

Advancing Weapon Systems Survivability to Achieve Land, Air, and Sea Dominance

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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



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SCHEDULE AT A GLANCE

TUESDAY, NOVEMBER 1

Optional Tutorial Day

Naval Postgraduate School King Hall 8:00 am - 5:00 pm

Networking Reception

Hyatt Regency Monterey 6:00 - 7:30 pm

WEDNESDAY, NOVEMBER 2

Symposium Day 1

Naval Postgraduate School King Hall 8:00 am - 4:20 pm

Networking Reception and Awardee Celebration

Anton and Michel 4:30 - 6:30 pm

THURSDAY, NOVEMBER 3

Symposium Day 2

Naval Postgraduate School King Hall 8:00 am - 4:30 pm

Award Presentation & Luncheon

Naval Postgraduate School Herrmann Hall 11:00 am - 1:00 pm



GET INVOLVED

Learn more about NDIA's Divisions and how to join one at NDIA.org/Divisions



COMBAT SURVIVABILITY

WHO WE ARE

NDIA's Combat Survivability Division addresses all aspects of susceptibility reduction (probability of hit), vulnerability reduction (consequences of hit) and the overall survivability discipline, including countermeasures, signature reduction, tactics and training, camouflage, concealment and deception, as well as damage resistance, damage tolerance and combat damage repair. The division also focuses on the transfer of information and technology between the military survivability and civil aviation communities to improve flight safety and to mitigate the effects of terrorist acts.

LEADERSHIP AND

Lt Gen Chris Bogdan,

Division Chair

Jack Rau

Vice Chair

Thao Ngyuen

Symposium Chair

Amy Howell

Secretary

POSTER PRESENTERS & DISPLAYS

Small Form Factor Active Countermeasures: Digital RF Expendable Active Countermeasure – DREAM

Scott Fitzgerald

Sr Director Business Development, Mercury Systems

HSVTOL Total Mission Survivability

Jeffrey Nissen

Advanced Technology Bell Flight

Cena Probe System for Improved Tier I **Inspection on Low Observable Aircraft**

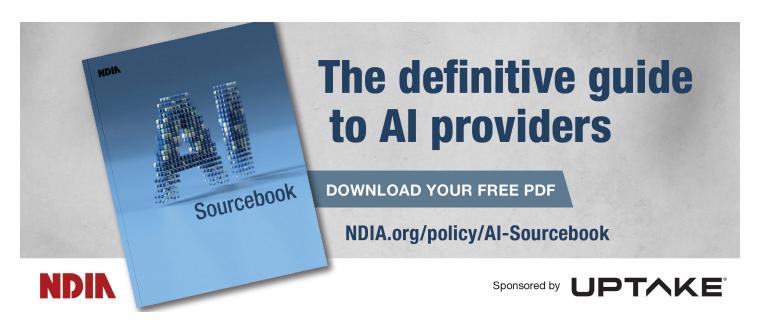
Dr. Daniel Faircloth

IERUS Technologies

Britecloud Expendable Active Decoy

Rod Godlewski

Leonardo Electronics



EVENT INFORMATION

LOCATION

Symposium Venue Naval Postgraduate School 1 University Circle Monterey, CA 93943

Host Hotel Hyatt Regency Monterey Hotel & Spa 1 Old Golf Course Road Monterey, CA 93940

ATTIRE

Civilian: Business

Military: Uniform of the Day

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.

EVENT CONTACT

Maura Deely Meeting Planner (703) 247-2588 mdeely@NDIA.org

Tommy Kienzle

Program Coordinator, Divisions (703) 247-2575 tkienzle@NDIA.org

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.

EVENT CODE OF CONDUCT

NDIA's Event Code of Conduct applies to all National Defense Industrial Association (NDIA), National Training & Simulation Association (NTSA), and Women In Defense (WID) meetingrelated events, whether in person at public or private facilities, online, or during virtual events. NDIA, NTSA, and WID are committed to providing a productive and welcoming environment for all participants. All participants are expected to abide by this code as well as NDIA's ethical principles and practices. Visit NDIA.org/CodeOfConduct to review the full policy.





