



CONFERENCE PREVIEW GUIDE

Affordable Underwater Defence Systems and Technologies



Don't miss this opportunity to attend the 21st annual **UDT Europe Conference:** the only dedicated platform covering all aspects of undersea defence technology and dual use applications.

Why attend?

- Presentations from Leading Industry Voices
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- Gain an Exclusive Insight into Future Technological Advancements
- Free entry into the UDT Exhibition
- Unrivalled Networking Opportunities at the UDT Cocktail Party & Gala Dinner



- Combat Systems
- Environmental Effects & Monitoring
- Instrumentation & Ranges
- Maritime Security & Force Protection
- Mine Warfare
- Network Centric Warfare & Communications
- Operation, Navigation & Training
- Ship Design & Signature Management
- Sonar & Non-Acoustic Sensors
- Underwater Technology Dual Use Applications
- Unmanned Vehicles
- Weapons & Countermeasures

Register your place before 11th April and save up to 14%*





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Combat Systems I

- Improving Combat System Performance
 3A.1 OLATMA a Fast OnLine Acceptance Tool for TMA
- Putting the "Tactical" Back Into Submarine Tactical Picture Compilation Performance
- The COLLINS Class Submarine Approach to 3A.3 Electronic Systems Upgrades

Combat Systems II

Open System Architectures

- An Open Architecture for Active/Passive Sonar
- Use of Open Source Software in Development 5B.2 of ASW Processing Systems
- 5B.3 Delivering Tactical Decision Aids in a Service Oriented Architecture

Combat Systems Poster Sessions

- Review of the Modular Open Systems Architecture
- PL2 A Pattern Language for Open System Architectures

Environmental Effects and Monitoring I

Environmental Assessment

- Applications of Ocean Acoustic Environmental Monitoring Using AUV Based Acoustic
- Finite Difference Time Domain Method as a Validation Tool of Transmission Loss Calculation for Layered Underwater Acoustic Environments
- The Acoustic Raytrace Model Lybin -2B.3 Description and Applications

Environmental Effects and Monitoring II

Environmental Impact

- Sonar Transient False Alarm Reduction Based on Detection and Characterization of Marine Mammal Sounds
- 9B.2 Assessing the Environmental Effects on Marine Mammals Due to Underwater Detonations
- **Enhancing Environmental Impact Assessments** 9B.3 Using Localised Fauna Data

Environmental Effects and Monitoring Poster Sessions

- Three-Dimensional Sonar Array Signal Simulation System Based on Fast Computation of Normal Mode Acoustic Field
- PII.2 Sea Turtle Collision Prediction Using Monte Carlo Simulations
- PIL3 Characteristic analysis of the acoustic properties of sea sediment in Japan
- Numerical Simulation of Bathymetry PIL4 Measurements by Multibeam Echo Sounder on UUV

Instrumentation and Ranges I

Tracking Concepts

- Development of a Portable Expendable Air-Monitored Tracking Range
- Portable Underwater Tracking Systems for 5C.2 Multiple Targets
- Non-Invasive Track and Eavesdropping for Networked Undersea Vehicles Testing

Instrumentation and Ranges II

Practical Results

- Predicting Navigation Fix Accuracy: A 7D.1 Realistic Alternative to Over-Optimistic DOP Values
- The New German Magnetic Earth Field Simulator - First Experiences
- 7D.3 A Design Approach to In-House Automated Test Simulation & Analysis Facility for Unmanned Underwater Vehicles

Instrumentation and Ranges Poster Sessions

- PII.5 Challenges for Undersea Tracking Range Development
- A Realization of Underwater Cooperative PII.6 Targets Positioning System Laboratory Panel Measurements of
- PII.7 Underwater Acoustic Material Properties at Simulated Ocean Conditions

Maritime Security and Force Protection I Development of Equipment for Diver Detection in Harbour

