

# 2021 **PACIFIC OPERATIONAL SCIENCE & TECHNOLOGY** (POST) CONFERENCE

**Overcoming Regional Security Challenges through Collaborative Technology Engagement** 

March 4, 8 – 12 | NDIA.org/POST

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# NDIN

#### WHO WE ARE

The National Defense Industrial Association is the trusted leader in defense and national security associations. As a 501(c)(3) corporate and individual membership association, NDIA engages thoughtful and innovative leaders to exchange ideas, information, and capabilities that lead to the development of the best policies, practices, products, and technologies to ensure the safety and security of our nation. NDIA's membership embodies the full spectrum of corporate, government, academic, and individual stakeholders who form a vigorous, responsive, and collaborative community in support of defense and national security. For more than 100 years, NDIA and its predecessor organizations have been at the heart of the mission by dedicating their time, expertise, and energy to ensuring our warfighters have the best training, equipment, and support. For more information, visit **NDIA.org** 

# WELCOME TO POST 2021

Aloha E Komo Mai (Hello and welcome)!

The U.S. Indo-Pacific Command's Science and Technology Office and the National Defense Industrial Association proudly welcome you to the 22nd annual Pacific Operational Science and Technology (POST) Conference. We are privileged to be your hosts for this distinguished event. We are once again bringing the Indo-Pacific area's foremost experts in science, technology, and security together to better understand and successfully address operational issues and challenges in the region. Moreover, this conference enables technology providers to recommend nearterm solutions to such challenges. Due to COVID-19 and to ensure safety, POST 2021 is being held virtually. Despite a virtual environment, we highly encourage you to network and establish collaborative opportunities.

The POST 2021 conference theme is "Overcoming Regional Security Challenges through Collaborative Technology

Engagement" to contribute toward a free and open Indo-Pacific. The accelerated advancement of science and technology in recent years has changed the region's competitive landscape and security environment. To maintain our military's competitive edge, we must work together with industry, government, academia, national labs, start-up innovators, allies, and partners.

None of us can solve the problems that we face in this region on our own. We must move forward together to discover, develop, and demonstrate the right near-term solutions that will enable us to solve some of the most pressing security challenges. POST 2021 serves as a wonderful opportunity to learn from one another, collaborate, build relationships, innovate, and strengthen partnership, presence, and military readiness through science and technology.

Mahalo (Thank you)!

Martine F. Lindse

Dr. Martin Lindsey S&T Advisor U.S. Indo-Pacific Command

Gen Hawk Carlisle, USAF (Ret) President and CEO National Defense Industrial Association

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# MISSION READY

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# **EVENT INFORMATION**

EVENT THEME	Overcoming Regional Security Challenges through Collaborative Technology Engagement	
SURVEY AND PARTICIPANT LIST	You will receive via email a survey and list of participants (name and organization) after the conference. Please complete the survey to make our event even more successful in the future.	
NDIA CONTACTS	Christine M. Klein Senior Vice President, Meetings, Divisions & Partnerships (703) 247-2593 cklein@NDIA.org	
	<b>Kimberly Hurley</b> Director, Meetings (703) 247-9494 khurley@NDIA.org	Andrew Peters Meeting Manager (703) 247-2572 apeters@NDIA.org
	<b>Carizza Rosales</b> Program Manager, Divisions (703) 247-2599 crosales@NDIA.org	<b>George Webster</b> Program Manager, Divisions (703) 247-9491 gwebster@NDIA.org
	Allison Hitchner Carpenter, CEM, CMP Director, Exhibits & Sponsorships (703) 247-2573 ahcarpenter@NDIA.org	Sarah O'Hanley, CEM Manager, Exhibits & Sponsorships (703) 247-9460 sohanley@NDIA.org
DISCLAIMER	Sponsorships and the Industry Showcase are separate from POST 2021 and are hosted exclusively by NDIA. USINDOPACOM does not support or endorse the Industry Showcase event. USINDOPACOM does not support or endorse any products and/or services of showcases, sponsors, or advertisers.	
SPEAKER GIFTS	In lieu of speaker gifts, a donation is being made to the Fisher House Foundation.	
HARASSMENT STATEMENT	NDIA is committed to providing a professional environment free from physical, psychological and verbal harassment. NDIA will not tolerate harassment of any kind, including but not limited to harassment based on ethnicity, religion, disability, physical appearance, gender, or sexual orientation. This policy applies to all participants and attendees at NDIA conferences, meetings and events. Harassment includes offensive gestures and verbal comments, deliberate intimidation, stalking, following, inappropriate photography and recording, sustained disruption of talks or other events, inappropriate physical contact, and unwelcome attention. Participants requested to cease harassing behavior are expected to comply immediately, and failure will serve as grounds for revoking access to the NDIA event.	

