19TH ANNUAL SCIENCE & ENGINEERING TECHNOLOGY CONFERENCE
COLLABORATING TO MAINTAIN OUR EDGE

March 20 – 22, 2018
AT&T Hotel and Conference Center
Austin, TX
NDIA.org/SET2018
“DoD Research, Engineering, Science, and Technology: Defense Agencies, Services, and COCOMs collaborating to maintain our edge.”

For more than 40 years, the United States and its allies could count on a decisive technological advantage through DoD Science and Technology and defense industrial base independent research and development investments. We now live in a world where there is global access to technology and scientific talent. Our competitors are investing in technologies and developing capabilities that are directly designed to counter U.S. warfighting advantages. We can no longer ignore these challenges to our technological superiority.

Our adversaries have watched the way we fought in Iraq and Afghanistan. They have seen our newest equipment, watched our tactics and procedures, and observed our latest concepts of operation. They are using this knowledge to develop counters to our asymmetric advantages.

Sustaining U.S. technological superiority depends on our ability to out-innovate our adversaries, but it is also important to remember that innovation is more than just the development of leading-edge technology. It is about finding the right combination of technologies and operational and organizational constructs to achieve a decisive military advantage. Inserting and integrating new technologies into prototypes and experiments can demonstrate the new capabilities and, at the same time, help define realistic operational requirements and reduce program risk. Using this approach will enable the rapid transition and fielding of new technologies and capabilities, eliminating the “Valley of Death.”

The source of new technologies may be the DoD Science and Technology program, the commercial sector, the defense industrial base independent research and development program, or SBIR/STTR investments. When coupled with the commercial best practices of combining modeling and simulation, test and evaluation, and systems engineering to develop and assess several real and virtual prototypes, there is a good chance to reduce costs and acquisition program risk.

This year’s conference is structured to allow for maximum government and industry interaction opportunities. There are specific tracks for deep-dive sessions with selected communities of interest. There will be classified combatant command science and technology presentations, and presentations by representatives from the DoD Science and Technology Communities of Interest, which will provide updates on the technology roadmaps.

James Chew
Chair, NDIA Science & Engineering Technology Division
Group Director, National Security Systems, Cadence
WHO WE ARE

The Science & Engineering Technology (S&ET) Division was formed to examine all aspects of science and technology affecting national defense. The division provides a venue for discussion of the nation’s defense needs by examining existing capabilities and suggesting ways to overcome deficiencies in defense research and development (R&D). Individuals from industry, government, and academia have the opportunity to examine vital information in an open forum on technical needs and planned efforts. The division is dedicated to raising interest in meeting Department of Defense technology requirements through creative research and advanced development across industry, government, and academia.
EVENT INFORMATION

EVENT WEBSITE
NDIA.org/set2018

EVENT CONTACT
Elizabeth Richards, CMP
Meeting Manager
(703) 247-2588
erichards@ndia.org

PLANNING COMMITTEE
James Chew
Event Chair
Dr. Michelle Atchison
Session Chair
Robert Baker
Session Chair
Mark Stephen
Session Chair

EVENT THEME
DoD Research, Engineering, Science, and Technology: Defense Agencies, Services, and COCOMs collaborating to maintain our edge.

SURVEY AND PARTICIPANT LIST
A survey and list of attendees (name and organization only) will be e-mailed to you after the symposium. NDIA would appreciate your time in completing the survey to help make our event even more successful in the future.

