award
"**Extending the Frequency Limits of 'Postage-Stamp PIV' to MHz Rates**" (AIAA 2020-2018) by **Steven J. Beresh**, **Russell Spillers**, **Melissa Soehnel**, **Seth Spitzer**, Sandia National Laboratories

2020 AIAA Applied Aerodynamics Best Paper Award
"**Examination of Pitch-Plunge Equivalence for Dynamic Stall over Swept Finite Wings**" (AIAA 2020-1759) by **Daniel J. Garmann** and **Miguel R. Visbal**, Air Force Research Laboratory

2019 AIAA Atmospheric and Space Environments Best Paper Award
"**High Ice Water Content in Tropical Cyclones during NASA/FAA Radar Flight Campaigns with Comparison to Numerical Simulations**" (AIAA 2019-3304) by **Fred Proctor** and **Steve Harrah**, NASA Langley Research Center; and **George Switzer**, **Justin Strickland**, and **Patricia Hunt**, Analytical Mechanics Associates, Inc.

2019 AIAA Computational Fluid Dynamics Conference Best Paper Award
"**Geometry Modeling for Unstructured Mesh Adaptation**" (AIAA 2019-2946) by **Michael A. Park**, **William Kleb**, and **William T. Jones**, NASA Langley Research Center; **Joshua A. Krakos** and **Todd Michal**, The Boeing Company; **Adrien Loseille**, INRIA; **Robert Haimes**, Massachusetts Institute of Technology; and **John F. Dannenhoffer** Syracuse University

2019 Fluid Dynamics Best Paper Award
"**Oscillating Shock Impinging on a Flat Plate at Mach 6**" (AIAA 2019-3077) by **Gaetano M. D. Currao**, **Liam P. McQuellin**, and **Andrew J. Neely**, UNSW Canberra, Australia; **Fabian Zander** and **David R. Buttsworth**, University of Southern Queensland, Australia; **Jack J. McNamara**, Ohio State University; and **Ingo Jahn**, University of Queensland, Australia

2019 AIAA Ground Testing Best Paper
"**Characterization of Laminar Separation Bubbles using Infrared Thermography**" (AIAA 2019-2808) by **Dallyn W. Wynnychuk** and **Serhiy Yarusevych**, University of Waterloo

2019 AIAA Modeling and Simulation Best Paper Award
"**Free-Wake Based Nonlinear Aeroelastic Modeling of UAV Scale Cycloidal Rotor**" (AIAA-2019-3245) by **Atanu Halder** and **Moble Benedict**, Texas A&M University

2019 AIAA Multidisciplinary Design Optimization Best Paper Award
"**High-Fidelity Multidisciplinary Sensitivity Analysis Framework for Multipoint Rotorcraft Optimization**" (AIAA 2019-1699) by **Li Wang**, NASA Langley Research Center; **Boris Diskin**, National Institute of Aerospace; **Robert Biedron** and **Eric Nielsen**, NASA Langley Research Center; and **Valentin Sonneville** and **Olivier Bauchau**, University of Maryland

2019 AIAA Plasmadynamics and Lasers Best Paper Award
"**Dual-Pulse Laser Ignition Using Oxygen REMPI Preionization**" (AIAA 2019-3117) by **Carter Butte**, Colorado State University; **Ciprian Dumitrache**, CentraleSupélec EM2C; and **Azer P. Yalin**, Colorado State University

2019 Thermophysics Best Paper Award
"**Modeling Heatshield Erosion due to Dust Particle Impacts for Martian Entries**" (AIAA 2020-0254) by **Grant Palmer**, **Eric Ching**, **Matthias Ihme**, **Dirk Allofs**, **Ali Guelhan**, AMA, Inc. at NASA Ames Research Center

Best Student Papers
2019 AIAA David Weaver Thermophysics Best Student Paper
"**Investigation of Galileo Probe Entry Heating with Coupled Radiation and Ablation**" (AIAA 2019-3360) by **Aaron J. Erb**, **Thomas K. West**, and **Christopher O. Johnston**, NASA Langley Research Center