# AGENDA

ALL SESSION TIMES ARE LISTED IN HAWAII STANDARD TIME (HST) AND EASTERN STANDARD TIME (EST).

#### THURSDAY, MARCH 4 – OPEN SESSION, BY INVITE ONLY VIA CVR TEAMS

#### SCIENCE & TECHNOLOGY (S&T) PORTFOLIO REVIEW

Dr. Greg Power

Liaison, Prototypes & Experiments, J85, U.S. Indo-Pacific Command (USINDOPACOM)

#### MONDAY, MARCH 8 - OPEN SESSION

#### **Master of Ceremonies**

CAPT Tony Nelipovich, USN San Diego Regional Office, Office of Naval Research, U.S. Navy

#### 8:00 – 8:10 am HST WELCOME REMARKS: NDIA & USINDOPACOM

Gen Hawk Carlisle, USAF (Ret) President and Chief Executive Officer, National Defense Industrial Association (NDIA)

#### Dr. Martin Lindsey

S&T Advisor, USINDOPACOM

#### 8:10 – 8:40 am HST OPENING AND KEYNOTE REMARKS: USINDOPACOM

Lt Gen Michael Minihan, USAF Deputy Commander, USINDOPACOM

#### 8:40 – 8:55 am HST NETWORKING BREAK

1:40 – 1:55 pm EST

1:10 - 1:40 pm EST

1:00 - 1:10 pm EST

## 8:55 - 9:55 am HSTPANEL: S&T EXECUTIVES' PERSPECTIVES ON MAINTAINING1:55 - 2:55 pm ESTTECHNOLOGY ADVANTAGE

Dr. George Ka'iliwai III, SES Director, Requirements & Resources (J8), USINDOPACOM Moderator

#### Dr. Philip Perconti, SES

Deputy Assistant Secretary of the Army (Research & Technology), U.S. Army

#### Ms. Joan Johnson, SES

Deputy Assistant Secretary of the Navy (Research, Development, Test, & Evaluation), U.S. Navy

#### Ms. Kristen Baldwin, SES

Deputy Assistant Secretary of the Air Force (Science, Technology, & Engineering), U.S. Air Force

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# Know What's Below Before You Go

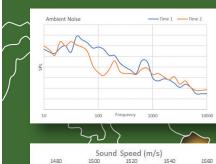
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8:55 – 9:55 am HST 1:55 – 2:55 pm EST

#### **COVID-19 OPERATIONAL MODELING WORKSHOP**

Dr. Mike von Fahnestock Research Leader, USINDOPACOM Moderator

#### **COVID-19 REAL WORLD FIRST RESPONDER PERSPECTIVES**

Ms. Ericka Artz

Senior Exercise Planner for the Joint Staff, Joint Requirements Office for CBRN Defense

#### AGENT-BASED MODELING APPROACHES FOR OPERATIONAL ANALYSIS

Dr. Michael Lauren

Research Leader, Defence Technology Agency, New Zealand Defence Force

### COVID-19 EPIDEMIC MODELING FOR THE AUSTRALIAN GOVERNMENT: CHANGING INFORMATION REQUIREMENTS DURING AN EVOLVING SITUATION

Dr. Peter Dawson

Bioterrorism Preparedness SRI Lead, Land Division, Defense S&T Group AUS

#### CANADIAN AGENT-BASED MODELING AND RISK CALCULATOR APPROACHES TO SUPPORT NATIONAL COVID-19 RESPONSE

Dr. Steve Guillouzic

Operational Research Analyst, Defense Research and Development Canada

9:55 – 10:40 am HST **NETWORKING BREAK** 

2:55 - 3:40 pm EST

2:55 - 3:40 pm EST

#### 9:55 – 10:40 am HST INDUSTRY SHOWCASE

The Industry Showcase is a separate event to POST 2021 and is hosted exclusively by NDIA. USINDOPACOM does not support or endorse Industry Showcase presenters, sponsors, or advertisers.

