

WSS2010 FINAL PROGRAMME

PROGRAMME AT A GLANCE

3rd November (Wednesday)

| MICHELANGELO | BERNINI | CANOVA |
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| 8:15 REGISTRATION OPENS | | |
| 09:10 OPENING REMARKS | | |
| 09:50 KEYNOTE ADDRESS <i>Reducing Vulnerability Through Multi-National Collaboration</i> Commander SG Stein Olav Hagalid Royal Norwegian Navy | | |
| 10:30 COFFEE BREAK | 10:30 COFFEE BREAK | 10:30 COFFEE BREAK |
| SURVEILLANCE SENSORS Chairperson: - Dr. Klaus-Werner Gurgel 11:00 <i>An Above-water Testing's Result of Experimental Surveillance Radar with 64-Channels Digital Antenna Array</i> Slyusar, Vadym Central Research Institute of Armaments 11:30 <i>Utilisation of the SCANTER 5000 and 6000 Series Next Generation Solid State, Coherent, Frequency Diversity and Time Diversity Radar with Software Defined Functionality for Security Applications</i> Pedersen, Jens C. Terma AS | CONCEPTS Chairperson: Dr. Nick Langhorne 11:00 <i>Port Security Framework in the EU: a Systematic Approach</i> Andritsos, Fivos European Commission - Joint Research Centre 11:30 <i>Joint Maritime Evaluation of Transit Escorts Joint Feasibility Study / Quick Reaction Test</i> Truver, Scott Gryphon Technologies,LC Presented by Kendra Ryan (NURC) 12:00 <i>The positive force of deterrence Estimating the quantitative effects of target shifting</i> Kessel, Ronald NURC | THREATS AND RISK Chairperson: Mark Hankey 11:00 <i>Risk Models for Maritime Security, Area and Port Force Protection</i> Mirshak, Ramzi Centre for Operational Research and Analysis, Defence Research and Development Canada 11:30 <i>Integrated Visualization and Analysis of Threats for Marine and Coastal Regions via a Web-based GIS</i> Stepnowski, Andrzej University of New Hampshire 12:00 <i>Unmanned Systems: an Emerging Threat to Waterside Security. Bad Robots are Coming</i> Patterson, Mark Virginia Institute of Marine Science, College of William & Mary |
| 12:30 LUNCH | 12:30 LUNCH | 12:30 LUNCH |
| SPECIAL SESSION ENVIRONMENTAL Chairperson: Dr. Julie Pullen 13:30 <i>Acoustic Propagation in Very Shallow Water</i> Porter, Michael Heat, Light, and Sound Research | CONCEPTS Chairperson: Dr. Tom Neighbors 13:30 <i>An End-to-End Maritime Surveillance Simulator Prototype for the Assessment of System Effectiveness</i> Bryan, Karna NURC | FUSION Chairperson: Mr. George Loh 13:30 <i>Exploitation of Maritime Domain Ontologies for Anomaly Detection and Threat Analysis</i> Roy, Jean Defence R&D Canada - Valcartier |