2020 AIAA Plasmadynamics and Lasers Best Student Paper Award
"**Complementary Laser Diagnostics of Metastable N2(A3Σu+,v) Molecules in Nonequilibrium Plasmas and in High-Speed Flows**" (AIAA 2020-1743) by **Elijah Jans**, **Ilya Gulko**, **Xin Yang**, **Terry Miller**, **Igor V. Adamovich**, Ohio State University

AIRCRAFT TECHNOLOGY, INTEGRATION, AND OPERATIONS

Technical Award
2020 AIAA Aircraft Design Award
Udo Juerss, MicroDrones GmbH

For being the "father of the modern quadcopter" and for working for more than 20 years designing, testing, and improving the premier aircraft of the aircraft design industry.

Best Paper
2020 AIAA Aircraft Design Best Paper Award
"**Development of an Efficient Mach=0.80 Transonic Truss-Braced Wing Aircraft**" (AIAA 2020-0011) by **Neal Harrison**, **Michael Beyar**, **Eric Dickey**, and **Kirshna Hoffman**, Boeing Research and Technology; and **Gregory Gatlin** and **Sally Viken**, NASA Langley Research Center

BUSINESS AND MANAGEMENT

Technical Award
2020 AIAA Hap Arnold Award for Excellence in Aeronautical Program Management Award
Jay E. Dryer, U.S. Department of Defense

For outstanding strategic technical leadership of NASA's Advanced Air Vehicles and Fundamental Aeronautics Programs significantly advancing a wide range of aircraft – vertical flight through hypersonics

STUDENT PAPER COMPETITIONS

AIAA/CEAS Aeroacoustics

Applied Aerodynamics

Atmospheric and Space Environments

Multidisciplinary Design Optimization

Plasmadynamics and Lasers

All these papers can be found online at Aerospace Research Central (**arc.aiaa.org**). Thank you to the Technical Committees who took the time to judge these papers and recognize the ongoing advancement of our aerospace community.

DIVERSITY SCHOLAR RECIPIENTS

Anoop Kiran, University at Buffalo

Anusha Mody, Illinois Institute of Technology

Ashley Ochieng, Ohio State University

Celest Villagran, Texas A&M University - College Station

Christian Llanes, Embry-Riddle University - Daytona Beach

Donna Coyle, University of Washington Bothell

Humberto Caldelas, Massachusetts Institute of Technology

J Flores Govea, Clemson University

Kelly Ngo, Montgomery Community College, Rockville

Luis Pabon, Madrid California Institute of Technology

Mesfin Melaku, Eastern Michigan University

Nathan Pierce, University of Houston Clear Lake

Peter Santana-Rodriguez, University of Puerto Rico Mayaguez

Ricardo Cosme-Bell, Iowa State University

Tiffany Jewell, Metropolitan State University of Denver

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Exhibitors LIVE! hours are when most exhibitors will be hosting their own live events and readily available to answer emails. Check with each exhibitor for additional times that they are available and hosting events during the forum.

Navy Forum SBIR/STTR Transition

Prerecorded, available all week

We're joining the virtual AIAA AVIATION Forum to bring you the same opportunities to learn about our aviation-related small businesses that were slated to exhibit in Reno. Scroll down to the Tech Talk section to view their digital profile and a recorded Tech Talk — exactly as it would have been presented in the HUB. Have a question? We will help you Meet the Expert! behind the technology and turn your questions into solutions. Find out why we say we are virtually delivering Tomorrow's Technology Today! Click here to join: **https://navyfst.com/**

MONDAY, 15 JUNE

1100–1200 HRS

New Approaches to Aviation Cybersecurity

SPEAKER: **Steve Luczynski**, CISO, T-Rex Solutions

Loss of the flying public's trust in reliable, safe, and trustworthy air travel could impact national security. While the U.S. government and the aviation industry are working hard, individually and cooperatively, an untapped resource remains. By dispelling hacker myths and misconceptions, trust among these communities can increase their collective ability to contribute more effectively to bolstering the cybersecurity of air travel.