Participating companies (in order of appearance) include: Lockheed Martin WEETECH Gasmet Dell Technologies

10:40 – 11:10 am HST 3:40 – 4:10 pm EST

#### FEATURED SPEAKER

Mr. Terence Emmert

Performing the Duties of the Under Secretary of Defense for Research & Engineering, U.S. Department of Defense



10:40 - 11:10 am HST 3:40 - 4:10 pm EST

#### COVID-19 OPERATIONAL MODELING WORKSHOP

#### AGENT-BASED MODELING APPROACHES FOR OPERATIONAL ANALYSIS

Dr. Mike von Fahnestock Research Leader, USINDOPACOM Moderator

#### Ms. Ericka Artz

Senior Exercise Planner for the Joint Staff, Joint Requirements Office for CBRN Defense

#### Dr. Michael Lauren

Research Leader, Defence Technology Agency, New Zealand Defence Force

#### Dr. Peter Dawson

Bioterrorism Preparedness SRI Lead, Land Division, Defense S&T Group AUS

#### Dr. Steve Guillouzic

Operational Research Analyst, Defense Research and Development Canada

#### Dr. Brad Dickey

Senior Research Scientist, Center for Naval Analyses

#### 11:10 - 11:25 am HST 4:10 - 4:25 pm EST

#### PANEL: DEPARTMENT OF DEFENSE MODERNIZATION 11:25 am – 12:25 pm HST 4:25 - 5:25 pm EST

Dr. Daniel "Rags" Ragsdale

NETWORKING BREAK

Acting Principal Director, Cyber, Office of the Director of Defense Research & Engineering for Modernization (Research & Technology) Moderator

#### Dr. Joe Evans

Principal Director for 5G, Office of the Director of Defense Research & Engineering for Modernization

#### Dr. James Trebes

Principal Director for Directed Energy, Office of the Director of Defense Research & Engineering for Modernization

#### Dr. Paul Lopata

Principal Director for Quantum Science, Office of the Director of Defense Research & Engineering for Modernization

#### Dr. Lindsav Millard

Principal Director for Space, Office of the Director of Defense Research & Engineering for Modernization

11:25 am - 12:15 pm HST 4:25 - 5:15 pm EST

#### COVID-19 OPERATIONAL MODELING WORKSHOP

#### Open Workshop Discussion with Speaker Panel

Dr. Mike von Fahnestock

Research Leader, USINDOPACOM Moderator

#### Ms. Ericka Artz

Senior Exercise Planner for the Joint Staff, Joint Requirements Office for CBRN Defense

#### Dr. Michael Lauren

Research Leader, Defence Technology Agency, New Zealand Defence Force

Dr. Peter Dawson

Bioterrorism Preparedness SRI Lead, Land Division, Defense S&T Group AUS

Dr. Steve Guillouzic

Operational Research Analyst, Defense Research and Development Canada

#### Dr. Brad Dickey

Senior Research Scientist, Center for Naval Analyses



#### 12:25 – 1:10 pm HST NETWORKING BREAK

5:25 – 6:10 pm EST

1:10 – 2:10 pm HST 6:10 – 7:10 pm EST

#### PANEL: DELIVERING WARFIGHTING TECHNOLOGIES TO OVERCOME REGIONAL SECURITY CHALLENGES

Dr. Martin Lindsey

S&T Advisor, USINDOPACOM Moderator

#### Brig Gen Heather Pringle, USAF

Commander, Air Force Research Laboratory, U.S. Air Force

#### RADM Lorin Selby, USN

Chief of Naval Research, Science & Technology, Office of Naval Research, U.S. Navy

#### Mr. Mike Monteleone III, SES

Director, Space and Terrestrial Communications Directorate, U.S. Army

#### 1:10 – 3:10 pm HST 6:10 – 8:10 pm EST

#### WORKSHOP: INTERNATIONAL S&T COOPERATION

Mr. Joel Lane

Senior Program Analyst, Coalition Warfare Program *Moderator* 

#### **AOARD/ITC-PAC/ONRG PANEL**

Dr. Jermont Chen Chief, Asian Office of Aerospace Research and Development, Air Force Research Laboratory, U.S. Air Force

Dr. Ben Knott Science Director, Office of Naval Research Global, Tokyo

Ms. Kate Mangum Director, International Technology Center Indo-Pacific, Combat Capabilities Development Command, U.S. Army

#### **A&S PROGRAMS (CWP & IAC)**

Col Marcia Quigley, USAF Deputy Director, Coalition Warfare Program, Office of the Under Secretary of Defense (Acquisition & Sustainment)

