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NDIA



2023

UNDERSEA WARFARE

FALL CONFERENCE

The Critical Enabler to Integrated Deterrence

September 18 – 20, 2023 | Groton, CT | [NDIA.org/USW](https://ndia.org/USW)

TECHNICAL SESSIONS

WEDNESDAY, SEPTEMBER 20

7:00 am **Registration**
DEALEY CENTER AUDITORIUM | U.S. NAVAL SUBMARINE BASE NEW LONDON

7:00 am **Networking Breakfast**
OUTSIDE PLAZA | U.S. NAVAL SUBMARINE BASE NEW LONDON

Sponsored by **GENERAL DYNAMICS**
Mission Systems

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	Aviation Systems Session Chair: Glen Sharpe	Mine Warfare Kevin Hagen, Session Chair	Undersea Sensors Joe Cuschieri, Session Chair
	Building 83 Room 318	Building 84 Room 106	Dealy Theater
8:00 am		<p>1555621 Development of New Underwater Explosives & Warheads Daniela Wagus ONR George McDaniel NSWC IHD</p>	<p>1543531 DARPA Kraken Program Update Katherine Woolfe DARPA Michael Ott DARPA</p>
8:30 am	<p>NAVAIR PEO-Air ASW Programs Shawn Slade NAVAIR</p>	<p>1573573 Deep Neutralization Emily Medina ONR</p>	<p>1570612 PMS 485 Deployable Surveillance Systems Update Susan LaShomb PMS 485 Deployable Surveillance Systems</p>
9:00 am		<p>1559222 Mission-Level Modeling & Simulation of Mining Operations Nicholas Evans The Boeing Company, Inc. Caroline Stocking The Boeing Company, Inc.</p>	<p>1575195 IWS5 Sensor Systems Update George Arnold IWS 5</p>

Undersea Vehicles Chuck Fralick, Session Chair	Undersea Vehicles Brian McKeon, Session Chair	Combat Systems & Warfighter Performance Paul Rosbolt, Session Chair	C4I Paul Rosbolt, Session Chair Dr. Robert Zarnich, Session Chair
Building 83 Room 327	Bledsoe Hall	Building 84 Room 104	Building 83 Room 319
<p>1562196 Unmanned Maritime Systems (PMS 406) Program Update Djueno Searles PEO USC / PMS 406</p>	<p>1556393 DARPA Manta Ray Program Kyle Woerner DARPA</p>	<p>1556980 Warfighter Decision Centered Design Joseph Gabriel Naval Undersea Warfare Center Kevin Pushee Naval Undersea Warfare Center</p>	<p>1587195 PMW 770: Accelerating Undersea & Shore Communications Dave Kuhn Undersea Communications & Integration Program Office</p>
<p>1586768 PMS 415 Update Gene Severtson NAVSEA Alex Dube NAVSEA</p>	<p>1562362 Seafloor Bottom Node Rick Cox Leidos</p>	<p>1559563 Virtual Undersea Battlespace: Enabling the SUBFOR Wargaming & Experimentation Center (SFWEC) Michael Pelczarski Naval Undersea Warfare Center, Division Newport</p>	<p>1530205 Undersea C3: Command, Control, & Communications Dianne Egnor MITRE Matthew Adams MITRE</p>
<p>1545983 DARPA Hunter Program Update Katherine Woolfe DARPA David Pfundstein DARPA</p>	<p>1547820 Target Strength Signature Comparisons Thomas Bowling NSWC Carderock Division Saliou Telly NSWC Carderock Division</p>	<p>1558995 High Power Microwave (HPM) Systems Nishita Mirchandani Syrnatec, Inc.</p>	<p>1576455 Undersea Constellation Communications Architecture Study William Craig Naval Undersea Warfare Center Division Newport</p>

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9:30 am	1555096 Navy STP: Transition Innovative Technology to Deliver Warfighting Capabilities Donald Williamson ATSI	1556534 Ongoing Naval Postgraduate School Research Efforts in Naval Mining LT Daniel Petersen, USN Naval Postgraduate School	1575337 IUSS Mobile Surveillance System Future Capabilities & Opportunities Don Ringel NAVSEA PMS 485 Cooke Rabon NAVSEA PMS 485/ JHU APL
10:00 am	NETWORKING BREAK OUTSIDE PLAZA		
10:30 am	1576322 Recent Breakthroughs in Air ASW Acoustic Automation Laurence Riddle Signals Systems Corporation	1573747 MCM Capabilities & Vectors for Future Development Emily Waymire Naval Surface Warfare Center Panama City Division	1573183 Wargaming the Future of Integrated Undersea Surveillance System (IUSS) Angie Milano JHU - APL Brendan Gotowka JHU - APL
11:00 am	1575644 MQ-9B SeaGuardian Anti-Submarine Warfare, Surveillance Capabilities, & Operational Demonstrations Brief Peter Yelle General Atomics, Aeronautical Systems, Inc.	1573750 Making Naval Mining Improvements a Reality Andrew Blair Naval Surface Warfare Center Panama City Division	1548490 Demonstration of MIMO Active Sonar Capabilities Stephen Blackstock Applied Research Laboratories: University of Texas
11:30 am	1572847 Higher Data Rate & Improved Spectrally Efficient Telemetry Options for Sonobuoy & Maritime Line of Sight Radio Communications Howard Ebersman Ultra Maritime	1573309 DARPA MIW Programs Update Kyle Woerner DARPA	1556438 Advancing Contextual Classification for Passive Sonar Nathan Parrish Johns Hopkins University Applied Physics Lab
12:00 pm	NETWORKING LUNCH BASE GYMNASIUM U.S. NAVAL SUBMARINE BASE NEW LONDON		