THIS EVENT IS CLASSIFIED AS SECRET//NOFORN

TUESDAY, NOVEMBER 1

7:00 am - 5:00 pm REGISTRATION OPEN

KING HALL FOYER

7:00 – 8:00 am CONTINENTAL BREAKFAST

KING HALL FOYER

8:00 – 8:15 am **WELCOME REMARKS**

KING HALL

Dr. Mark Couch

Live Fire test & Evaluation, Operational Evaluation Division, Institute for Defense Analyses Strategic Planning, Combat Survivability Division, NDIA

8:15 – 9:45 am SPECIAL TOPICS IN SURVIVABILITY – CLASSIFIED

KING HALL

Christopher Adams

Professor, Naval Postgraduate School

Dr. Mark Couch

Live Fire test & Evaluation, Operational Evaluation Division, Institute for Defense Analyses Strategic Planning, Combat Survivability Division, NDIA

Dr. Richard Huffman

Research Staff Member, Operational Evaluation Division, Institute for Defense Analyses

9:45 – 10:15 am **NETWORKING BREAK**

KING HALL FOYER

10:15 – 11:30 am SPECIAL TOPICS IN SURVIVABILITY – CLASSIFIED

KING HALL

Christopher Adams

Professor, Naval Postgraduate School

Dr. Mark Couch

Live Fire test & Evaluation, Operational Evaluation Division, Institute for Defense Analyses Strategic Planning, Combat Survivability Division, NDIA

Dr. Richard Huffman

Research Staff Member, Operational Evaluation Division, Institute for Defense Analyses

11:30 – 1:00 pm **LUNCH ON OWN**

1:00 – 2:45 pm INTRODUCTION TO HYPERSONICS – UNCLASSIFIED

KING HALL

Dr. Daniel Millman

Chief Technology Officer, Stratolaunch

Dr. Carol Putman

Senior Lead Engineer, Advanced Materials, Booz Allen Hamilton

2:45 – 3:15 pm NETWORKING BREAK

KING HALL FOYER

3:15 – 4:55 pm INTRODUCTION TO HYPERSONICS – UNCLASSIFIED

KING HALL

Dr. Daniel Millman

Chief Technology Officer, Stratolaunch

Dr. Carol Putman

Senior Lead Engineer, Advanced Materials, Booz Allen Hamilton

4:55 – 5:00 pm CLOSING REMARKS

Dr. Mark Couch

Live Fire test & Evaluation, Operational Evaluation Division, Institute for Defense Analyses Strategic Planning, Combat Survivability Division, NDIA

6:00 – 7:30 pm NETWORKING RECEPTION

HYATT REGENCY MONTEREY - GARDEN TERRACE COURTYARD

WEDNESDAY, NOVEMBER 2

7:00 am – 4:20 pm REGISTRATION OPEN

KING HALL FOYER

7:00 – 8:00 am CONTINENTAL BREAKFAST

KING HALL FOYER

8:00 – 8:15 am WELCOME & INTRODUCTORY REMARKS

KING HALL

Thao Nguyen

EDSI Military, Survivability Discipline Group, Pratt & Whitney Symposium Chair, Combat Survivability Division

Lt Gen Chris Bogdan, USAF (Ret) Senior Vice President, Booz Allen Hamilton Chair, Combat Survivability Division, NDIA



8:15 – 8:30 am **NPS WELCOME**

KING HALL

VADM Ann E. Rondeau, USN (Ret) President, Naval Postgraduate School

8:30 – 8:35 am KEYNOTE INTRODUCTION

KING HALL

Thao Nguyen

EDSI Military, Survivability Discipline Group, Pratt & Whitney

Symposium Chair, Combat Survivability Division

8:35 – 9:15 am INDUSTRY KEYNOTE ADDRESS

KING HALL

Chris Flynn

Vice President, Military Development Programs, Pratt & Whitney

9:30 am POSTER & DISPLAY HALL OPEN

KING HALL LOWER LEVEL

9:30 – 10:00 am **NETWORKING BREAK**

KING HALL FOYER



SESSION 1 - THREAT

INTRODUCTION TO SESSION 10:00 - 10:10 am

KING HALL

Amy Howell

Operations Analysis Director, Lockheed Martin Rotary & Mission Systems Session Chair & Secretary, Combat Survivability Division, NDIA

AIR & AIR DEFENSE 10:10 - 11:00 am

KING HALL

Joseph Silver

EERC, Defense Intelligence Agency

Marc Leistco Booz Allen Hamilton

MODERN SAM TRENDS 11:00 - 11:25 am

KING HALL

Scott Bigelow

Acting Chief Scientist, MSIC

LONG-RANGE AIRBORNE THREAT ENGAGEMENT ANALYSIS 11:25 - 11:50 am

KING HALL

Stephen Tyson

System Analyst, MIT Lincoln Lab

NETWORKING LUNCH 11:50 am - 12:50 pm

HERRMANN HALL

12:50 - 1:00 pm **RECONVENE**

KING HALL

UKRAINE & RUSSIAN AVIATION THREAT UPDATE 1:00 - 1:45 pm

KING HALL

Kendal Zabel

Infrared Configuration Control Board (IR CCB) Lead/Modeling & Simulation (M&S),

Test & Evaluation Threat Resource Activity



SESSION 2 - SENSORS/TECH

1:45 – 2:00 pm INTRODUCTION TO SESSION

KING HALL

Dr. Richard Huffman

Research Staff Member, Operational Evaluation Division, Institute for Defense Analyses