**Ms. Merry Lutz** Country Program Manager, International Cooperation Office, Office of the Under Secretary of Defense (Acquisition & Sustainment)

#### **USSF & USSPACECOM INTERNATIONAL PROGRAMS**

Lt Col Brian Fredrickson, USAF Chief, INDOPACOM/Asia-Pacific Branch, Space & Missile Center

Mr. Jeff Todd Advisor, S&T and Advance Concepts, U.S. Space Command (USSPACECOM)

#### **DTRA INTERNATIONAL PROGRAMS**

Dr. Juliette Petersen Specialist, International Science, Technology, & Research, DTRA

#### **OUSD(R&E) PROGRAMS PANEL**

**Col Corey Beaverson, USAF** Director, Global Capabilities Programs



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#### **BREAK**

2:10 - 2:15 pm HST 7:10 - 7:15 pm EST

#### SPACE S&T FOR THE TERRESTRIAL WARFIGHTER 2:15 - 2:45 pm HST 7:15 - 7:45 pm EST

Dr. Derek Tournear

Director, Space Development Agency, Office of the Under Secretary of Defense (Research & Engineering)

- **BREAK** 2:45 - 2:50 pm HST
- 7:45 7:50 pm EST

#### 2:50 - 3:50 pm HST PANEL: ADDRESSING PRESENCE & MILITARY READINESS 7:50 - 8:50 pm EST THROUGH AN OPERATIONALIZED S&T BOARD

Dr. Martin Lindsey S&T Advisor, USINDOPACOM Moderator

**Dr. Jeffrey Sanders** S&T Advisor, U.S. Pacific Air Forces (PACAF)

Mr. Chris Murphy S&T Advisor, U.S. Pacific Fleet (PACFLT)

Ms. Jessica Hiraoka S&T Advisor, U.S. Marine Forces Pacific (MARFORPAC)

Dr. Rob Smith S&T Advisor, U.S. Army Pacific (USARPAC)

Mr. Kevin Ruddell S&T Advisor, U.S. Special Operations Command Pacific (SOCPAC)

3:50 - 3:55 pm HST 8:50 - 8:55 pm EST

#### **CLOSING REMARKS**

Gen Hawk Carlisle, USAF (Ret) President and Chief Executive Officer, NDIA

Dr. Martin Lindsey S&T Advisor, USINDOPACOM

#### TUESDAY, MARCH 9 – OPEN SESSION

#### **Master of Ceremonies**

**CAPT Tony Nelipovich, USN** San Diego Regional Office, Office of Naval Research, U.S. Navy

8:00 - 8:05 am HST 1:00 - 1:05 pm EST

#### WELCOME REMARKS

Gen Hawk Carlisle, USAF (Ret) President and Chief Executive Officer, NDIA

**Dr. Martin Lindsey** S&T Advisor, USINDOPACOM

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8:05 – 9:05 am HST 1:05 – 2:05 pm EST

#### PANEL: DEPARTMENT OF ENERGY

Gen Charles R. Holland, USAF (Ret) Strategic Advisor, Lawrence Livermore National Laboratory Moderator

Dr. John Sarrao Deputy Director, Science, Technology, & Engineering, LANL

Ms. Kim Fowler Director, Defense Sector, PNNL

#### Dr. David Sandison Director, Center for Global Security & Cooperation, SNL

Ms. Huban Aspie Gowadia Principal Associate Director, Global Security Principal Directorate, Lawrence Livermore National Laboratory

9:05 – 9:10 am HST BREAK

2:05 - 2:10 pm EST

4:20 - 5:20 pm EST

#### 9:10 – 9:40 am HST 2:10 – 2:40 pm EST BREAKTHROUGH TECHNOLOGIES & CAPABILITIES Dr. Peter Highnam

Acting Director, DARPA

- 9:40 10:25 am HST **NETWORKING BREAK** 2:40 – 3:25 pm EST
- 10:25 11:05 am HST
   EMERGING TECHNOLOGIES FOR NATIONAL DEFENSE

   3:25 4:05 pm EST
   Dr. Mark Lewis

   Executive Director, Emerging Technologies Institute, NDIA

11:05 – 11:20 am HST **NETWORKING BREAK** 4:05 – 5:20 pm EST

#### 11:20 am - 12:20 pm HST REGIONAL DEFENSE S&T STRATEGY

BG Joel Vowell, USA Deputy Director, Strategic Planning & Policy Directorate, USINDOPACOM J5 Moderator