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| <p>14:00 <i>Measured and Modeled High-Frequency Acoustic Impulse Responses in Very Shallow Water</i> Nosal, Eva-Marie University of Hawaii</p> <p>14:30 <i>Linkage of an Operational Mesoscale Model to an Urban Emergency Assessment System for Prediction of Windborne Contaminants: Applications for Waterside Security</i> Holt, Teddy U.S. Naval Research Laboratory</p> <p>15:00 <i>Sonar Performance Variability in Shallow Harbours</i> Crowe, Vance DRDC Atlantic</p> | <p>14:00 <i>Vital Electronics, the Key to the Developing Dynamic GIS for the Baltic or Other Maritime Environments</i> Kochanski, Ted University of New Hampshire</p> <p>14:30 <i>A Port Waterside Security Systemic Analysis</i> Garnier, Bernard EU/EC/Joint Research Centre/Institute for Protec & Sec of Citizens</p> <p>15:00 <i>Evaluation of Waterside Security Processes and Systems by Modelling and Simulation</i> Schmid, Jörg Institute for Maritime Technology</p> | <p>14:00 <i>Multiple Sensor Fusion for Effective Abnormal Behaviour Detection in Counter-Piracy Operations</i> Andersson, Maria Swedish Defence Reseach Agency (FOI)</p> <p>14:30 <i>Object-Oriented Sensor Data FUSION for Wide Maritime Surveillance</i> Fischer, Yvonne Fraunhofer IOSB</p> <p>15:00 <i>Under-Keel Vessels Inspection in Ports</i> Garnier, Bernard EU/EC/Joint Research Centre/Institute for Protec & Sec of Citizens</p> |
| 15:30 COFFEE BREAK | 15:30 COFFEE BREAK | 15:30 COFFEE BREAK |
| <p>SURVEILLANCE SENSORS Chairperson: Mr. Mark Hallett</p> <p>16:00 <i>Screening Maritime Shipping Containers for Weapons of Mass Destruction</i> Rudzinski, Christina Department of Homeland Security, Science and Technology Directorate</p> <p>16:30 <i>The Problem of Directional Sensors and Effectors : Dwell Time and Aiming Errors</i> Kessel, Ronald NURC</p> <p>17:00 <i>Advanced Dynamic Magnetometers for Persistent Surveillance</i> Baglio, Salvatore University of Catania - D.I.E.E.S.</p> | <p>DISTRIBUTED SYSTEMS Chairperson: Prof. Leif Bjorno</p> <p>16:00 <i>A Multi-agent Concept for Multi-sensor Surveillance</i> Ehlers, Frank NURC</p> <p>16:30 <i>Fused Passive Acoustic and Electric Detection of Divers</i> Lennartsson, Ron K. Swedish Defence Research Agency, FOI</p> <p>17:00 <i>Design and Simulation of a Distributed Sensor Network for Passive Emitter Tracking and Coastal Surveillance</i> Benvenuti, Dario Elettronica S.p.A.</p> | <p>NON LETHAL RESPONSE Chairperson: Mr. Chris Strode</p> <p>16:00 <i>The Effectiveness of Dazzlers for Maritime Security</i> Kessel, Ronald NURC</p> <p>16:30 <i>Laser Light Stimuli for Maritime Warning and Repulsion: Evolving Concepts and Capabilities</i> Beer, Jeremy Naval Medical Research Unit</p> |
| 18:00-20:00 ICE BREAKER | 18:00-20:00 ICE BREAKER | 18:00-20:00 ICE BREAKER |

PROGRAMME AT A GLANCE

4th November (Thursday)