2:00 – 2:25 pm ACOUSTIC DETECTION RANGES FOR INTELLIGENCE, SURVEILLANCE

& RECONNAISSANCE MISSION ANALYSIS

KING HALL

Judith Gallman

Senior Staff Engineer, Northrop Grumman Aeronautics Systems

2:25 pm POSTER & DISPLAY HALL OPEN

KING HALL LOWER LEVEL

2:25 – 2:55 pm **NETWORKING BREAK**

KING HALL FOYER

2:55 – 3:20 pm DIADS DYNAMIC CONTROL OF CEESIM (D2C2): NEW METHODS OF USING

MODELING & SIMULATION TO CONDUCT SUSCEPTIBILITY EVALUATION

IN OPERATIONAL TESTS

KING HALL

Chris Abramson

AFOTEC Det 5

3:20 – 3:45 pm IMPACT OF FAROP AEROSOL MODEL ERROR

ON CONTRAIL VISIBILITY PREDICTION

KING HALL

Dr. Scott Ozog

Principle Systems Engineer, Northrop Grumman

3:45 – 4:10 pm IR DETECTION VARIATION WITH SYNTHETIC ENVIRONMENT DATA

KING HALL

John Sproule

NG Fellow, Northrop Grumman Aeronautics Systems

4:10 – 4:15 pm CLOSING REMARKS

Thao Nguyen

EDSI Military, Survivability Discipline Group, Pratt & Whitney

Symposium Chair, Combat Survivability Division

NETWORKING RECEPTION & AWARDEE CELEBRATION 4:30 - 6:30 pm

OFF-SITE LOCATION: ANTON AND MICHEL

Additional purchase of a ticket required for all attendees and guests; may be purchased during registration process

THURSDAY, NOVEMBER 3

REGISTRATION OPEN 7:00 am - 4:00 pm

KING HALL FOYER

CONTINENTAL BREAKFAST 7:00 - 8:00 am

KING HALL PATIO

WELCOME & ADMINISTRATIVE REMARKS 8:00 - 8:15 am

KING HALL

Thao Nguyen

EDSI Military, Survivability Discipline Group, Pratt & Whitney

Symposium Chair, Combat Survivability Division

Lt Gen Chris Bogdan, USAF (Ret)

Senior Vice President, Booz Allen Hamilton Chair, Combat Survivability Division, NDIA

GOVERNMENT KEYNOTE ADDRESS 8:15 - 9:00 am

KING HALL

Maj Gen Evan Dertien, USAF

Commander, Air Force Test Center, Edwards Air Force Base

SESSION 3 - CYBER/ARCHITECTURE

INTRODUCTION TO SESSION 9:00 - 9:10 am

KING HALL

Mike Laramee

Senior Manager Survivability, Bell Flight

Session Chair, Combat Survivability Division, NDIA

A CYBER SURVIVABILITY INTRUSION DETECTION 9:10 - 9:35 am

& PREVENTION SOLUTION FOR WEAPONS SYSTEMS

KING HALL

Dr. Ly Vessels

Technical Fellow, Honeywell



9:35 – 10:05 am NETWORKING BREAK

KING HALL FOYER

10:05 – 10:30 am MEASURING THE WIND: DETERMINING A SYSTEM'S

LEVEL OF AIRCRAFT CYBER COMBAT SURVIVABILITY (ACCS)

KING HALL

Dr. William Bryant Technical Fellow, MTSI

10:30 –10:55 am WEAPONS SYSTEM CYBERSECURITY...