Dr. Dana Johnson Director, International Outreach & Policy, Office of the Under Secretary of Defense (Research & Engineering)

#### Mr. Michael Vaccaro

Acting Executive Director, International Armaments Cooperation, Office of the Under Secretary of Defense (Acquisition & Sustainment)

12:20 – 1:05 pm HST **NETWORKING BREAK** 5:20 – 6:05 pm EST

### 1:05 - 1:25 pm HSTINTRODUCTION TO EXPORT-IMPORT BANK OF THE UNITED STATES6:05 - 6:25 pm ESTMr. Adam Frost

Senior Vice President, Program on China & Transformational Exports, Export-Import Bank of the United States



#### 1:25 - 1:30 pm HST

#### 6:25-6:30 pm EST

6:50 - 6:55 pm EST

6:55 - 7:25 pm EST

#### **BREAK**

#### JOINT INTERNATIONAL EXPERIMENTATION 1:30 - 1:50 pm HST 6:30 - 6:50 pm EST Mr. Alexander Lovett

Acting Director, Directorate of Defense Research and Engineering for Advanced Capabilities, Office of the Under Secretary of Defense (Research & Engineering)

#### **BREAK** 1:50 - 1:55 pm HST

#### 1:55 - 2:25 pm HST **INTERNATIONAL PANEL: SESSION 1**

Dr. Mike von Fahnestock Research Leader, USINDOPACOM Moderator

#### Dr. Tomohiro Ando

Director, Technology Strategy Division, Japan

Lieutenant General Kongcheep Tantravanich Director General, Defense Science & Technology Department, Thailand

#### Dr. Yeesoo Han

Director, International Corporation Division, Agency for Defense, Korea

#### 2:25 - 2:30 pm HST **BREAK**

7:25 - 7:30 pm EST

#### **INTERNATIONAL PANEL: SESSION 2** 2:30 - 3:05 pm HST

#### 7:30 - 8:05 pm EST

#### Col Tammy Low, USAF Deputy S&T Advisor and International S&T Lead, USINDOPACOM

Moderator

#### Dr. Mohd Yazid Ahmad

Director, Science & Technology Research Institute for Defense, Malaysia

#### COL Victor Huang, RSN

Deputy Architect, Future Systems & Technology, Singapore

#### 3:05 - 3:15 pm HST CLOSING REMARKS

8:05 - 8:15 pm EST

Gen Hawk Carlisle, USAF (Ret) President and Chief Executive Officer, NDIA

#### Dr. Martin Lindsey

S&T Advisor, USINDOPACOM

#### WEDNESDAY, MARCH 10 – CLOSED SESSION

#### 8:00 am - 12:30 pm HST 1:00 - 5:30 pm EST

#### CLOSED SESSION DAY ONE

THIS SESSION WILL FOCUS ON WARFIGHTER PERSPECTIVES AND CAPABILITY NEEDS. IT WILL BE CONDUCTED VIA SECURE VIDEO TELECONFERENCING (SVTC). SEE SECURITY INFORMATION PAGE FOR MORE DETAILS AND IT REQUIREMENTS.



#### THURSDAY, MARCH 11 – CLOSED SESSION

7:50 am – 12:10 pm HST 12:50 – 5:10 pm EST

#### **CLOSED SESSION DAY TWO**

THIS SESSION WILL FOCUS ON WARFIGHTER PERSPECTIVES AND CAPABILITY NEEDS. IT WILL BE CONDUCTED VIA SECURE VIDEO TELECONFERENCING (SVTC). SEE SECURITY INFORMATION PAGE FOR MORE DETAILS AND IT REQUIREMENTS.

