

## TUESDAY, SEPTEMBER 21

- 0830 Call to Order  
Mr. Richard Udicious, Chairman, NDIA Undersea Warfare Division
- 0835 Welcome  
**RDML Michael McLaughlin, USN**  
Commander Submarine Group TWO
- 0840 Introduction of Speakers  
Mr. Paul Normand and Mr. Victor Fiebig, Conference Co-Chairs
- 0845 **Admiral Kirk Donald, USN**  
Director Naval Reactors
- 0915 **VADM Jay Donnelly, USN**  
Commander Naval Submarine Force
- 0945 **RADM Douglas McAneny, USN**  
Commander Submarine Forces Pacific

1015 Break

- 1040 **RADM Scott Hebner, USN**  
Commander Naval Mine and ASW Command
- 1110 **RADM Steve Eastburg, USN**  
PEO Air ASW, Assault and Special Mission Programs

1140 **Bronze Awards**

1200 Lunch

- 1325 Afternoon Introductions
- 1330 **VADM Kevin McCoy, USN**  
Commander Naval Sea Systems Command
- 1400 **RADM Frank Pandolfe, USN**  
Director Surface Warfare
- 1430 **RADM Michael Connor, USN**  
Director Submarine Warfare
- 1500 **RADM Nevin Carr, USN**  
Chief of Naval Research

1530 Break

## TUESDAY, SEPTEMBER 21

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| 1550 | <b>RADM William Hilarides, USN</b><br>PEO Submarines   |
| 1625 | <b>Keynote Address:</b><br><b>ADM Jonathan Greenert, USN</b><br>Vice Chief of Naval Operations |
| 1700 | Adjourn - Shuttle buses depart for hotels  |
| 1900 | Clambake - Shuttle buses provided from hotels to Clambake                                      |

## WEDNESDAY, SEPTEMBER 22

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|------|---|
| 0800 | Call to Order<br>Mr. Richard Udicious, Chairman, NDIA Undersea Warfare Division<br><br>Introduction of Speakers<br>Mr. Paul Normand and Mr. Victor Fiebig, Conference Co-Chairs |
| 0805 | <b>RDML Jerry Burroughs, USN</b><br>PEO C4I, Space and Naval Warfare Systems Command  |
| 0835 | <b>RDML David Johnson, USN</b><br>Deputy PEO Submarine and Chief Technology Officer   |
| 0905 | <b>RDML Thomas Wears, USN</b><br>Naval Undersea Warfare Center  |
| 0940 | Break   |
| 1000 | <b>Mr. Donald McCormack</b><br>Technical Director Naval Undersea Warfare Center   |
| 1030 | <b>RDML Matthew Klunder, USN</b><br>Director ISR Capabilities N2/N6   |
| 1100 | <b>Mr. Victor Gavin</b><br>Executive Director, PEO Littoral and Mine Warfare  |
| 1130 | <b>Mr. Jimmy Smith</b><br>Director, Above Water Sensors Directorate Program Executive   |
| 1200 | Closing Remarks and Adjourn for Lunch   |