IT'S ALL ABOUT THE MISSION

KING HALL

Robert Miller

Chief Technologist, Booz Allen Hamilton

11:00 am - 1:00 pm **AWARDS LUNCHEON**

HERRMANN HALL

Robert Gierard

Combat Survivability Division Awards Chairman

Combat Survivability Award for Lifetime Achievement

Lt. Gen Eric Fick, USAF

Program Executive Officer & Director, F-35 Lightning II Program

RADM Robert H. Gormley Combat Survivability Award for Leadership

Dr. Robert Shin

Principle Staff Member ISR & Tactical Systems, Director MIT Beaver Works, MIT Lincoln Laboratory **Combat Survivability Award** for Technical Achievement

Stephen Cramm

Senior Engineer, Denmar Technical Services

Professor Robert E. Ball Young Professional Award for Combat Survivability

Gwen Maciejewski

Combat Survivability Engineer & Team Lead, Naval Air Warfare Center (Aircraft Division), Combat Survivability Division

1:00 – 1:10 pm **RECONVENE**

KING HALL

SESSION 4 - VULNERABILITY

1:10 – 1:20 pm SESSION INTRODUCTION

KING HALL

Dewayne Hines

B-2 Program, LO Team Consultant Engineer – System Architect, Northrop Grumman Aerospace Systems

Session Chair, Combat Survivability Division, NDIA

1:20 – 1:45 pm LIBERTYWORKS – INFRARED SUPPRESSOR DESIGN & ANALYSIS

AT ROLLS ROYCE LIBERTYWORKS

KING HALL

Curtlan Betchley

LO Specialist, Rolls Royce

1:45 – 2:10 pm RAPID IR SUSCEPTIBILITY ASSESSMENT TOOLS FOR ENHANCING

PROPULSION SYSTEM DEVELOPMENT

KING HALL

Jesse Tinajero

Principal Engineer, Research, Pratt & Whitney

2:10 – 2:35 pm CHEMICAL, BIOLOGICAL, RADIOLOGICAL & NUCLEAR (CBRN)

SURVIVABILITY FOR U.S. MILITARY AIRCRAFT

KING HALL

William Greer

USAF AFMC

2:35 – 3:00 pm **NETWORKING BREAK**

KING HALL PATIO & LOWER LEVEL

3:00 – 3:25 pm HYDRODYNAMIC RAM DAMAGE EFFECTS & ANALYSIS

OF BONDED COMPOSITE FUEL TANKS

KING HALL

Frank Compton

Consulting Engineer, Northrop Grumman

Dr. Teddy Sedalor

Lead Structural Engineer, Northrop Grumman



3:25 – 3:50 pm INTEGRATED AIRCRAFT SURVIVABILITY EQUIPMENT

IN A DISTRIBUTED LVC ENVIRONMENT

KING HALL

Brett Boren

Modeling and Simulation SME, Redstone Test Center

3:50 – 4:15 pm FIGHT IN, NOT KEEP OUT: THE EDGE OF BATTLESPACE

& HVAA SURVIVABILITY

KING HALL

Kyle Noble

Modeling and Simulation Engineer, Northrop Grumman

4:15 – 4:30 pm CLOSING REMARKS

KING HALL

Thao Nguyen

EDSI Military, Survivability Discipline Group, Pratt & Whitney Symposium Chair, Combat Survivability Division

4:30 pm CONFERENCE ADJOURNS

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.



COMBAT SURVIVABILITY AWARDS

SPONSORED BY PRATT & WHITNEY



COMBAT SURVIVABILITY AWARD FOR LIFETIME ACHIEVEMENT

This award is presented to an individual who has made significant technical and leadership contributions throughout their professional career, spanning many or most of the numerous facets of aircraft combat survivability.

Lt. Gen Eric Fick, USAF

Program Executive Officer and Director, F-35 Lightning II Program

COMBAT SURVIVABILITY AWARD FOR TECHNICAL ACHIEVEMENT

This award is presented to a person who has made a significant technical contribution to any aspect of survivability.

Stephen Cramm

Senior Engineer, Denmar Technical Services

RADM ROBERT H. GORMLEY COMBAT SURVIVABILITY AWARD FOR LEADERSHIP

This award is presented to a person who has made major leadership contributions to combat survivability.

Dr. Robert Shin

Principle Staff Member ISR & Tactical Systems, Director MIT Beaver Works, MIT Lincoln Laboratory

PROFESSOR ROBERT E. BALL YOUNG PROFESSIONAL AWARD FOR COMBAT SURVIVABILITY

This award is presented to an early-to-mid career person who has made a significant technical, analytic, or tactical contribution to any aspect of survivability.

Gwen Macieiewski

Combat Survivability Engineer & Team Lead, Naval Air Warfare Center (Aircraft Division), Combat Survivability Division

LOOKING AHEAD TO 2023

It is not too early to consider who among our ranks is deserving of recognition in 2023. Who among your own employees and organizations have demonstrated technical or leadership achievements in the survivability community and are deserving of consideration for one of our annual NDIA awards?