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- Collaborate on projects and documents of all kinds
- Plan meetings, seminars, webinars, conferences, or any NDIA-related event
- Foster discussion, promote innovation, and grow your network

#### Log in today at Connect.NDIA.org

# BIOGRAPHIES



#### LT GEN MICHAEL MINIHAN, USAF

Deputy Commander U.S. Indo-Pacific Command

Lt. Gen. Mike Minihan is the Deputy Commander of U.S. Indo-Pacific

Command, Camp H. M. Smith, Hawaii. He directs and enables activities and operations that support the Combatant Commander's priorities and promotes U.S. interests in the Indo-Pacific region through peace, crisis, and war. Lt. Gen. Minihan entered the Air Force in April 1990 after receiving his commission through the ROTC program at Auburn University, Auburn, Alabama. He completed undergraduate pilot training in 1991 and served as an aircraft commander, instructor pilot and evaluator pilot in the C-130 Hercules. He has commanded in garrison, crisis, and combat and at the squadron, wing, and task-force levels. He also held staff assignments at Headquarters Air Force, U.S. Transportation Command, and Pacific Air Forces. Most recently, Lt. Gen. Minihan served as Chief of Staff for United Nations Command, U.S. Forces Korea, and then U.S. Indo-Pacific Command. Prior to his current assignment, Lt. Gen. Minihan was the Chief of Staff, U.S. Indo-Pacific Command, Camp H. M. Smith, Hawaii.

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Lt. Gen. Minihan is a command pilot with more than 3,400 flying hours and qualifications in C-130 Hercules, KC-10 Extender, and C-32 aircraft.



#### TERENCE EMMERT

Performing the Duties of the Under Secretary of Defense for Research & Engineering U.S. Department of Defense

Terence Emmert was designated as Principal Deputy, Director

of Defense Research and Engineering for Advanced Capabilities (PD, DDRE (AC)), in October 2018 and with the DDRE (AC) directs an organization whose mission is to recognize, explore, and accelerate the development and integration of new technology to maintain U.S. technological superiority. His responsibilities include establishing a Department of Defense joint mission engineering capability, overseeing developmental testing, and executing experimentation and prototyping initiatives. He is focused on driving down technical risk, gaining warfighter feedback to better inform requirements, and ensuring that concepts transitioning into acquisition provide needed capability and are timely and affordable.

Mr. Emmert previously held the position of Deputy Assistant Secretary of Defense (Materiel Readiness). In this role, he was the principal advisor to the Office of the Secretary of Defense (OSD) leadership on policies, procedures, and actions related to the materiel readiness of weapons and other materiel systems. He was responsible for the development and implementation of acquisition and sustainment strategies, policies, and processes that provide the warfighter with cost-effective weapon system readiness across the life cycle, through an integrated defense industrial base.

Mr. Emmert's 30+ years of public and private service began as a Naval Aviator where he served aboard a variety of combatant ships. During this time, he was introduced to the acquisition process while serving in the Navy's operational test agency. Following his military service, he entered the private sector and sought out positions that focused on improving manufacturing and supply chain operations.

In August, 2009, Mr. Emmert rejoined the government as a Process Improvement Specialist with the Deputy Chief Management Office. In this capacity, he led series of logistics and maintenance process improvement projects for the Mine Resistant Ambush Protected (MRAP) vehicle fielding in Iraq and Afghanistan. Following this assignment, he became the Policy Team Lead, Office of the Deputy Assistant Secretary of Defense (Materiel Readiness), where he revamped regulations governing sustainment planning for all newly developed weapons platforms.

Mr. Emmert is a 1988 graduate of the U.S. Naval Academy and holds advanced degrees in Aerospace Engineering, Civil and Environmental Engineering, Business Administration, and National Resource Strategy.



#### DR. DEREK TOURNEAR

Director, Space Development Agency Office of the Under Secretary of Defense (Research & Engineering)

Dr. Derek Tournear is the Director of the Space Development Agency

(SDA). Established in March 2019, SDA is responsible for unifying and integrating the Department's space development efforts, monitoring the Department's threat-driven future space architecture, and accelerating the fielding of new military space capabilities necessary to ensure U.S. technological and military advantages in space.

Dr. Tournear most recently served as Assistant Director of Research and Development for Space within the Office of the Under Secretary of Defense for Research & Engineering where he was responsible for coordinating all DoD efforts in space and initiating programs to address critical gaps. Dr. Tournear previously held leadership roles in industry, most recently the director for Harris Space & Intelligence (SIS) research & development. SIS was a \$2B business focused on providing advanced technical solutions addressing the top national security threats from underwater to outer space.

Prior to industry, Dr. Derek Tournear was a Senior Program Manager (SNIS-HQE) at the Intelligence Advanced Research Projects Activity (IARPA) in the Office of the Director of National Intelligence (ODNI). At IARPA, Dr. Tournear served as a senior scientist for space activities and space technologies in the Office of Smart Collection.