# WEDNESDAY, SEPT 22

## JOINT UNDERSEA WARFARE TECHNOLOGY CONFERENCE TECHNICAL SESSION II - AGENDA

	Aviation USW Bldg. 83, Room 328	C4I & Combat Systems Bldg. 474, Lewis Hall	Mine Warfare Bldg. 83, Room 327	Undersea Sensors I Bldg. 83, Basement B-40A	Undersea Sensors II Bldg. 164, Dealey Center	Undersea Warfare Vehicles Bldg. 499, Bledsoe Hall
1600	<b>Environmentally Invariant Transform for Featureless Classification</b> Ms. Jean Dougherty, Dr. Joshua Broadwater, and Ms. Mary Soules JHL/APL	<b>PEO IWS 5A Advanced Development Recent/Pending Focus Areas</b> Mr. Peter Scala PEO IWS 5A1	<b>Mine Warfare and Environmental Decision Aids Library - The Next Generation</b> Mr. Tom Davilli, Mr. Victor Leung SAIC; Ms. Megan Cramer, PMS 495	<b>Program Executive Office Integrated Warfare Systems for Undersea Systems</b> CAPT Charles Davis, USN PEO IWS 5 Undersea Systems	<b>Autonomous Correlation of Passive Acoustic Contacts using Fuzzy Measures and Integrals</b> Dr. Rockie Ricks SPAWAR Systems Center Pacific	<b>Submarine to Payload Interface: Operationalizing Unmanned Undersea Vehicles (UUVs) From Submarines – A Way Ahead</b> CAPT Gary Dunlap, USN SEA 07, PMS394
1630	<b>High Altitude Anti-Submarine Warfare</b> Mr. Raymond Deno Ultra Electronics - Undersea Sensor Systems, Inc.	<b>Enterprise Acquisition Focus - Naval Open Architecture and Software Product Lines</b> Mr. Nicholas Guertin and Dr. Paul Clements, PEO IWS 7B	<b>LCS MIW Mission Package</b> Mr. Steve Voegelé PMS 420	<b>Foreign Threat Passive ASW Sonar Technology</b> Mr. Peter Santiago and Mr. Shawn Amorino Office of Naval Intelligence	<b>OceanLink - Underwater Optical Communications</b> Mr. Gregory Hays and Dr. Leo Volfson Torrey Pines Logic	<b>Developing a Method for Using Sea Depth Measurements to Enhance AUV Navigation</b> Mr. Glenn Donovan NUWC
1700	<b>Airborne Anti-Submarine Warfare with the AN/AQS-22</b> Dr. Amir Habboush and Mr. Robert Raposo Raytheon	<b>Assessing Use of ACDM to Resolve IUS Data Dissemination Issues</b> Dr. Donald Brutzman Naval Postgraduate School and Mr. Joe Conway, AMIRON	<b>Sensors and Sensor Processing to Counter Underwater Explosive Threats</b> Mr. Richard Nagle, III G2 Software Systems, Inc.	<b>Single Crystal Vector Sensor for Broadband Towed Array Applications</b> Mr. David Baird and Mr. James Powers Progeny Systems	<b>UDNS: An Approach to Concept Generation and Concept Development</b> Ms. Anne Johnson, Dr. Vittorio Ricci, and Mr. Bruce Incze, and Dr. Victor Evara NUWC	<b>Autonomous System Development</b> Mr. Michael Keegan and Ms. Christine Buzzell NUWC
1730	<b>An Overview of P-8A Passive Acoustic Data Fusion</b> Mr. Charanjeev Shinh The Boeing Co.	Adjourn	Adjourn	Adjourn	Adjourn	<b>The Maneuvering Propulsor: Undersea Vehicle Applications</b> Dr. Stephen Huyer and Ms. Amanda Dropkin NUWC
1800	Adjourn					Adjourn