The Combat Survivability Division will publish award nomination deadlines and submission procedures in 2023, but questions and early nominations can be directed to the Chair of the Awards Committee, **Robert Gierard**, at **gierard.llc@gmail.com**.

BIOGRAPHIES





CHRIS FLYNN

Vice President, Military Development Programs and Gatorworks
Pratt and Whitney

Chris Flynn is Pratt & Whitney's Military Development and Gatorworks Vice

President, responsible for leading all Gatorworks and major military development programs. These efforts include advancing military propulsion beyond the state of the art as well as delivering on key development programs required for new air vehicles.

Prior to this assignment, Flynn was the Quality Vice President responsible for all quality functions at Pratt & Whitney including the administration of quality programs, compliance policies, and procedures including supplier quality assurance and product integrity. Flynn was also the vice president of Pratt & Whitney's F135/F119 programs where he was responsible for all facets of these programs, including the company's partnerships at the Oklahoma City Air Logistics Center in Oklahoma City, OK.

Flynn joined Pratt & Whitney in 1984 and has held positions of increasing responsibility in Engine Test, Flight Test, Project Engineering,

Manufacturing Liaison, and Program
Management. He earned a Bachelor of
Science degree in mechanical engineering
from Rose Hulman Institute of Technology
and a Master of Business Administration
from the University of Connecticut.



MAJOR GENERAL EVAN DERTIEN, USAF

Commander, Air Force Test Center Edwards Air Force Base

Maj. Gen. Evan C.
Dertien serves as the
Commander, Air Force
Test Center, Edwards

Air Force Base, CA. He directs a \$31 billion enterprise of more than 18,000 military, civilian and contractor personnel across Edwards AFB, Eglin AFB, Florida and Arnold AFB, TS. The AFTC provides developmental test and evaluation of experimental and research, manned and unmanned air, space, and cyber systems for the military services,

the Defense Advanced Research Projects Agency, NASA and international partners, in addition to operating the U.S. Air Force Test Pilot School.

Dertien was commissioned in 1993 from the U.S. Air Force Academy. He served as an operational F-15 pilot and completed three combat deployments prior to graduating from U.S. Air Force Test Pilot School. He then served as an F-15, F-16 and F-22 test pilot and was also assigned as an initial

cadre instructor pilot for the first operational F-22 unit at Langley AFB, Virginia. Dertien has served as a Flight Test Squadron Commander, Test Wing Commander and various roles at the center-level. Prior to his current position, Dertien was Director, Air, Space and Cyberspace Operations, Wright-Patterson AFB, OH.

Dertien is a command pilot with over 3,100 flying hours in a variety of aircraft.

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BAE SYSTEMS

NDIN LEADING THE WAY IN ENGAGEMENT, NETWORKING, AND NATIONAL DEFENSE

PLAN AHEAD FOR SUCCESS | 2022 - 23 FEATURED MEETINGS, CONFERENCES, AND EVENTS



25TH ANNUAL SYSTEMS & MISSION ENGINEERING CONFERENCE

November 1 - 3, 2022 | Orlando, FL

Program Management | Security Models | Test & Evaluation | Manufacturing



33RD ANNUAL NDIA SO/LIC SYMPOSIUM

November 17 - 18, 2022 | Washington, DC

Special Operations Forces | Strategic Competition



I/ITSEC 2022

November 28 - December 2, 2022 | Orlando, FL

Simulation | Training | Virtual Reality



2023 EXPEDITIONARY WARFARE CONFERENCE

February 22 - 24, 2023 | Arlington, VA

Maritime Electronic Warfare | Naval Fires And Aviation | Seabasing



2023 TACTICAL WHEELED VEHICLES CONFERENCE

February 27 - March 1, 2023 | Columbus, OH

Autonomous Vehicles | Electric Drive | Modernization & Sustainment | Acquisition



2023 HUMAN SYSTEMS CONFERENCE

March 1 - 2, 2023 | Arlington, VA

Human Systems Integration | Human Factors Engineering | Artificial Intelligence



2023 PACIFIC OPERATIONAL SCIENCE & TECHNOLOGY (POST) CONFERENCE

March 6 - 9**, 2023 | Honolulu, HI

Regional Security | Science & Engineering Technology | Technology Engagement



MODSIM WORLD 2023

May 22 - 23, 2023 | Norfolk, VA

Medical Simulation | Machine Learning | Extended Reality | Gamification

*All Classified | **Partially Classified