Dr. Tournear was previously a Program Manager for the Defense Advanced Research Projects Agency (DARPA) Tactical Technology Office and Strategic Technology Office. At DARPA, he initiated and directed a large portfolio of programs, with an emphasis on sensors and space.

He has professional experience at Los Alamos National Laboratory (LANL) managing intelligence and defense programs.

Dr. Tournear has a PhD in Physics from Stanford University and a BS from Purdue University. In 2010 he received an "Outstanding Alumnus" award from Purdue University and a 2008 DARPA award for "Outstanding Accomplishments in a Systems Technology Area." Dr. Tournear is a 2011 recipient of the Secretary of Defense Medal for Exceptional Public Service and is a 2012 recipient of the Office of the Director of National Intelligence Award for Exceptional Public Service.



#### DR. PETER HIGHNAM

Acting Director Defense Advanced Research Projects Agency

Dr. Peter Highnam is the acting director of the Defense Advanced Research Projects

Agency (DARPA). Prior to this assignment, he was the deputy director at DARPA since February 2018.

Before coming to DARPA, Dr. Highnam was the director of research at the National Geospatial-Intelligence Agency (NGA), on assignment from the Office of the Director of National Intelligence (ODNI), for two and a half years. Prior to that assignment, he served six years at the ODNI's Intelligence Advanced Research Projects Activity (IARPA), initially as an office director and then as director.

Dr. Highnam worked from 2003 until 2009 in the U.S. Department of Health and Human Services (HHS). Initially, he served as a senior advisor in the National Institutes of Health (NIH), with responsibilities in areas where high-performance computing intersects with biomedicine and public health, including computational epidemiology. Subsequently, he served as senior advisor to the director of the Biomedical Advanced Research and Development Authority (BARDA), where he produced analyses in support of public health decision-making related to chemical, biological, radiological, and nuclear events, as well as naturally occurring disease.

From 1999 to 2003, Dr. Highnam was a DARPA program manager working in electronic warfare and airborne communications. His research in electronic warfare (the Advanced Tactical Targeting Technology (AT3) program) focused on inexpensive approaches to rapidly and accurately target enemy air defense radars from greater standoff distances. Dr. Highnam also investigated technology for highperformance, flexible, and secure networked communication between tactical aircraft (the Tactical Targeting Networking Technologies (TTNT) program), enabling plans to move away from systems such as Link 16. Dr. Highnam worked for more than a decade in applied research at Schlumberger Limited, where he implemented industry-changing seismic data analytics on massively parallel computers. He also served as a director of a successful biomedical imaging startup company.

Dr. Highnam holds a PhD in Computer Science from Carnegie Mellon University, an MS in Mathematical Logic and the Foundations of Mathematics from the University of Bristol (United Kingdom), and a BS in Computer Science from the University of Manchester (United Kingdom).

Dr. Highnam has received the Department of Health and Human Services Secretary's Distinguished Service Award, the Office of the Secretary of Defense Medal for Exceptional Public Service, and the NGA Distinguished Civilian Service Award. He is a co-inventor on three patents related to commercial seismic exploration.



#### DR. MARK LEWIS

*Executive Director, Emerging Technologies Institute* National Defense Industrial Association

Dr. Mark J. Lewis is the Executive Director of NDIA's Emerging Technologies Institute

(ETI), a non-partisan institute focused on technologies that are critical to the future of national defense. ETI provides research and analyses to inform the development and integration of emerging technologies into the defense industrial base.

Prior to this position, Dr. Lewis was the Director of Defense Research & Engineering in the Department of Defense (DoD), overseeing technology modernization for all Services and DoD Agencies, as well as the acting Deputy Under Secretary of Defense for Research & Engineering. In that role, he was the Pentagon's seniormost scientist, managing a \$17B budget that included DARPA, the Missile Defense Agency, the Defense Innovation Unit, the Space Development Agency, Federally Funded Research and Development Centers (FFRDC), and the Department's basic and applied research portfolio.