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.
TUESDAY, MARCH 20

7:00 am – 5:10 pm
REGISTRATION
AMPHITHEATER PRE-FUNCTION AREA

7:00 – 8:00 am
CONTINENTAL BREAKFAST
AMPHITHEATER PRE-FUNCTION AREA

8:00 – 8:15 am
WELCOME REMARKS
AMPHITHEATER 204
James Chew
Chair, NDIA Science & Engineering Technology Division
Group Director, National Security Systems, Cadence

8:15 – 9:30 am
KEYNOTE ADDRESS
AMPHITHEATER 204
Mary Miller
Performing the Duties of the Assistant Secretary of Defense for Research and Engineering

SESSION ONE: OPPORTUNITIES FOR COLLABORATION
AMPHITHEATER 204
Robert Baker
Session Chair
Deputy Director, Plans & Programs, OASD(R&E)

9:30 – 10:00 am
Prototyping – A Path to Agility, Innovation, and Affordability
Dr. Charles Perkins
Acting Deputy Assistant Secretary of Defense, Emerging Capability & Prototyping

10:00 – 10:30 am
NETWORKING BREAK – DISPLAYS AND COMMUNITY OF INTEREST (COI) POSTERS OPEN
PATIO

10:30 – 11:00 am
The DoD Test & Evaluation/Science & Technology Program
George Rumford
Test & Evaluation/Science & Technology Program Manager, Defense Test Resource Management Center

11:00 am – 12:00 pm
The DARPA Science & Technology Program
Dick Urban
Special Assistant to the Director, Defense Advanced Research Projects Agency (DARPA)
12:00 – 1:00 pm  
**NETWORKING LUNCH**  
TEJAS DINING ROOM

1:00 – 1:40 pm  
**The DTRA Science & Technology Program**  
Dr. Rhys Williams  
Director, Research & Development, J9, Defense Threat Reduction Agency (DTRA)

### SESSION TWO: SERVICE SCIENCE & TECHNOLOGY PROGRAMS

**AMPHITHEATER 204**

1:40 – 2:40 pm  
**The Army Science & Technology Program**  
Jeffrey Singleton  
Director of Technology, Assistant Secretary of the Army (ALT)

2:40 – 3:10 pm  
**NETWORKING BREAK – DISPLAYS AND COI POSTERS OPEN**  
PATIO

3:10 – 4:10 pm  
**The Naval Science & Technology Program**  
Dr. David Walker  
Director of Technology, Office of Naval Research

4:10 – 5:10 pm  
**The Air Force Science & Technology Program**  
Jeffrey Stanley  
Associate Deputy Assistant Secretary of the Air Force (Science, Technology, and Engineering)

5:10 pm  
**ADJOURN FOR THE DAY**

5:15 – 6:15 pm  
**NETWORKING RECEPTION (HOSTED BEER AND WINE)**  
COURTYARD
WEDNESDAY, MARCH 21

7:00 am – 5:00 pm
REGISTRATION
AMPHITHEATER PRE-FUNCTION AREA

7:00 – 8:00 am
CONTINENTAL BREAKFAST
AMPHITHEATER PRE-FUNCTION AREA

8:00 – 8:10 am
OPENING REMARKS
AMPHITHEATER 204
James Chew
Chair, NDIA Science & Engineering Technology Division
Group Director, National Security Systems, Cadence

8:10 – 8:40 am
MICROELECTRONICS PANEL
AMPHITHEATER 204
Dan Marrujo
Moderator
Chief Strategy Officer, Defense MicroElectronics Activity

John Behnke
Former CEO, Novati

Robyn Benevides
Director, Micron

Vern Boyle
Vice President, Advanced Technology, Northrop Grumman Mission Systems

Jeff Eggers
Mission Assurance Executive, National Reconnaissance Office

SESSION THREE: COMMUNITIES OF INTEREST (COI)
AMPHITHEATER 204
Dr. Michelle Atchison
Session Chair
Associate Vice Chancellor Federal Relations, University of Texas System

8:40 – 9:00 am
The Role of the Communities of Interest
Dale Ormond
Principal Director, Research, Office of the Assistant Secretary of Defense

9:00 – 9:20 am
Biomedical (ASBREM) CoI Presentation
RDML Mary Riggs, USN
Director, Research and Development, Defense Health Agency
9:20 – 9:40 am  
**Advanced Electronics CoI Presentation**
Dr. Romeo del Rosario  
Associate Director (A) Sensors & Electron Devices Directorate, U.S. Army Research Laboratory