- From Concept to Acceptance Lessons Learnt in the Move from Prototype to Production of the Sentinel Intruder Detection Sonar
- 3D.2 Diver Detection Sonar "X-Type"
- 3D.3 Critical Operational Analysis of Diver Detection Sonar Systems

Maritime Security and Force Protection II

- Integrated Port Security Systems Harbor Shield: A New Technique for Inspection 4D.1 of Vessels Below the Waterline
- Network Centric Harbour Protection and Surveillance System Demonstration
- Integrated Coastal and Harbour Surveillance

Maritime Security and Force Protection III Port Security Surveillance Systems

- 10C.1 Underwater Monostatic Acoustic Barrier
- 10C.2 Underwater RF Fence
- 10C.3 Detection of Drifting Mines and Other Types of Assymetric Threats with the Application of Magnetic Barriers

Maritime Security and Force Protection IV

Use of Sonar in Underwater Harbour Surveillance

- 12C.1 Examples of the Combined Use of Active and Passive Sonar for Underwater Harbour Surveillance
- 12C.2 Underwater Acoustics for Harbour Protection
- 12C.3 Combining Active and Passive Sonar for Harbor Defense

Maritime Security and Force Protection Poster Sessions

- Technologies Challenges and Needs in Harbour Surveillance
- Mine Warfare and Force Protection New Approaches

Mine Warfare I

Mine Disposal Systems

- Influencing the Mine Actuation Location
- Articulated Warhead Mine Disposal Vehicle 7B.2
- Taking the Man Out of the Mine Field 7B.3

Mine Warfare II

Detection of Sea Mine 8B.1

- HISAS 1030: The Next Generation Mine Hunting Sonar for AUVs
- Detection and Classification of Subsurface Objects in a Marine Environment by the Use of a Lidar System
- Computer Aided Detection of MLOs in Side Scan Sonar Images

Mine Warfare III

AUV, UUV Application for Sea Mine Detection with Sonars

- 11B.1 The MCM-UUV: Capability and Performance
- 11B.2 MCM Operations with the HUGIN 1000-MR AUV
- 11B.3 AN/WLD-1 Remote Multi-Mission Vehicle (RMMV) Applications

Mine Warfare IV

AUV, UUV Application for Sea Mine Detection with Acoustics, Non-Acoustic Sensors

- 12B.1 Sonar and Video Perception for an Autonomous Mine Disposal Vehicle Future Sensor Equipment on AUVs for
- Minehunting Applications
- 12B.3 Clearance Operation of Teulada Site (Italy): A Novel Approach for Short Term MCM Ops.in Seafloor Hard Conditions

Mine Warfare Poster Sessions

- PIII.3 S-10, A Mine-Hunter ROV
- Simulation of the Efficiency of a System of Drones
- Through Life Capability Management of Remote Technologies in the Maritime Environment

Network Centric Warfare and Communications I Network Centric Warfare Technology and Design I

- A Language Approach to the Underwater Distributed Network Interoperability Problem REACH, A Submerged Remote Sensing 2A.2 Reconnaisance System
- Distributed Netted Systems (DNS) for 2A.3 Undersea Threats

Network Centric Warfare and Communications II Network Centric Warfare Technology and Design II

- A Flexible Service Oriented Architecture (SOA) for Network Centric Warfare and Battle Space Concurrent Processing
- 8D.2 Implementing Net-Centric Tactical Warfare Systems
- 8D.3 Heterogeneous Underwater Networks: Technology and Techniques

Network Centric Warfare and Communications III Communication Networks

- 10D.1 Optical Reconnaissance Capability With Communication Buoy System CALLISTO Expendable Communications Relay for
- Distributed Sonobuoys
- 10D.3 Special Operational and Connectivity Considerations for SSGNs