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	1567206 Fighting Into the Bastions: Getting Noisier to Sustain the U.S. Undersea Advantage Bryan Clark Hudson Institute	1571984 Stability Certification via Semidefinite Programming Austin Juhl Johns Hopkins University Applied Physics Laboratory	1573623 Building Operational Trust in Deployed Autonomy Platforms Tristan Endsley The Charles Stark Draper Laboratory	1548322 DARPA Timely Information for Maritime Engagements (TIMELY) Program Update Michael Ott DARPA Aaron Kofford DARPA
	NETWORKING BREAK OUTSIDE PLAZA			
	1554994 The Application of Machine Learning to Enhance Torpedo Target Classification Jillian Green Naval Undersea Warfare Center, Division Newport	1555457 Planning Unmanned Underwater Vehicle Motion to Improve Passive Bearing-Only Multi-Target Tracking James Turner U.S. Naval Research Laboratory	1539047 IWS 5.0 Program Status & Plans Glenda Leon PEO IWS 5.0	1571831 Enabling Operations Across the Air-Water Boundary – A Submarine Integration Perspective Michael Brawner GD Electric Boat
	1553115 AI/ML-Based State of Charge Prediction to Support Mission Planning of UUVs Alex Stimpson VTG	1556313 Tetra Subsea Seabed Warfare Vehicle Providing Rapid Payload Capability Philip Anderson Oceaneering International	1575323 IWS5 Combat Systems Update George Arnold IWS 5	1571131 Non-Traditional Anti-Surface Engagement Alexander Cheij Johns Hopkins University Applied Physics Lab
	1556321 Naval Undersea Warfare Center (NUWC) Keyport Unmanned Underwater Vehicle (UUV) Razorback AI/ML & 3D rendering Digital Twin John Sprague World Wide Technology Jason Craig World Wide Technology	1570261 Toward UUV Obstacle & Hazard Avoidance in Forward Operating Areas David Malphurs NAVSEA NSWC PCD Nicholas Palermo NAVSEA NSWC PCD	1561918 USN Multi-Static Active Roadmap for Surface Ships & Submarines Meg Stout PEO IWS 5.0	Potential Adversary # 1 Unmanned System Developments ONI
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1:00 pm	<p>1585020 Advances in the Precision High Altitude Sonobuoy Emplacement (PHASE) Project Brian Montague SeaLandAire Technologies, Inc.</p>	<p>1573304 LCS Mission Modules Program Office (PMS 420) Update George Saroch PMS 420</p>	<p>1570758 Volumetric Low Frequency Broadband Synthetic Aperture Sonar for Deeply Buried Mines & Seabed Infrastructure Zachary Waters Naval Research Laboratory</p>
1:30 pm	<p>1555000 Triton UAS Communications Gateway Greg Loegering Northrop Grumman Dave Smallwood Northrop Grumman</p>	<p>1574115 Mine Warfare Programs Update Gary Jones Mine Warfare Program Office (PMS 495)</p>	<p>ACINT Update ONI</p>
2:00 pm	<p>1574857 Aviation Systems Suresh Mirchandani BRYKA SKYSTOCKS, LLC Yash Mirchandani BRYKA SKYSTOCKS, LLC</p>		<p>1556465 Sensors for Environmental Superiority Andrew Greene NUWC DIVNPT</p>
2:30 pm	<p>1576866 Advances in the Digital DIFAR Vertical Line Array (DDVLA) Sonobuoy Daryl Hawkins SeaLandAire Technologies, Inc.</p>	<p>1558991 AI-MDCS Based Mine Warfare System Yash Mirchandani Neoskye, Inc.</p>	<p>1559417 Unmanned Underwater Vehicle Sensor & C4I Solutions for Distributed Maritime Operations George Elias L3Harris Technologies Marc Olivieri L3Harris Technologies</p>
3:00 pm	<p>NETWORKING BREAK OUTSIDE PLAZA</p>		