9:40 – 10:00 am  
**Space CoI Overview Presentation**
Dr. Jaime Stearns  
Deputy Capability Lead for Space Superiority, Air Force Research Laboratory

10:00 – 10:30 am  
**NETWORKING BREAK – DISPLAYS AND COI POSTERS OPEN**
PATIO

10:30 – 10:50 am  
**Materials & Manufacturing Processes CoI Presentation**
Dr. John Beatty  
Materials and Structures Staff Specialist, USD-R&E Weapons Systems

10:50 – 11:10 am  
**Air Platforms CoI Presentation**
Dr. Joseph Doychak  
Associate Director, Aerospace Technology, OASD(R&E), Weapons Systems

11:10 – 11:30 am  
**Weapons Technologies CoI Presentation**
Dr. David Lambert  
Chief Scientist, AFRL/RW Munitions Directorate, Air Force Research Laboratory

11:30 – 11:50 am  
**Ground & Sea Platforms CoI Presentation**
Dr. John Pazik  
Head, Expeditionary Maneuver Warfare and Combating Terrorism, Science and Technology Department, Office of Naval Research

11:50 am – 1:00 pm  
**NETWORKING BUFFET LUNCH**
TEJAS DINING ROOM

1:00 – 1:20 pm  
**Autonomy CoI Presentation**
Kris Kearns  
Senior Advisor for Autonomy S&T, 711th Human Performance Wing/Human Performance Directorate

1:20 – 1:40 pm  
**Command & Control, Communications, Computers, and Intelligence CoI Presentation**
Dr. Stephen Russell  
Director, Science and Technology/Chief Technology Officer, SPAWAR

1:40 – 2:00 pm  
**Cyber CoI Presentation**
Dr. Bharat Doshi  
Senior Research Scientist, Cyber Security, U.S. Army CERDEC

2:00 – 2:20 pm  
**Electronic Warfare CoI Presentation**
Dr. Jeffrey Boksiner  
Senior Research Scientist for Electronic Warfare Technology, Intelligence & Information Warfare Directorate, U.S. Army CERDEC
2:20 – 2:40 pm  
**Energy and Power Technology CoI Presentation**  
Dr. Dave Drazen  
Staff Specialist, Energy and Power Technology, OUSD-R&E/Research

2:40 – 3:10 pm  
**NETWORKING BREAK – DISPLAYS AND COI POSTERS OPEN**  
PATIO

3:10 – 3:30 pm  
**Human Systems CoI Presentation**  
Dr. Kevin Geiss  
Director, Airman Systems Directorate, 711th Human Performance Wing, Air Force Research Laboratory

3:30 – 3:50 pm  
**Sensors CoI Presentation**  
Dr. James Campbell  
Deputy Director, Science and Technologies Division, Night Vision & Electronic Sensors Directorate, U.S. Army CERDEC

3:50 – 4:10 pm  
**DoD R&E Journal**  
Roger Garay  
Enterprise Portfolio Analyst, Defense Technical Information Center

4:10 – 5:00 pm  
**INDUSTRY INPUT TO AIR FORCE IP STRATEGY PANEL**  
Mark Stephen  
Moderator  
Strategic Technology Development, Lockheed Martin Missiles & Fire Control

Mark Borowski  
General Counsel, United States Air Force

Charles Harris  
General Counsel, United States Army

Kelly Hennig  
Manager of Strategic Planning, Northrop Grumman Corporation

Dr. Alison Brown  
President & CEO, NAVSYS Corporation

Dr. Matt Sorenson  
Office of Innovation and Strategic Investment, The University of Texas System

5:00 pm  
**ADJOURN FOR THE DAY**
THURSDAY, MARCH 22

CLASSIFIED SESSION – APPLIED RESEARCH LABORATORIES – UT AUSTIN

Pre-registration and submission of clearance required to attend this session; no concurrent unclassified session will be offered.
Limited parking available - transportation will be provided from the AT&T Hotel and Conference Center