	Aviaton USW Bldg. 83, Room 328	C4I & Combat Systems Bldg. 474, Lewis Hall	Mine Warfare Bldg. 83, Room 327	Undersea Sensors I Bldg. 83, Basement B-40A	Undersea Sensors II Bldg. 164, Dealey Center	Undersea Warfare Vehicles Bldg. 499, Bledsoe Hall
0800	<b>Call to Order</b> Mr. David Nelson The Boeing Company Technical Committee Chairman	<b>Call to Order</b> Mr. Paul Rosbolt Raytheon Company Technical Committee Chairman	<b>Call to Order</b> Mr. Eric Holmes Lockheed Martin Corporation Technical Committee Chairman	<b>Call to Order</b> Mr. Jose Rio Lockheed Martin Undersea Systems Technical Committee Chairman	<b>Call to Order</b> Mr. Juergen Keil Rite Solutions Technical Committee Deputy Chairman	<b>Call to Order</b> Mr. Tom Sherman JHU/APL Technical Committee Deputy Chairman
0805	<b>The Evolving ASW Threat and Aviation's Potential Response</b> Mr. Douglas Backes NAVAIR	<b>Undersea Warfare-Decision Support System (USW-DSS) Performance Metrics</b> Mr. Jean-Pierre Feuillet PEO IMS 5E	<b>Autonomous Object Detection (AOD) of Man Made Objects</b> Mr. Bryan Hollocker Northrop Grumman	<b>Sonar Performance Testing Employing Fixed Threshold (FT) Versus Forced Choice (FC) Techniques</b> Dr. Richard Buratti Consultant	<b>Development of a Solid Oxide Fuel Cell (SOFC) Power Module to Provide Compact, High Endurance, Quiet and Scalable Power Supply for Distributed Netted Systems (DNS) in Support of Antisubmarine Warfare</b> CDR Christopher Chinman, USN PMS 485 Distributed Systems Group and Mr. Edward House, NSWC Carderock Division	<b>Unmanned Maritime Systems</b> CAPT Duane Ashton, USN NAVSEA PM for Unmanned Maritime Vehicles, PMS 406
0835	<b>Analysis of ADAR Narrowband Processing</b> Mr. Randall Mosten The Boeing Company	<b>Submarine Attack Center HSI Studies</b> Mrs. Helen Wright NUWC	<b>Continually Adaptive Search (CAS) Algorithms for Autonomous Undersea Vehicle Minehunting Operations</b> Mr. Charles Ciany, Mr. William Zurawski, and Mr. Douglas Arent, Raytheon	<b>Broad Band Flexural Disc Projector Array Technology</b> Mr. Timothy Rorick Ultra Electronics - USSI	<b>GPS Always in Navigate</b> Mr. Anthony Socca and Mr. Ron Daniels Lockheed Martin MS2	<b>MARY III: Fabrication of a Near-Term UUV Capability with U.S. Navy/Industry Collaboration</b> Mr. Christos Agoros, Mr. Arthur Corey, Mr. James Paiva, and Mr. Richard Bashour NUWC
0905	<b>MPRA Acoustic Software 4D/5D Visualization Displays</b> Mr. Glen Sharpe Lockheed Martin MS2	<b>APB Technologies to Support Command Decisions</b> Mr. Steve Sherman, Dr. John Stapleton, Ms. Karla Roncal, and Mr. Thomas Roy, JHU/APL	<b>Results from UUV-based Synthetic Aperture Sonar Systems</b> Mr. Daniel Brown and Dr. Thomas Montgomery, ARL Penn State; Mr. Jose Fernandez, NSWC Panama City	<b>Broad Bandwidth Projector Opportunities using Piezo-Crystal</b> Dr. Richard Meyer, Jr. ARL PSU	<b>Atom based Paramagnetic Magnetometer (PMM) will provide a Low Cost, SWAP Magnetic Sensing for Future Underwater Applications</b> Dr. Michael Larsen Northrop Grumman	<b>Transphibian: Sensor Based Servoing with a Biomimetic Vehicle</b> Dr. Stephen Licht, iRobot
0935	<b>The Multistatic Active Coherent (MAC) Program</b> Mr. David Jones and Mr. Rick Fillhart Lockheed Martin MS2	<b>Command and Control Center Arrangements Studies and Experimentation (CASEX)</b> Mr. Michael Woods and Mr. Robert Stock, NUWC	<b>Sea Floor Surveying and Sonar Target Strength</b> Dr. Joe Cuschieri Lockheed Martin MS2	<b>Analysis of Cetacean Stranding Patterns in the Southeastern United States</b> Ms. Pamela Watters NUWC	<b>Energy Harvesting - Gathering Ownership Data without Power or Wires</b> Mr. Robin Padden, Mr. Larry Clayton, Mr. Joseph George, and Mr. Roger Nessen, ITT Corp.	<b>Advantages of Bio-Inspired AUV Designs</b> Mr. Richard Berube NUWC
1005	<b>Break</b>	<b>Break</b>	<b>Break</b>	<b>Break</b>	<b>Break</b>	<b>Break</b>
1030	<b>Automated Field Level Detection (AFLD) Performance on the P-8A Sonar System</b> Mr. Christopher Cechak, Mr. Andrew Burnette, and Dr. Laurence Riddle Signal Systems Corporation	<b>Decision Making under Conditions of Uncertainty: The Impact of Uncertainty on Operator Performance</b> Dr. Yvonne Masakowski NUWC	<b>Ultra Low Frequency Broadband Minesweeping Source</b> Mr. Timothy Rorick Ultra Electronics - USSI	<b>Application of Innovative Algorithms to Existing Sonar Systems Demonstrated to Provide Increased Array Performance</b> Mr. Isaac Peterson and Ms. Mairim Ramos-Lebron Northrop Grumman	<b>Development of an Undersea Sound- and Vibration-Absorbing Material</b> Mr. Timothy Rennick, Dr. Vincent McGinniss, and Dr. Lynn Faulkner Battelle Memorial Institute	<b>Sea Maverick - High Performance UUV MDA Pilot Results</b> Mr. Michael Pierzga and Mr. Gregory Babich ARL PSU