1730–1930 HRS

Virtual Student Team Trivia

Sponsored by LOCKHEED MARTIN

All students are invited to battle each other for bragging rights and the top prize. Network virtually by creating a team or let us create one for you! There will be aerospace questions, plus fun questions about geography, history, current events, music, movies, television, and more.

How to participate: Email **michaell@aiaa.org** with your team name and team roster, which includes all participants' names and emails. Teams may consist of 2-4 players. If you want to play, but do not have a team, we will pair you with other individual players. Limited to the first 50 teams.

The game will be hosted online through Zoom. When we ask a question, you will go to a Zoom "Breakout Room" where your team will deliberate the answer for a couple of minutes. Then the rooms will close, and you will submit your answers from the main session.

Electronic gift cards will be awarded to the top team.

Join us for the fun!

TUESDAY, 16 JUNE

1100–1130 HRS

Multidisciplinary Design Optimization — Introduction to ESTECO

SPEAKER: Roel Van De Velde, Director AS&D, ESTECO

This video contains a brief introduction into MDO and ESTECO technology, which consists of modeFRONTIER, a desktop framework for process integration and automation, design of experiments, response surface modeling, and optimization; and VOLTA, a server-based framework for collaboration, distributed execution, and simulation process and data management.

1130–1230 HRS

AIAA Aerospace Virtual Recruitment Series: Northrop Grumman Student Event

NORTHROP GRUMMAN

At Northrop Grumman, Defining Possible is what they do every day. Join a live chat session with Northrop Grumman employees to learn how you can Define Possible!

AIAA Aerospace Virtual Recruitment Series take place every month with AIAA Corporate Members and is made exclusively available to AIAA student members and students attending AIAA forums.

1230–1300 HRS

Connecting and Innovating with the U.S. Department of Energy

SPEAKER: Conner Prochaska, Chief Commercialization Officer, Department of Energy, Office of Technology Transitions

1300–1400 HRS

Meet the Author, Daniel P. Raymer

Aircraft Design: A Conceptual Approach and RDSwin Student software

Join us for a Q&A with **Daniel P. Raymer**. Author of *Aircraft Design: A Conceptual Approach.* This book presents the entire process of aircraft conceptual design—from requirements definition to initial sizing, configuration layout, analysis, sizing, optimization, and trade studies. Widely used in industry and government aircraft design groups, it is also the design text at major universities around the world. A virtual encyclopedia of engineering, it is known for its completeness, easy-to-read style, and real-world approach to the process of design. The *RDSwin Student* software allows engineering students to take an aircraft design from first conceptual layout through functional analysis, leading to performance, range, weight, and cost results. By automating the "grunt work" of vehicle analysis, *RDSwin Student* makes time for the student to truly learn design.

1500–1600 HRS

Rising Leaders in Aerospace: Collaboration with the International Forum for Aviation Research (IFAR)

Sponsored by LOCKHEED MARTIN

Rising Leaders in Aerospace, in collaboration with the International Forum for Aviation Research Virtual Exchange series, invites you to hear from Greg Bowles, Head of Government Affairs at Joby Aviation. This session will provide you with an opportunity to develop experience and international networking. Access here: **https://ifar.arc.nasa.gov/home**

1730–1830 HRS

Technical Networking Sessions

Swing by the AIAA AVIATION Forum Technical Networking sessions on Tuesday, 16 June, and Wednesday, 17 June, at 1730–1830 hrs ET to meet up with your colleagues. Stroll through the technical "hallways" and bump into old colleagues, make new connections, and join the conversation.

Technical Networking Sessions

TUESDAY, JUNE 16 & WEDNESDAY, JUNE 17

1730–1830 HRS

Meet up with your colleagues. Stroll through the technical "hallways" and bump into old colleagues, make new connections, and join the conversation.

You're welcome to visit just one hallway, or several, to reach a broad network of aviation and aerospace professionals. Email Angie Lander at **angiel@aiaa.org** with any questions.