6:40 am  MEET SHUTTLE 1 OF 2 FOR TRANSPORTATION TO APPLIED RESEARCH LABORATORIES
AT&T HOTEL AND CONFERENCE CENTER LOBBY

7:00 – 8:00 am  REGISTRATION AND CONTINENTAL BREAKFAST
APPLIED RESEARCH LABORATORIES LOBBY

7:15 am  MEET SHUTTLE 2 OF 2 FOR TRANSPORTATION TO APPLIED RESEARCH LABORATORIES
AT&T HOTEL AND CONFERENCE CENTER LOBBY

8:00 – 8:10 am  OPENING REMARKS
APPLIED RESEARCH LABORATORIES AUDITORIUM
James Chew
Chair, NDIA Science & Engineering Technology Division
Group Director, National Security Systems, Cadence

SESSION FOUR: CAPABILITIES NEEDED BY THE COMBATANT COMMANDERS
APPLIED RESEARCH LABORATORIES AUDITORIUM

Roger Garay
Session Co-Chair
Enterprise Portfolio Analyst, Defense Technical Information Center

James Chew
Session Co-Chair
Chair, NDIA Science & Engineering Technology Division
Group Director, National Security Systems, Cadence

8:10 – 8:30 am  How Capabilities are Developed and Delivered to the Combatant Commanders
James Chew
Chair, NDIA Science & Engineering Technology Division
Group Director, National Security Systems, Cadence

8:30 – 9:00 am  United States Central Command (USCENTCOM)
Brett Scharringhausen
Chief, Discovery & Integration, USCENTCOM CCJ8-Science & Technology
The NDIA has a policy of strict compliance with federal and state antitrust laws. The antitrust laws prohibit competitors from engaging in actions that could result in an unreasonable restraint of trade. Consequently, NDIA members must avoid discussing certain topics when they are together at formal association membership, board, committee, and other meetings and in informal contacts with other industry members: prices, fees, rates, profit margins, or other terms or conditions of sale (including allowances, credit terms, and warranties); allocation of markets or customers or division of territories; or refusals to deal with or boycotts of suppliers, customers or other third parties, or topics that may lead participants not to deal with a particular supplier, customer or third party.
MARY MILLER
Performing the Duties of the Assistant Secretary of Defense for Research and Engineering

Ms. Mary J. Miller is currently Performing the Duties of the Assistant Secretary of Defense for Research and Engineering. In April, 2016, she joined the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics as the Principal Deputy Assistant Secretary of Defense for Research and Engineering (PD ASD(R&E)). As the PD ASD(R&E), she is responsible for the Department of Defense (DoD) strategies and supporting plans to develop and leverage technologies needed to ensure continued U.S. technological superiority. She provides leadership, establishes policy and guidance for the development and execution of the DoD Science and Technology (S&T) enterprise, with an annual budget in excess of $12 billion. She oversees matters from basic science and capability prototyping to research and engineering at the 63 DoD laboratories; promotes coordination and cooperation across DoD, between DoD and other federal and non-federal agencies and organizations and ensures technological exchange with allied and friendly nations.

Prior to that she served three years as the Deputy Assistant Secretary of the Army for Research and Technology (DASA(R&T)). As DASA(R&T), she was responsible for policy and oversight of the Army’s research and technology program, which spans 16 Laboratories and Research, Development and Engineering Centers, employs nearly 12,000 scientists and engineers and has a yearly budget that exceeds $2.4 billion. Ms. Miller was charged with identifying, developing, and demonstrating technology options that inform and enable effective and affordable capabilities for Soldiers. She was also responsible for developing an S&T strategy that is responsive to Army needs from the near term (5 years) stretching out through the far term (more than 20 years). Her S&T portfolio covered basic research through the development and demonstration of components, subsystems, Manufacturing Technology, and technology system prototypes.

Between 2010 and 2013, Ms. Miller served as the Deputy Program Executive Officer for Soldier, where she was the principal civilian for the Department of the Army responsible for the design, development, procurement, fielding, and sustainment of a portfolio with more than 460 products/systems and a $3 billion budget. Her work encompassed virtually everything a Soldier wears or carries.