Network Centric Warfare and Communications IV Underwater Communications

- 11C.1 Covert Underwater Communication with Marine Mammal Sounds
- 11C.2 Covert Underwater Communication Experiments Using DSSS and TURBO Equalization
- 11C.3 A Novel Architecture for Multi-hops Routing Ad Hoc Underwater Acoustic Sensor Networking

Network Centric Warfare and Communications Poster Sessions

- Geospatial Intelligence Integrated Reference PI.3 Architecture (GI2RA) for the Delivery of Hydrographic and Oceanographic Information using a Network Enabled Capability
- Architecture and System Design Considerations for the Underwater Sensor
- PI.6 An Underwater Positioning System Based Long Range Ultra Short Base Line

Operation, Navigation and Training I New Technologies for Navigation

- Selectronic Navigation Technology Enabling Submarine Operations in Littoral Areas Can Permanent Readiness, Availability and Stability Over Long Term Operation Without 4A.2 Life Cycle Management be Possible?
- Sea State Identification in Submarine 4A.3 Autopilot Design



Operation, Navigation and Training Poster Sessions

- A Solution to Simultaneous Localization and Mapping with a Sidelooking Sonar
- Extended Navigation and Detection Sonar with PI.8 Bottom Mapping Functionality

Ship Design and Signature Management I Design Rules

- **Designing Submarines for Support**
- Bureau Veritas Rules for the Classification of 5A.2 Traditional Naval Submarine
- Turbulent Wall Pressure Fluctuation Measurements on a Towed Model at High Revnolds Numbers

Ship Design and Signature Management II Safety and Rescue

- 8A.1 Modelling the Recovery of a Submarine in the Event of a Flooding Situation
- 8A.2 The Design Development of a Modular, Scaleable Liferaft System
- A Dynamic Thermal Model of the Submarine 8A.3 Internal Climate

Ship Design and Signature Management III **Energy and Propulsion**

- Composite Ship Propellers
- Development and Integration of Lithium Ion Batteries for Submarines
- Increasing Pakistan Navy AGOSTA 90B 9A.3 Operational Potential with MESMA AIP System

Ship Design and Signature Management IV Signature Management I

- 10A.1 Anechoic Coatings Design and Performance Analysis
- Acoustic Target Strength Design for Submarines - Modeling and Measurements
- 10A.3 Trilateral (CA, NL, GER) Research Initiative with Regard to Onboard Signature Management Systems

Ship Design and Signature Management V Signature Management II

- 11A.1 Ship Signature Calculations by Finite Difference Time Domain Method
- A Detailed Pixel Model for Generic Surface Ships, Applied in the ALMOST Model for Acoustic Echo Structures, and in the MAGFIELD Model for Magnetic Field Modelling
- 11A.3 Electric and Magnetic Signatures

Ship Design and Signature Management VI Submarine Design

- 12A.1 Class 210mod A Compact and Versatile Submarine Solution
- Submarine Power and Propulsion Application of Technology to Deliver Customer Benefit
- 12A.3 SMX 23 Andrasta Certification

Ship Design and Signature Management Poster Sessions

- PIII.6 Vibration Analysis of Submerged Submarine Pressure Hull
- PIII.7 Reducing Corrosion, Signatures and Costs with a well designed Cathodic Protection Svstem
- PIII.8 Research on Continuation of Ship's Magnetic Fields Based on Integral Equation Method and Singular Value Decomposition
- Improving an Existing Submarine Battery Cell Design to Withstand the German Navy Shipbuilding Standard BV 0430
- PIII.10 Electromagnetic Fields Produced by Sea Going Electric Dipole
- PIII.11 Flexible Rubber Based Piping System
- PIII.12 Submarine Weapons Interface System (SWIS)
- PIII.13 CP-OFDM Channel Equalization based Pilot in Underwater Acoustic Channel

Sonar and Non-Acoustic Sensors I

Passive Sonar

- Background Noise Cancellation for Acoustic 3B.1 Detection and Passive Ranging
- HMM Automatic Detection and Tracking for Passive Sonar
- Time Delay Estimate Using Cepstrum Analysis in a Shallow Littoral Environment