1. **Aerospace/Air Operations, Traffic Management, and Systems Hallway:** for attendees interested in aerospace/air operations, traffic management and systems
2. **Aerospace System Design Hallway:** for attendees interested in aircraft design, design engineering, multidisciplinary design optimization, transformational flight, and Vertical/Short Take-Off and Landing (V/STOL) Aircraft Systems
3. **Modeling, Testing, and Evaluation Hallway:** for attendees interested in modeling and simulation, flight testing, and ground testing
4. **Aerospace Sciences and Simulation Hallway:** for attendees interested in aeroacoustics, applied aerodynamics, atmospheric and space environments, fluid dynamics, plasmadynamics and lasers, flow control, theoretical fluid mechanics, thermophysics, meshing, visualization, and computational environments, computer systems, and CFD

1730–1830 HRS

Tweet Up — Social Media During #AiaaAviation

Make your voice heard and connect with your peers online during #AiaaAviation Forum by using the hashtag. Join #AIAA staff for a Tweet Up on Zoom and mingle with your peers in a casual environment.

WEDNESDAY, 17 JUNE

1100–1245 HRS

Rising Leaders in Aerospace: Speed Mentoring

Sponsored by LOCKHEED MARTIN

Students and young professionals are invited to participate in a virtual speed mentoring session that will take place on Zoom. It will be divided into 4 rounds of 20 minutes each. During each 20-minute round in Zoom, small groups of mentors will share their experiences and provide guidance for navigating your career. Participants will also have the opportunity to ask questions and request practical advice. At the end of each round, participants can stay in their breakout room for the next round of mentors. This session has a max capacity of 80 attendees.

1300–1430 HRS

AIAA Aerospace Virtual Recruitment Series: Lockheed Martin Student Event

LOCKHEED MARTIN

Students and recent graduates will gain insight into Lockheed Martin's workplace culture and learn about upcoming internship opportunities, current job openings, and exciting projects that are changing the way we think about aviation. In this chat session you will enter a text chat with one of Lockheed Martin's teammates. You may also be invited to video or audio chat during this time. Preregistration with your resume is required.

AIAA Aerospace Virtual Recruitment Series take place every month with AIAA Corporate Members and is made exclusively available to AIAA student members and students attending AIAA forums.

1330–1400 HRS

When NASA Gives the Lead to Universities

What happens when NASA turns over the reins to universities for a research effort that's at the system level? This is NASA's University Leadership Initiative (ULI). Hear from members of the ULI team led by the University of Tennessee, Knoxville – PI Jim Croder (UTK), students Missy Karman (UTK), Phillip Rishel Penn State), Anna 'Liece' Tessman (UTK) — and NASA's John Cavolowsky. Jim's team is working to demonstrate a viable aerodynamic wing-design concept that enables a 70% reduction in aircraft fuel/energy consumption relative to 2005 baseline for revolutionary aircraft configurations. Why did they apply? How is it working? What do the students think about their ULI experience? And your questions.

1730–1830 HRS

Technical Networking Sessions

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THURSDAY, 18 JUNE

1130–1200 HRS

X-59 Quiet Supersonic Technology X-plane Overview

SPEAKER: **Michael Buonanno**, Air Vehicle Lead, X-59

Join us for an introduction and status update on the development of NASA's X-59 Quiet Supersonic Technology X-plane, currently being built in Palmdale, CA by Lockheed Martin's Skunk Works®. The talk will include an overview of the mission, details of the design, and progress on the assembly and integration effort.

1230–1400 HRS

Rising Leaders in Aerospace: Embracing Generational Gaps in the Workplace

Sponsored by LOCKHEED MARTIN

In a relatively established industry, it is important for a young/new employee to know how to integrate into the workforce. In this panel discussion, we will explore how to develop the skills needed to integrate with a multigenerational workforce and how to embrace generational gaps once in the workforce.