From 2005 to 2010, Ms. Miller served as the Director for Technology, within the Office of the Assistant Secretary of the Army for Acquisition, Logistics and Technology. There she was responsible for the oversight and coordination of the Army’s S&T efforts to transition technology in support of Army acquisition programs. She also served as the U.S. National Representative on the Weapons Panel of The Technology Cooperation Program.

Ms. Miller received a B.S. in Electrical Engineering from the University of Washington, an M.S. in Electrical Engineering, Electro-Physics, from George Washington University and an M.B.A. from the University of Tennessee. Ms. Miller was selected in 2005 to the Senior Executive Service and is Defense Acquisition Workforce Level III certified in Program Management; Engineering; and Science and Technology Management.

SAVE THE DATE
S&ET EXECUTIVE BREAKFAST SERIES

APRIL 5
Featuring Dr. Arun Seraphin
Professional Staff Member,
U.S. Senate Committee on Armed Services

The Army and Navy Club
NDIA.org/SETApril18

MAY 8
Featuring Dr. Jason Jouet
Deputy Director, Manufacturing Technology,
Manufacturing and Industrial Base Policy Office
of Secretary of Defense

NDIA Headquarters
NDIA.org/Events
TABLE TOP DISPLAYERS

DEFENSE SYSTEMS INFORMATION ANALYSIS CENTER (DSIAC)

The Defense Systems Information Analysis Center (DSIAC) is part of the DoD Information Analysis Center (IAC) enterprise, sponsored by the Defense Technical Information Center (DTIC). The purpose of DSIAC is to perform information research and analysis for DoD and federal government users to stimulate innovation, foster collaboration, and eliminate redundancy. DSIAC maintains a community of subject-matter experts, as well as access to the vast repository of DoD Scientific and Technical Information to support synergistic opportunities and reduce redundancy in DoD research and development (R&D) investments.

A wide range of products and services are provided by DSIAC, including:

- Responding to technical inquiries, including literature searches, document requests, answers to technical questions, and expert referrals; each 4-hour inquiry is free of charge to the customer.
- Developing, managing, and deploying products, tools, and training based on the needs of the Defense Systems community.
- Publishing the DSIAC Journal, which is available by print subscription or free electronic download.
- Building and maintaining a network of defense systems subject-matter experts.
- Participating in key technical conferences and forums to engage and network with the Science and Technology (S&T) community.
- Fostering and supporting the DSIAC Communities of Practice.
- Conducting customer-funded Extended Technical Inquiries (ETIs) and Core Analysis Tasks.

DEFENSE TECHNICAL INFORMATION CENTER (DTIC)

The Defense Technical Information Center (DTIC) is the DoD’s central authority for collecting, safeguarding, analyzing, and disseminating defense-related scientific and technical information to a broad spectrum of authorized users. Its flagship knowledge management hub, the R&E Gateway (www.dtic.mil), is the DoD’s one-stop source for controlled-unclassified (NIPR) collections and workspaces. The R&E Gateway connects military lab scientists, engineers, and researchers to reduce duplication of effort and build on past successes. DTIC’s unclassified (public) site (www.dtic.mil) and collections encourage industry innovation, citizen science and technology transfer. Its classified (SIPR) site (https://dtic.smil.mil) and collections support the requirements of the Combatant Commands (CCMDs) to deliver innovative technologies for our warfighters. New to DTIC is the Journal of DoD Research and Engineering, which offers DoD researchers an avenue to publish controlled unclassified and classified research in a peer-reviewed publication.

GSA FEDSIM & GSA EXPRESS

FEDSIM and Express are programs within GSA which provide solutions for government-wide assisted acquisitions for DoD and Civilian agencies. GSA FEDSIM is the only full service, government-wide assisted acquisition organization that provides hands-on strategic direction and development through all phases of the acquisition process. GSA Express provides streamline assisted acquisition services including contracting and financial management. Leveraging acquisition expertise, tools, templates, and an online automated system to increase efficiency, reduce cost and support acquisition innovations. GSA's FEDSIM, Express, Acquisition and Category teams are committed to helping you discover the fastest, most effective way to fulfill your requirements and get the results you need to deliver your mission.