| MICHELANGELO | BERNINI | CANOVA |
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| <p>08:20 KEYNOTE ADDRESS <i>Singapore's Approach to S&T for Maritime Infra Protection</i> George Loh Defence Research and Technology Office, Singapore</p> | | |
| <p>SURVEILLANCE SENSORS Chairperson: Nick Langhorne</p> <p>09:00 <i>Modern Electro-Optic Imaging Systems for Maritime Surveillance Applications</i> Künzner, Nicolai Diehl BGT Defence GmbH & Co. KG</p> <p>09:30 <i>Fully Automatic Video analytics System Dedicated to Maritime Surveillance</i> Bernard Arata Automatic Sea Vision</p> <p>10:00 <i>On Detecting Surface and Sub-Surface Bodies in Water By Virtue of Their Surface and Water Column Wakes</i> Benilov, Alexander Stevens Institute of Technology</p> | <p>INTEGRATED SYSTEMS Chairperson: Prof. Leif Bjørnø</p> <p>09:00 <i>Australian Perspectives on Waterside Security</i> Hallett, Mark Defence Science & Technology Organisation</p> <p>09:30 <i>CUwPS: An Integrated System for the Detection, Localization, and Classification of Underwater Threats</i> Percival, Aaron Defence Research and Development Canada</p> <p>10:00 <i>Archimede. Integrated Network-Centric Harbour Protection System</i> Cresta, Matteo Selex-SI</p> | <p>NON LETHAL RESPONSE Chairperson: Dr. Ron Kessel</p> <p>09:00 <i>Integrating Non-Lethal Response Measures within Existing Surface Platform Security Instructions</i> Strode, Christopher NURC</p> <p>09:30 <i>Experimental Evaluation of a Dedicated Underwater Loud-hailer for Diver Warning</i> te Raa, Lianke TNO</p> <p>10:00 <i>Time Reversal Acoustic Approach for Non-Lethal Swimmer Deterrent</i> Sutin, Alexander Stevens Institute of Technology</p> |
| <p>10:30 COFFEE BREAK</p> | <p>10:30 COFFEE BREAK</p> | <p>10:30 COFFEE BREAK</p> |
| <p>SURVEILLANCE SENSORS Chairperson: Prof. David Bradley</p> <p>11:00 <i>Integrated Underwater Intrusion Detection System</i> Thomas Meurling RESON</p> <p>11:30 <i>Stevens Passive Acoustic System for Underwater Surveillance</i> Sutin, Alexander Stevens Institute of Technology</p> <p>12:00 <i>BlueView 2D and 3D Sonar Systems for Water Side Security Applications</i> Griffith, Jamie BlueView Technologies</p> | <p>INTEGRATED SYSTEMS Chairperson: Dr. D. Vance Crowe</p> <p>11:00 <i>The Sea-and Harbour Surveillance System</i> Kremer, Klaus Milson Sonar Teknologileri Sanayi ve Ticaret Ltd.</p> <p>11:30 <i>Vessel protection in expeditionary operations at anchor and in foreign harbours</i> Müller, Rolf Atlas Elektronik GmbH</p> <p>12:00 <i>Network Effects Protection Tailored to Unique Naval Engagements (NEPTUNE™)</i> Castellano, David US Army ARDEC Presented by Mark Zhelesnik (US Army ARDEC)</p> | <p>NON LETHAL RESPONSE Chairperson: Mr. Chris Strode</p> <p>11:00 <i>Experimental Evaluation of a Dedicated Underwater Air Gun for Diver Deterrence</i> Driessen, Frank TNO</p> <p>11:30 <i>Concept of Using Drogue Chutes as a Ship Decelerator System</i> Chiang, Lilian DSO National Laboratories</p> <p>12:00 <i>Collateral Damage Risk: Quantifying the Water Surface Bullet Ricochet Problem</i> Mirshak, Ramzi Centre for Operational Research and Analysis, Defence Research and Development Canada (Video Presentation)</p> |
| <p>12:30 LUNCH</p> | <p>12:30 LUNCH</p> | <p>12:30 LUNCH</p> |

PROGRAMME AT A GLANCE

4th November (Thursday)