SPEAKERS:

Ben Linder, Director of Engineering, 777 and 777X Programs

Gavin Ananda, Systems Engineer/Aerospace Engineer, Airborne Detect & Avoid, Zipline

Carolyn Overmyer, Systems Engineering Director, Lockheed Martin Space

1400–1430 HRS

Interview with Aerospace America: Minimizing COVID-19 Risks When We Fly

Join us for a Q&A with **Mike Delaney**, Vice President, Digital Transformation, Boeing Commercial Airplanes, and Leader, Confident Travel Initiative, to learn more about lessening risks when we are in the air.

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EXHIBITORS

Aerospace Research Central (ARC)

ARC Support
703-264-7500
arcsupport@aiaa.org
arc.aiaa.org

Access the world's best resource for aerospace technical information. Explore over 300 books, almost 200k technical articles, 8 active journals, the latest industry standards, and so much more!

Click Bond, Inc

Joe Nielander
775-885-8000
joe.nielander@clickbond.com
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Proudly serving the aerospace industry since 1987, Click Bond supports global leaders in the design and manufacture of high-performance platforms and systems. Over thirty years, we've expanded our reach, bringing our capabilities and the benefits of adhesive bonded fastening to bear on the technical challenges of the marine, energy, and other industrial sectors.

Department of Energy - Office of Technology Transitions

Aaron Michael
240-848-0105
aaron.michael@hq.doe.gov
www.energy.gov/technologytransitions/office-technology-transitions

LIVE VIRTUAL EVENT:

Tuesday 16 | 1230–1300 hrs | **Connecting and Innovating with the U.S. Department of Energy**

ESTECO

Sally Duquesnel
248-885-9507
duquesnel@esteco.com
www.esteco.com

ESTECO is an independent software provider, highly specialized in numerical optimization and simulation data management with a sound scientific foundation and a flexible approach to customer needs. Our technology brings modularity, ease of use, standardization, and innovation to the engineering design process. ESTECO's smart engineering suite brings enterprise-wide solutions for design optimization, simulation and process data management (SPDM), and process integration and automation.

LIVE VIRTUAL EVENT:

Tuesday 16 | 1100–1130 hrs | **Multidisciplinary Design Optimization — Introduction to ESTECO**

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Exhibitors List
Browse the exhibitor list and click on a name to visit an online booth.

Video Gallery
Learn about innovative products that are solving real-world problems in aviation.

Product Gallery
Start important business conversations with exhibitors by researching their products and services.

Attendee Briefcase
Log in and introduce yourself to exhibitors via email or request a virtual meeting.

EXHIBITORS

IC2 (Interdisciplinary Consulting Corp)

David Mills
256-698-6175
sales@thinkic2.com
www.thinkIC2.com

IC2 (Interdisciplinary Consulting Corporation) brings over 20 years of experience to provide innovative precision instrumentation solutions to the global test and measurement community. With a team of in-house sensor developers, IC2 uses industry-proven development techniques to maximize performance and leverage application-specific transduction methods.

Intelligent Light

Steve Legensky
201-460-4700
sales@ilight.com
www.ilight.com

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Lockheed Martin Corporation

Bryan Raupe
817-777-2215
bryan.c.raupe@lmco.com
www.lockheedmartin.com

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LIVE VIRTUAL EVENT:

Wednesday 17 | 1300–1430 hrs | **AIAA Aerospace Virtual Recruitment Series: Lockheed Martin Student Event**

Thursday 18 | 1130–1200 hrs | **X-59 Quiet Supersonic Technology X-plane Overview**

MathWorks

Chris Andreotes
508-647-2291
candreot@mathworks.com
mathworks.com

The MATLAB and Simulink product families are fundamental applied math and computational tools adopted by more than 5000 universities and colleges. MathWorks products help prepare students for careers in industry, where the tools are widely used for data analysis, mathematical modeling, and algorithm development in collaborative research and new product development.