Sonar and Non-Acoustic Sensors II

Active Sonar

- 4C.1 LPI Performance Analysis of MIMO Sonar Detection
- Using Digital Watermarking to Authenticate and Identify Active Sonar Echoes
- 4C.3 Sub-Band Processing for Active Transmissions

Sonar and Non-Acoustic Sensors III Performance

- Comparison of Sonar Detection Performance 5D.1 Measurement Techniques
- The Interference Characteristics of Platform and Towed Body Noise in Shallow Water for Active/Passive Towed Array Sonar
- Sonar Own Noise Evaluation for Towed Array and Flank Array

Sonar and Non-Acoustic Sensors IV

Non-Acoustic Sensors

- New Functions for Optronic Masts Using Image Processing
- 7A.2 The Evolution of Submarine Visual Systems
- Detection of Small Surface Craft Using 7A.3 Acoustic and Non-Acoustic Sensors

Sonar and Non-Acoustic Sensors V

Multistatics

- Novel Approaches to Multistatic Sonar 8C.1 Processing and Source Deployment
- 8C.2 Modular Multistatic Sonar Systems
- 8C.3 Multi-Platform Multistatic Active Sonar

Sonar and Non-Acoustic Sensors VI

Transducers and Arrays

- 10B.1 Quad Sensor: A New Low-Frequency Directional Sensor for Towed Arrays
- Compact, Broadband Sonar Projectors Using Single Crystal Technology
- Parameter Sonar Research, Development, Testing and Evaluation in Narragansett Bay

Sonar and Non-Acoustic Sensors Poster Sessions A Track-Before-Detect Algorithm for Active PII.8

- Sonar Based on a Hidden Markov Model PII.9 Bi-Static Detection of Moving Targets
- PII.10 Research for Incidence Wave Source Influence on the Acoustic Scattering Field From Underwater Marine Bodies
- Multi Function Acoustic Processor (MFAP)
- PII.12 Rapid Fielding of ASW Processing Technology
- Interest of Optronic Non Penetrating Masts; For New Submarines and for the Refit of **Existing Submarines**
- Thales Underwater Systems FLASH-S Dipping Sonar Testing
- PII.15 Thales Underwater Systems Flight Test Trials of FLASH SONICS on Board the NFH90 Helicopter
- The Ultra Artemes Synthetic Aperture Sonar and Forward Look Binocular Sonar
- Using the Quadratic Phase FFT for the Detection of Non-Stationary Tonals
- PII.18 High Fidelity Real-Time Sonar Simulation

Underwater Technology - Dual Use Applications I Underwater Technologies and Material

- Simulation of the Water Diffusion Process into Thermoplastic Cable Sheath
- Lightweight MCM Cable System
- Offshore Technology to Support Underwater **Dual Use Applications**

Underwater Technology - Dual Use Applications II Intervention Technologies

- Enhancing Hyperbaric Life Support Systems with Technology Insertion
- Manned Underwater Intervention in Rescue and Military Applications

Unmanned Vehicles I

Architecture and Payload I

- A Feasibility Study of a Novel Propulsion 2C.1 System for Unmanned Underwater Vehicles
- RHyVAU The World's First Ring Wing UUV. A Unique Low Energy Vehicle for Autonomous, Remote and Tethered Sensor Applications
- 2C.3 New Concepts in Mine Warfare

Unmanned Vehicles II

Architecture and Payload II

- Remote Deployment of Commercial and Military Sensors at Sea Proving the Double Eagle SAROV Dual Use 3C.1
- 3C.2 AUV/ROV Platform
- 3C.3 **UUV** Applications from Submarines

Unmanned Vehicles III

Architecture and Payload III

- Talisman An Integrated MCM Capability, Inwater Demonstrations December 2007
- Modular and Commercial Available Technology for Germanys Future Family of Unmanned Underwater Vehicles
- 4B.3 Synthetic Aperture Sonar - From Lab Space to **Battle Space**