| MICHELANGELO | BERNINI | CANOVA |
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| <p>13:30 WORKSHOP 1 IEDs – Their Potential Threat to Waterside Security</p> | <p>13:30 WORKSHOP 2 Risks, liabilities and benefits in waterside security – balancing ends, ways and means</p> | <p>13:30 WORKSHOP 3 Response measures for waterside security</p> |
| <p>SURVEILLANCE SENSORS Chairperson:: Mr. Mark Hallett</p> <p>14:30 Ship Detection Using High Resolution Satellite Imagery and Space-Based AIS Hannevik, Tonje Norwegian Defence Research Establishment (FFI) Presented by Eriksen, Torkild (FFI)</p> <p>15:00 Concurrent Use of Satellite Imaging and Passive Acoustics for Maritime Domain Awareness Bruno, Michael Stevens Institute of Technology</p> <p>15:30 Tracking Ship Traffic with Space-Based AIS: Experience Gained in First Months of Operations Olsen, Richard Norwegian Defence Research Establishment (FFI) Presented by Eriksen, Torkild (FFI)</p> | <p>INTEGRATED SYSTEMS Chairperson: Dr. Ronald Kessel</p> <p>14:30 Towards a Passive Acoustic Underwater System for Protecting Harbours against Intruders de Theije, Pascal TNO Defence Security and Safety Presented by Fillinger, Laurent TNO Defence, Security and Safety</p> <p>15:00 Maritime Surveillance with Integrated Systems Bürkle, Axel Fraunhofer IOSB</p> <p>15:30 Operational realities of an integrated waterside security system Balloch, Rob Sonardyne</p> | <p>THREATS AND RISK Chairperson: Dr. Nick Langhorne</p> <p>14:30 Physical Modeling of Concrete Gravity Dam Vulnerability to Explosions Vanadit-Ellis, Wipawi US Army Corps of Engineers, Engineering Research and Development Center</p> <p>15:00 Maritime Threat Analysis – The East African Dimension King, Adrian, Hazmansol (HMS)</p> <p>15:30 How to Avoid Being Attacked by Corporate Pirates – a Paper which Helps Stakeholders Differentiate Between the good, the Bad and the Ugly! Hankey, Mark</p> |
| <p>16:00 COFFEE BREAK</p> | <p>16:00 COFFEE BREAK</p> | <p>16:00 COFFEE BREAK</p> |
| <p>SURVEILLANCE SENSORS Chairperson: Ing. Giancarlo Vettori</p> <p>16:30 Timing Synchronization of Independent Transmitting and Receiving Acoustic Devices Fedenczuk, Tom University of Hawaii - ORE, CIMES</p> <p>17:00 Demonstration of the Advantages Offered by an Ultra-Wideband (100 – 400 kHz) Sonar System for Simultaneous Planar Imaging, Volumetric Imaging and Doppler in Harbour Surveillance Applications. Nicolaidis, Kyriacos CSIR</p> | <p>INTEGRATED SYSTEMS Chairperson: Mr. Chris Strode</p> <p>16:30 Enhanced SISMARIS (Système d’Information et de Surveillance MARitime Etendu pour l’Identification des comportements Suspects) Enhanced Maritime Surveillance and Information System for abnormal behaviour Identification Claisse, Stephane DCNS/SNS/DSIS</p> <p>17:00 Integrated underwater surveillance system Løvik, Arne Konsberg</p> | <p>INTERAGENCY COOPERATION Chairperson: Mr. Thomas Pastore</p> <p>16:30 Mine Warfare (MIW) Community of Interest (COI) Efforts Towards the Development of Future Data Standards to Enable a Net-Centric Capability Cramer, Megan Mine Warfare Program Office (PMS495)</p> <p>17:00 Port and harbour protection - Results of ITN as Lead Nation of DAT POW#2 CC Ronco, Ettore Italian Navy</p> |
| <p>20:30 BANQUET</p> | <p>20:30 BANQUET</p> | <p>20:30 BANQUET</p> |

PROGRAMME AT A GLANCE

5th November (Friday)