RECONASENSE

ReconaSense empowers companies to make better decisions, faster.

It elevates Security from a post-event approach to a real-time, proactive posture. This unique sensor-fusion platform lets you choose from native modules such as next-generation Access Control, Video Management/Analytics, or request integration with virtually any other sensor or system. Its familiar touchscreen tile interface lets you customize and simplify the security officer’s awareness. Unlike other “Unified Platforms”, only ReconaSense automates the detection of events that concern you, then automatically triggers the responses you desire. This automation helps eliminate human oversight or error, helping security officers “make sense of it all”.
SMALL BUSINESS ADMINISTRATION

The Small Business Administration provides guidance to agencies that implement the Small Business Innovation Research (SBIR) and the Small Business Technology Transfer (STTR) programs.

The Small Business Innovation Research (SBIR) program is a highly competitive program that encourages domestic small businesses to engage in Federal Research/Research and Development (R/R&D) that has the potential for commercialization. Through a competitive awards-based program, SBIR enables small businesses to explore their technological potential and provides the incentive to profit from its commercialization. By including qualified small businesses in the nation’s R&D arena, high-tech innovation is stimulated and the United States gains entrepreneurial spirit as it meets its specific research and development needs.

The mission of the SBIR program is to support scientific excellence and technological innovation through the investment of Federal research funds in critical American priorities to build a strong national economy.

The program’s goals are four-fold: stimulate technological innovation; meet Federal research and development needs; foster and encourage participation in innovation and entrepreneurship by women and socially or economically disadvantaged persons; increase private-sector commercialization of innovations derived from Federal research and development funding.

Another program that expands funding opportunities in the federal innovation research and development (R&D) arena is the Small Business Technology Transfer (STTR) program.

SEMI-FLEXTECH

SEMI-FlexTech is focused on the growth and success of the manufacturing and R&D ecosystem for flexible hybrid electronics (FHE) - the building blocks for flexible, lightweight, low power, integrated sensor and communication products. We bring together teams of industry, academicians and government representatives to define and manage R&D programs for military and commercial dual-use applications.

SEMI-FlexTech has a successful track record of contract and technical R&D management to maximize innovation through public-private pooled resources. Our consortia model demonstrates the exponential value of collaboration. Talk to us about meeting your next-generation development needs for mobile/wearable solutions, communication, augmentation, sensors, and other requirements you have for the electronics industry.

SEMI® connects over 2,000 member companies and 1.3 million professionals worldwide to advance the technology and business of the electronics industry. SEMI members are responsible for the innovations in materials, design, equipment, software, devices, and services that enable smarter, faster, more powerful, and more affordable electronic products. FlexTech, the Fab Owners Alliance (FOA) and the MEMS & Sensors Industry Group (MSIG) are SEMI Strategic Association Partners, focused on flexible electronics, semiconductor fabrication, and transducers/sensors industries, respectively.

THE UNIVERSITY OF TEXAS SYSTEM

Educating students, providing care for patients, conducting groundbreaking basic, applied and clinical research, and serving the needs of Texans and the nation for more than 130 years, The University of Texas System is one of the largest public university systems in the United States. With 14 institutions and a projected enrollment of more than 234,000 students, the UT System confers more than one-third of the state’s undergraduate degrees, educates approximately two-thirds of the state’s health care professionals annually and accounts for almost 70 percent of all research funds awarded to public institutions in Texas. The UT System’s operating budget for FY 2018 is $18.3 billion, funded in part by $3.6 billion in sponsored programs from federal, state, local and private sources. With more than 20,000 faculty – including Nobel laureates and members of the National Academies – and nearly 80,000 health care professionals, researchers, student advisors and support staff, the UT System is one of the largest employers in the state.
THANK YOU

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