Unmanned Vehicles IV

Control and Command

- Coordination and Control of Cooperating 7C.1 Unmanned Systems - First Research Results
- 7C: 2 Command and Control Initiatives for Autonomous Underwater Vehicles (AUVS) to Support Rapid Environmental Assessment
- 7C.3 Software Architecture for AUV Systems with Multiple Degrees of Autonomy

Unmanned Vehicles Poster Sessions

- Design of Fuzzy Controller for Autonomous Underwater Vehicles
- Modeling and Analysis of Dynamic Performance of a ROV Using Specific Thruster Configuration
- DAURADE: A New Autonomous Underwater Vehicle for Discreet Rapid Environmental Assessment
- Harbour Protection Trials 2008 Possibility of PI.12 Deploying AUV's
- Application of the Fuzzy Logic in Tracking PI.13 Filtering

Weapons and Countermeasures I

- Innovative Underwater Effector Systems
- Design and Fabrication of the NUWC Light Propulsor
- 9D.3 Torpedo Stealthiness as a Must

Weapons and Countermeasures II

- 11D.1 Tomahawk Maintenance Information Transfer Tool
- Torpedo and Countermeasures Interference 11D.2 Modelling
- NEMO NIXIE Enhanced Modular Option: Surface Ship Torpedo Defense (SSTD)

Weapons and Countermeasures III

- 12D.1 An Advanced Wake Homing Methodology for Torpedoes
- VLA Extended Range System
- 12D.3 The Utility of a Long Stand-Off Precision Placement Torpedo in an Undersea Distributed Networked Sensor Field