NASA

Karen Rugg
703-379-4345
karen.l.rugg@nasa.gov
nasa.org/aeronautics

NASA Aero explores technologies to reduce aircraft noise and fuel use, get you gate-to-gate safely and on time, and transform aviation into a new economic engine at all altitudes. COVID-19 has dealt a particularly damaging blow to aviation, but we're here — working with industry and government partners to regain public confidence, accelerating new technology development through stable R&D investments, and achieving rapid adoption of those new technologies. ***NASA's with You When You Fly.***

LIVE VIRTUAL EVENT:

Wednesday 17 | 1330–1400 hrs | **When NASA Gives the Lead to Universities**

Northrop Grumman

Jim "Max" Gross
858-774-5527
j.gross@ngc.com
www.northropgrumman.com

Northrop Grumman is a leading global security company providing innovative systems, products and solutions in autonomous systems, cyber, C4ISR, space, strike, and logistics and modernization to customers worldwide. Please visit news.northropgrumman.com and follow us on Twitter, @NGCNews, for more information.

LIVE VIRTUAL EVENT:

Tuesday 16 | 1130–1230 hrs | **AIAA Aerospace Virtual Recruitment Series: Northrop Grumman Student Event**

GENERAL INFORMATION

CONFERENCE PROCEEDINGS

Proceedings for the forum will be available online. The cost is included in the registration fee where indicated. Online proceedings are available now. Please follow the instructions below to access the proceedings:

Proceedings:

1. To view proceedings visit **arc.aiaa.org** > ARC > Meeting Papers.
   a. Log in with the link at the top right of the page.
   b. To browse, click on the **Meeting Papers** link at the top of the page and select the appropriate conference from the list.
   c. To search for individual papers, use the **Quick Search** toolbar at the top:
      i. Use the **Search** textbox to find papers by author, title or keyword
      ii. To search by paper number - click the **Anywhere** drop down, select **Find by Paper**, select the conference year, and enter the paper number
2. All manuscript files submitted by 28 May are currently in the proceedings.
3. Direct any questions concerning access to proceedings and/or ARC to **arcsupport@aiaa.org**.

Manuscript Corrections:

1. The manuscript in the proceedings is the version of record and may not be edited. All changes will be available through the Crossmark feature. View corrections by clicking the Crossmark icon, located on every article's page and PDF. Please visit **https://arc.aiaa.org/page/crossmark** for more information.
2. Corrections will be available online approximately 15 business days after the last day of the conference.
3. For concerns regarding the presentations file (e.g., uploaded MP4 file), please contact **arcsupport@aiaa.org** after 8 June 2020.

CERTIFICATE OF ATTENDANCE

The Certificates of Attendance will be sent to all registered attendees at the end of the event. AIAA offers this service to better serve the needs of the professional community. Claims of hours or applicability toward professional education requirements are the responsibility of the participant.

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**.

MEMBERSHIP

AIAA is a great resource for networking with other aerospace professionals, continuing your education, staying up to date on the latest news, and furthering your career. Aerospace is a field where Membership Matters. Regardless of what aerospace area you are involved with, being an active member of AIAA can accelerate and strengthen your professional life. Don't miss any of the benefits that come with being a part of the largest professional association built by and for aerospace practitioners. **aiaa.org/member**

CONTINUE THE CONVERSATION ON ENGAGE

AIAA Engage allows you to connect with a community of nearly 30,000 of your AIAA colleagues online. Visit the 2020 AIAA AVIATION Forum community to connect with other forum attendees, discuss the sessions, share your experiences, and ask follow-up questions. Visit **aiaa.org/EngageAVIATION** to continue the conversation.

NONDISCRIMINATORY PRACTICES

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

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Please contact AIAA's Communications Manager, Michele McDonald (**michelem@aiaa.org**), with requests or questions.

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If a written paper and its presentation with audio is not submitted by the stated deadlines, authors will not be permitted to present the paper at the forum. Also, if an author is not available to participate in the assigned Q&A hosted virtually, their submission will be withdrawn from the proceedings. It is the responsibility of those authors whose papers and presentations are accepted to ensure that a representative participates. These policies are intended to improve the quality of the program for all participants, and to ensure that the published proceedings accurately reflect the presentations made at the 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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Registrants will continue to have access to the virtual forum at **aiaa.org/virtualaviation** through September 2020.

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