From 2012 to 2019, Dr. Lewis was the Director of the Science and Technology Policy Institute, an FFRDC that supported the Executive Office of the President and other Executive Branch agencies in the formulation of national science and technology policy. Dr. Lewis is a professor emeritus at the University of Maryland, where he served as the Willis Young, Jr., Professor and Chair of the Department of Aerospace Engineering until 2012. A faculty member at Maryland for 25 years, Dr. Lewis taught and conducted basic and applied research in the fields of hypersonic aerodynamics, advanced propulsion, and space vehicle design and optimization. Best known for his work in hypersonics, Dr. Lewis's research has spanned the aerospace flight spectrum from the analysis of conventional jet engines to entry into planetary atmospheres. From 2004 to 2008. Dr. Lewis was the Chief Scientist of the U.S. Air Force, the principal scientific adviser to the Chief of Staff and Secretary of the Air Force. As the longest-serving Chief Scientist in Air Force history, his primary areas of focus included hypersonics, space launch, energy, sustainment, advanced propulsion, basic research, and workforce development. From 2010 to 2011, he was President of the American Institute of Aeronautics and Astronautics.

Dr. Lewis attended the Massachusetts Institute of Technology, where he received his BS in Aeronautics and Astronautics, BS in Earth and Planetary Science (1984), and MS (1985) and DSc (1988) in Aeronautics and Astronautics. He is the author of more than 320 publications and has been an adviser to more than 60 graduate students. In addition, he has served on various boards for NASA and DoD, including two terms on the Air Force Scientific Advisory Board.

A recipient of the USAF Exemplary, Meritorious, and Exceptional Civilian Service Awards, and of the Secretary of Defense Outstanding Public Service Award, Dr. Lewis was also the 1994 AIAA National Capital Young Scientist/Engineer of the Year: received the IECEC/AIAA Lifetime Achievement Award, the AIAA Dryden Lectureship Award, and the AFA Theodore von Karman Award; and is an Aviation Week and Space Technology Laureate. He is a member of the International Academy of Astronautics, a Fellow of the American Society of Mechanical Engineers, a Fellow of the Royal Aeronautical Society, and an Honorary Fellow of the American Institute of Aeronautics and Astronautics.



#### ADAM FROST

Senior Vice President, Program on China & Transformational Exports Export-Import Bank of the United States

Adam Frost is the Senior Vice President for the Program on China

and Transformational Exports at the Export-Import Bank of the United States (EXIM).

Established by Congress at the end of 2019, the Program exists to support the extensions of loans, guarantees, and insurance at rates and on terms that are fully competitive, to the extent practicable, with those provided by China in order to both directly neutralize competing subsidies provided by China and advance the comparative leadership of the United States with respect to China in 10 strategic industries.

Prior to joining EXIM, Adam was the Director of the Office of Commercial and Economic Analysis (OCEA), an Air Force innovation that advances solutions to commercial and economic risks to national security by empowering its partners with the analysis, planning, and access they need to act. He joined OCEA after serving as the Deputy Division Chief and a Senior Wargame Analyst with the Joint Chiefs of Staff, J-8 Studies, Analysis and Gaming Division (SAGD), where he had the privilege to lead the team that elevated the art of pol-mil wargaming to a national tool for Cabinet-level policymakers. He regularly facilitated wargames at the Principals and Deputies committees.

Prior to joining the Joint Chiefs of Staff, Mr. Frost served in a number of China policy analysis and operations research analysis roles with the Department of the Army and Department of the Navy. Concurrently, Mr. Frost serves as a Foreign Area Officer for the U.S. Army Reserve who supports the Defense Attaché Office in Embassy Beijing. He is an Infantry Officer by branch, deployed as part of the surge to OIF in 2007 with 3-116th BCT and was fortunate to command two infantry companies before moving to the USAR.

Mr. Frost holds an MA in International Security from Georgetown University and an MA in U.S. History from Brandeis University, and is a graduate of the Johns-Hopkins-Nanjing University Center for Sino-U.S. Relations. He speaks fluent Mandarin Chinese and is a graduate of MIT's Seminar XXI series.

Mr. Frost is lucky in his supportive wife and the proud father of two precocious elementary schoolers.





#### ALEXANDER LOVETT

Acting Director, Directorate of Defense Research and Engineering for Advanced Capabilities Office of the Under Secretary of Defense (Research & Engineering)

Alexander Lovett is the Director of Defense Research and Engineering for

Advanced Capabilities (Acting), reporting to the Under Secretary of Defense for Research and Engineering within the Office of the Secretary of Defense. He directs an organization whose mission is to recognize, explore, and accelerate the development and integration of new technology to maintain U.S. technological superiority. He is responsible for establishing a Department of Defense joint mission engineering capability, oversight of developmental testing and test facilities, providing independent technical risk assessments of major acquisition programs, as well as demonstration and validation of technology prototype and rapid fielding activities.

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