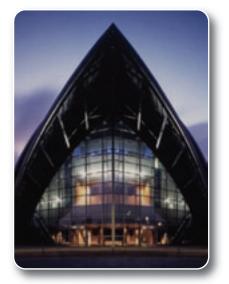


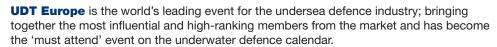
CONFERENCE TIMETABLE

Day 1	- Tue	esdav	10th .	June	2008
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	Day 1 - Tuesday 10th June 2006					
0900	1 Official Opening & Keynote A	Addresses				
1030	Networking Tea and Coffee Break					
1100	2A Network Centric Warfare & Communications I Network Centric Warfare Technology & Design I	2B Environmental Effects & Monitoring I Environmental Assessment	2C Unmanned Vehicles I Architecture & Payload I	2D Underwater Technology – Dual Use Applications I Underwater Technologies & Materials		
1230	Networking Lunch in Exhibition Hall and opportunity to View Poster Sessions Poster Session I - Combat Systems - Network Centric Warfare & Communications - Operation, Navigation & Training - Unmanned Vehicles					
1400	3A Combat Systems I Improving Combat System Performance	3B Sonar & Non-Acoustic Sensors I Passive Sonar	3C Unmanned Vehicles II Architecture & Payload II	3D Maritime Security & Force Protection I Development of Equipment for Diver Detection in Harbour		
1530	Networking Tea and Coffee Break					
1600	4A Operation, Navigation & Training I New Technologies for Navigation	4B Unmanned Vehicles III Architecture & Payload III	4C Sonar & Non-Acoustic Sensors II Active Sonar	4D Maritime Security & Force Protection II Integrated Port Security Systems		
1730	Close of day one					
	Day 2 - Wednesday 11th June 2008					
0900	5A Ship Design & Signature Management I Design Rules	5B Combat Systems II Open System Architectures	5C Instrumentation & Ranges I Tracking Concepts	5D Sonar & Non Acoustic Sensors III Performance		
1030	Networking Tea and Coffee Break					
1100	6 Exhibition Visiting Time					
1230	Networking Lunch in Exhibition Hall and of Poster Session II - Environmental E	pportunity to View Poster Sessions ffects & Monitoring - Instrumentation & Ranges -	Sonar & Non-Acoustic Sensors			
1400	7A Sonar & Non Acoustic Sensors IV Non-Acoustic Sensors	7B Mine Warfare I Mine Disposal Systems	7C Unmanned Vehicles IV Control and Command	7D Instrumentation & Ranges II Practical Results		
1530	Networking Tea and Coffee Break					
1600	8A Ship Design & Signature Management II Safety and Rescue	8B Mine Warfare II Detection of Sea Mine	8C Sonar & Non-Acoustic Sensors V Multistatics	8D Network Centric Warfare & Communications II Network Centric Warfare Tech & Design II		
1730	Close of day two					
		Day 3 - Thursday 1	2th June 2008			
0900	9A Ship Design & Signature Management III Energy & Propulsion	9B Environmental Effects & Monitoring II Environmental Impact	9C Underwater Technology – Dual Use Applications II Intervention Technologies	9D Weapons & Countermeasures I		
1030	Networking Tea and Coffee Break					
1100	10A Ship Design & Signature Management IV Signature Management I	10B Sonar & Non-Acoustic Sensors VI Transducers & Arrays	10C Maritime Security & Force Protection III Port Security Surveillance Systems	10D Network Centric Warfare & Communications III Communication Networks		
1230	Networking Lunch in Exhibition Hall and opportunity to View Poster Sessions Poster Session III Maritime Security & Force Protection - Mine Warfare - Ship Design & Signature Management - Weapons & Countermeasures					
1400	11A Ship Design & Signature Management V Signature Management II	11B Mine Warfare III AUV, UUV Application for Sea Mine Detection with Sonars	11C Network Centric Warfare & Communications IV Underwater Communications	11D Weapons & Countermeasures II		
1530	Networking Tea and Coffee Break					
1600	12A Ship Design & Signature Management VI Submarine Design	12B Mine Warfare IV AUV, UUV Application for Sea Mine Detection with Acoustics, Non-Acoustic Sensors	12C Maritime Security & Force Protection IV Use of Sonar in Underwater Harbour Surveillance	12D Weapons & Countermeasures III		
1730	Close of day three					







UDT allows key naval decision makers, defence scientists, technologists and procurement specialists within the leading undersea defence manufacturers and suppliers to discover and discuss the latest issues and developments affecting underwater technology.

New Technology - Dual Use Applications

Dual use technology presentations, featuring those commercial underwater systems with potential application to the needs of defence.

Free Poster Presentations

Free seminars discussing the latest needs of the undersea defence industry in a poster session format.

Conference

The UDT Conference provides attendees in excess of 120 presentations on the latest (and future) undersea defence products, systems and services.

Exhibition

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SHOW DATES AND TIMES

Conference

•••••		
Tuesday	10th June	9:00 - 17:30
Wednesday	11th June	9:00 - 17:30
Thursday	12th June	9:00 - 17:30

Exhibition

Tuesday	10th June	9:30 – 17:30
Wednesday	11th June	9:00 – 17:30
Thursday	12th June	9:00 - 16:00

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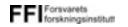






























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- 2. Fill out the form below and fax back to +44 (0) 1322 616350

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- Entrance to the annual UDT Europe Cocktail Party
- The UDT Europe 2008 Delegate bag
- Gala Dinner (additional fee)

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Gala Dinner Wednesday 11	1 June - Delegate rate:	□ £100		
This fee does not include tra Full payment of the registrat	avel or accommodation ion fee must be made before the date	of the conference (All fe	ees are inclusive of VAT @ 1	7.5%)
I will attend on the following	ng day(s):	☐ Tuesday 10 June	☐ Wednesday 11 June	☐ Thursday 12 June
Title (Prof/Dr/Mr/Mrs/Ms):	First name:			
Surname:				
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