| MICHELANGELO | BERNINI | CANOVA |
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| <p>08:20 KEYNOTE ADDRESS <i>Looking into the future of maritime security</i> Rear Admiral Chris Parry CBE</p> | | |
| <p>SENSOR PROCESSING Chairperson: Mr. Thomas Meurling</p> | <p>GAMING & PLANNING Chairperson: Prof. Andrzej Stepnowski</p> | <p>UNMANNED VEHICLES Chairperson: Nick Langhorne</p> |
| <p>09:00 <i>Target detection and tracking in shallow water using maximal length sequences</i> Jobst, William Applied Marine Physics</p> | <p>09:00 <i>SAFE-PORT project: an Approach to Port Surveillance and Protection</i> Manso, Marco Portuguese Navy</p> | <p>09:00 <i>Harbour Protection Systems Integrating Unmanned Surface and Underwater Vehicles</i> Caiti, Andrea ISME / DSEA, University of Pisa</p> |
| <p>09:30 <i>Filtering Speckle Noise in SAS Images to Improve Detection and Identification of Seafloor Targets</i> Lopera, Olga Royal Military Academy of Belgium</p> | <p>09:30 <i>Applying Military Gaming to Secure the Waterside</i> Drake, Bradley US ARMY ARDEC</p> | <p>09:30 <i>Laser Scanners for Autonomous Surface Vessels in Harbour Protection: Analysis and Experimental Results</i> Pastore, Thomas NURC</p> |
| | <p>10:00 <i>Modeling the Response to Terrorist Port Intrusion</i> Mendes, Pedro CNTEC - Center for Marine Technology and Engineering</p> | <p>10:00 <i>Criteria and Rule Based Obstacle Avoidance for USVs</i> Tan, Aaron DSO National Laboratories</p> |
| 10:30 COFFEE BREAK | 10:30 COFFEE BREAK | 10:30 COFFEE BREAK |
| <p>SENSOR PROCESSING Chairperson: Prof. René Garello</p> | <p>INTEGRATED SYSTEMS Chairperson: Dr. Vance Crowe</p> | <p>UNMANNED VEHICLES Chairperson: Mr. Thomas Pastore</p> |
| <p>11:00 <i>Evaluation of an HF-radar Ship Detection and Tracking Algorithm by Comparison to AIS and SAR data</i> Gurgel, Klaus-Werner University of Hamburg, Institute of Oceanography</p> | <p>11:00 <i>Robust Layer-based Boat Detection and Multi-target-tracking in Maritime Environments</i> Krüger, Wolfgang Fraunhofer IOSB</p> | <p>11:00 <i>The Detection and Disposal of IED Within Harbor Regions Using AUVs, Smart ROVs and Data Processing/FUSION Technology</i> Reed, Scott SeeByte Ltd</p> |
| <p>11:30 <i>Classification of Small Boats in Infrared Images for Maritime Surveillance</i> Teutsch, Michael Fraunhofer IOSB</p> | <p>11:30 <i>A Stochastic Model for Layered Defence</i> Nguyen, Bao Defence Research Development Canada</p> | <p>11:30 <i>Contribution of Unmanned Aerial System to Waterside Security</i> Protti, Marco Alenia Aeronautica</p> |
| <p>12:00 <i>High Frequency Radar for Coastal Marine Monitoring of Currents and Vessels</i> Laws, Kenneth Naval Postgraduate School Presented by Paduan, Jeffrey Naval Postgraduate School</p> | <p>12:00 <i>Long Term Capability Requirements as derived from the Long Term Requirements Study</i> Brownlee, James Head Quarters, Supreme Allied Command Transformation</p> | <p>12:00 <i>Guidance of an Unmanned Underwater Vehicle Using a Passive Acoustic Threat Detection System</i> Dzielski, John Stevens Institute of Technology</p> |
| 12:30 LUNCH | 12:30 LUNCH | 12:30 LUNCH |

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| <p>13:30 <i>WORKSHOP 4 – Data Fusion for Waterside Security</i></p> | <p>13:30 <i>WORKSHOP 5 AIS for waterside security</i></p> | <p>13:30 <i>WORKSHOP 6 Passive vs Active diver detection systems</i></p> |
| <p>SENSOR PROCESSING Chairperson: Prof. David Bradley</p> <p>14:30 <i>Automatic Signal Processing of Forward Looking Surveillance Sonar data in low Signal-to-Noise Ratio Conditions</i> Maeda, Fumitaka University of Tokyo</p> <p>15:00 <i>Sub-Bottom Synthetic Aperture Imaging Sonar System Using an AUV and an Autonomous Surface Tracking Vehicle for Searching for Buried Shells of Toxic Chemicals</i> Asada, Akira University of Tokyo</p> | <p>NETWORKED SYSTEMS Chairperson: Mr. Ron Lennartson</p> <p>14:30 <i>MaritimeManet - Mobile Ad-hoc Networking at Sea</i> Laarhuis, Jan Thales Netherlands</p> <p>15:00 <i>Net Based Water Side Security Applications. From Small Solutions to Maritime Security Networks</i> Müller, Rolf Atlas Elektronik GmbH</p> <p>15:30 <i>Maritime Surveillance in the Intracoastal Waterway using Networked Underwater Acoustic Vector Sensors Integrated with a Regional Command Center</i> Rice, Joseph Naval Postgraduate School</p> | |
| <p>16:00 <i>CLOSING CEREMONY</i></p> | | |
| <p>17:00 <i>COFFEE BREAK</i></p> | <p>17:00 <i>COFFEE BREAK</i></p> | <p>17:00 <i>COFFEE BREAK</i></p> |