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1100	<b>ASW Performance of a Small Tactical UAS Carrying a Miniaturized MAD Sensor</b> <i>Mr. Joe Natale, Mr. Thomas Bradley, and Mr. George Windsor, The Boeing Company</i>	<b>ASW Systems Engineering Status and the Common ASW Data Model</b> <i>Ms. Colleen Cannon PEO IWS 5</i>	<b>Hydroacoustic Anti-Mine Array (HAMAR)</b> <i>Mr. Joseph Wheatley, SRA International Mr. Rob McHenry, DARPA</i>	<b>Changing Paradigm for Estimating Mid-Frequency Ambient Noise in Key Littoral Areas</b> <i>Ms. Christine Mire and Mr. David Harvey Naval Oceanographic Office</i>	<b>Undersea Sensors: Realizing Reliable Towed Arrays, TB-23 Technology Insertion Test Results</b> <i>Mr. John Jamieson, Mr. Sylvan Caplan, and Dr. Michael Traweek 3 Phoenix, Inc. Mr. Chieu Tran, L-3 Ocean Systems</i>	<b>Large Displacement Unmanned Undersea Vehicle (LDUUV) Structural Architecture Trade</b> <i>Mr. Stephen Drozd The Boeing Co.</i>
1130	<b>Advanced Radio Communications for Sonobuoys and Distributed Netted Sensors (DNS)</b> <i>Mr. Brian Rehmer Ultra Electronics - USSI</i>	<b>Towed Array Target Motion Analysis</b> <i>Dr. William Browning, Dr. Paul Centore, and Mr. Thomas Wood Applied Mathematics, Inc.</i>	<b>Advanced Undersea Weapons and Sensors (AUWS) for Offensive MCM &amp; ASW</b> <i>Mr. David Everhart NSWC Panama City</i>	<b>Sonar Performance Surface Map Validation Efforts</b> <i>Dr. Thomas Yudoichak, Mr. Jason Vestuto, Mr. Jason Barzee, and Mr. Steven Dennis ARL UT</i>	<b>Results of Light Weight Wide Aperture Array (LWVAA) Acoustic Calibration: Requirements, Methodology and Localization Performance Improvements</b> <i>Dr. Evangelos Giannopoulos, Mr. Ralph Lamp, Ms. Bonnie Wardle, and Mr. Barry Bosworth NUWC Div., Newport</i>	<b>Automating the Analysis of Undersea Vehicle Design Alternatives</b> <i>Mr. William Krol NUWC Div., Newport</i>
1200	<b>Technical Committee Working Lunch</b>	<b>C4I Technical Committee was held Monday Box Lunch</b>	<b>Technical Committee Working Lunch</b>	<b>Technical Committee Working Lunch</b>	<b>Box Lunch</b>	<b>Technical Committee Working Lunch</b>
1300	<b>Call to Order</b> <i>Mr. David Nelson The Boeing Company Technical Committee Chairman</i>	<b>Call to Order</b> <i>Mr. Paul Rosbolt Raytheon Company Technical Committee Chairman</i>	<b>Call to Order</b> <i>Mr. Eric Holmes Lockheed Martin Corporation Technical Committee Chairman</i>	<b>Call to Order</b> <i>Mr. Jose Rio Lockheed Martin Undersea Systems Technical Committee Chairman</i>	<b>Call to Order</b> <i>Mr. Juergen Keil Rite Solutions Technical Committee Deputy Chairman</i>	<b>Call to Order</b> <i>Dr. Paul Temple NUWC Div, Newport</i>
1305	<b>High Fidelity Improved Extended Echo Ranging (IEER) Audio Simulation</b> <i>Mr. James Hino Referentia Systems Inc.</i>	<b>Underwater Distributed Network Cost Model</b> <i>Mr. Joshua Henson and CDR Robert Chase NAVFAX ESC</i>	<b>AUWS Expendable Sensor Out Post (AESOP)</b> <i>Mr. Anthony Matthews ITT</i>	<b>The Impact of Degraded Submarine Sphere Arrays on Ship Safety and Mission Readiness</b> <i>Mr. David Pistacchio NUWC</i>	<b>VIRGINIA Bottom Ocean Interface - Integration Concepts for Sensors and Other Payload Systems to Enhance Undersea Maritime Superiority</b> <i>Mr. James Cranston, Mr. Erick Cushman, and Mr. Chris Barnes General Dynamics Electric Boat</i>	<b>Undersea Defensive Systems Program Update</b> <i>CAPT David Knapp, USN NAVSEA PM for Undersea Defensive Systems, PMS 415</i>
1335	<b>Atom Based Paramagnetic Magnetometer (PMM) will provide a Low Cost, SWAP Magnetic Sensing for Future Underwater Applications</b> <i>Dr. Michael Larsen Northrop Grumman</i>	<b>VIRGINIA Reduction of Total Ownership Cost</b> <i>Mr. Frank Breau NUWC</i>	<b>QuickStrike Remote Command and Control (QSRC2)</b> <i>Mr. Jeff Feldstein, Mr. Tony Matthews, and Mr. Jeremy Hatcher NSWC Panama City</i>	<b>Goodrich Polyurethane Development</b> <i>Mr. Joshua Hernandez Goodrich Engineered Polymer Products</i>	<b>Operational Analysis to Determine Resolution Requirements for Submarine Imaging Systems</b> <i>Mr. Steven Potochniak and Mr. Carl Floyd Sonalysts, Inc.</i>	<b>Next Generation Countermeasure - Moving Forward to Protect the Fleet</b> <i>Mr. Robert Hopkins and Mr. Ray Dutton NUWC</i>