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<p>1576539 New Capability for Submarines Brent Blaha Newport News Shipbuilding</p>	<p>1569962 Developing the Next Generation Exercise Section for Undersea Vehicles Matthew Ruggieri Raytheon Technologies</p>	<p>1574821 Advancing Neurocognitive Assessment in Underwater Environments Through Tablet-Based Technology Justin Handy Naval Submarine Medical Research Laboratory</p>	<p>1576566 Submarine Non-Geostationary Orbit Satellite Communications Study Matthew Atwood NUWC DIVNPT</p>
<p>1562058 Deep & Near-Surface Performance Analysis of a Non-Body-of-Revolution Submersible with Large Pod Appendages Spencer Eves U.S. Naval Academy Jonathan Gibbs U.S. Naval Academy</p>	<p>1568581 Underwater Acoustic Options for Homing to a Target Bob Melvin Teledyne Marine Ken Scussel Teledyne Marine</p>	<p>Potential Adversary #1 USW Tactics Update ONI</p>	<p>1575861 Ekelund Range Simulator for Passive Target Motion Analysis (TMA) by UAS Robots Donald Brutzman Naval Postgraduate School (NPS) Christopher Cirullo Naval Information Warfare Center (NIWC) Pacific</p>
<p>1556086 Effect of Coupled High Pressure Salt Water Absorption & Low Temperatures on the Mechanical Characteristics of Additively Manufactured Polymers James LeBlanc Naval Undersea Warfare Center Division Newport</p>	<p>1556379 Experimental Measurements & Numerical Analysis to Support Corrosion Informed Design Steven Policastro U.S. Naval Research Laboratory</p>	<p>Potential Adversary #2 USW Tactics Update ONI</p>	<p>1574760 DEVSECOPS in Infrastructure - Creating Warfighting Advantage at the Speed of Relevance Kelly Jones Cisco Systems, Inc.</p>
<p>1572158 Unmanned Vehicle Launch & Recovery Demonstrations from Horizontal Payload Tubes John Chapman Electric Boat Corp</p>	<p>1569714 Project Mazu- Subsea Pulsed Power, High Voltage Discharge & Plasma Study Nate Gonzales General Dynamics Mission Systems</p>		<p>1552162 Cybersecurity Academic Collaborations for USW Combat Systems Benjamin Drozdenko Naval Undersea Warfare Center Division Newport Steven Roodbeen Naval Undersea Warfare Center Division Newport</p>

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3:30 pm	Potential Adversary # 1 Submarine & USW Operations ONI	1557817 Undersea Delivered Mines Development Abiodun Osho Mine Warfare Program Office, PMS 495	1553987 Detecting and Tracking Surface Ships Using Non- traditional Processing of Forward Looking Sonar Data Richard Nielsen The Boeing Company
4:00 pm	Threats to Acquisition ONI	1573314 Commander Mine Countermeasures Group THREE Operations Michael Dalrymple COMCMGRU THREE	1559165 Automated Torpedo Acoustic Classifier (ATAC) Sebastian Pascarelle In-Depth Engineering
4:30 pm	Threats to PNT ONI		1574707 The Multi Sensor Sonobuoy and its Promise for ASW Jeffrey Ridgway Information Systems Laboratories, Inc. Jameson Bergin Information Systems Laboratories, Inc.
5:00 pm	Conference Adjourns		

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	1571381 Sea Water Inflated Launch and Recovery System (SWI-LARS) Robert Lohe Phoenix International Holdings, Inc. Mitchell Loyd Phoenix International Holdings, Inc.	1562092 Maneuvering Analysis of a Non-Body-of-Revolution Submersible with Large Pod Appendages Allison Kalinowski U.S. Naval Academy Jonathan Gibbs U.S. Naval Academy	1568242 Risk Management Framework (RMF) to Continuous ATO Jim Pietrocini KBR	1571832 Understanding the Future of Memory – Understanding the Significance of Compute Express Link Brian Kornish Accipiter Systems
	1534252 Hybrid Drone: The World's Only Fully Multi-Modal (Maritime, Air and Land) UxS Scott Kempshall HyALTA Aeronautics, Inc.		1559002 Latency and Processing Power Optimization Through Neuromorphic Signal & Data Processing Approaches Yash Mirchandani Neoskye, Inc.	1540438 Controlling Your Destiny: Using State of the Practice Digital Electronic Systems Engineering to Develop DMSMS Solutions That Are Affordable to Sustain, Agile to Modernize, AND the Navy Owns the Data James Chew Cadence Design Systems Jeff Sanders Cadence Design Systems
	1570243 Non-Traditional Signature Susceptibility Characterization Anne Fullerton NSWCCD Keegan Delaney NSWCCD		1571086 Human Centered Engineering Early in Systems Development: A Case Study of Telerobotic Manipulation Kelly Sprehn Draper Meredith Pitchon Draper	1540508 Better, Faster, Cheaper: Lowering Total Life Cycle Costs While Reducing Development Costs & Schedule Adam Sherer Cadence Design Systems Dr. Yadu Zambre Air Force Research Laboratory