

HYDROGRAPHIC CONFERENCE

HYDRO 2023

7-9 NOVEMBER 2023

GENOA - ITALY



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FINAL PROGRAM

Tuesday, November 7th 2023

08.00 REGISTRATIONS

08.30 OPENING CEREMONY

IHS - IFHS

Maurizio Balsamo, *Chairman of IHS (Italy)*

David Vincentelli, *Chairman of IFHS (France)*

Massimiliano Nannini, *Director of Genova IIM (Italy)*

Marco Bucci, *Mayor of Genoa*

Aldo Monaca, *Chairman of the Organizing Committee (Italy)*

09.00-10.10 KEYNOTES LECTURES

Chairmen: *Alessandro Maiolino (Italy), Aldo Monaca (Italy)*

09.00 **Transforming Hydrography: Our Journey Towards 2030**

John Nyberg, *IHO Director (Monaco)*

09.20 **Title to be defined**

Massimiliano Nannini, *Director of the IIM of Genova Italian Navy (Italy)*

09.40 **New technologies, new challenges, new generation of hydrographers, the role of hydrographic societies.**

David Vincentelli, *IFHS President (France)*

10.00 QUESTION TIME

10.10-11.10 ACADEMIC DISCUSSION

Chairman: *Alessandro Maiolino (Italy)*

The Hydrographer of Tomorrow: Adapting to Technological Advances and Global Challenges

John Nyberg, *IHO Director (Monaco)*

11.10 - 11.40 Break

11.40-12.00 KEYNOTE LECTURE

Chairman: *Alessandro Maiolino (Italy)*

Citizen Hydrospatial Sciences!

Denis Hains, *H2i President (Canada)*

12.00-13.10 ORAL PRESENTATIONS

COLLABORATION AND PARTNERSHIP, QUALITY, ENABLING TECHNOLOGIES AND OCEAN LITERACY

Chairman: *to be defined*

12.00 **Journey of collaboration and partnerships for hydrographic surveys in New Zealand**
Wilkinson Annette, *Land Information New Zealand (New Zealand)*

12.10 **Investigating the synergies between S-100 and the United Nations Sustainability Development Goals for the promotion of S-100-based products**

Palma Valentino, *Italian Hydrographic Institute (Italy)*

- 12.20 **Seabed 2030 - delivering the first detailed map of the Global Ocean floor**
Hall Stephen, *Seabed2023 Monaco (France)*
- 12.30 **Empowering the Remote Workforce: New Workflows to support changing needs of the Hydrospatial Industry**
Hamilton Travis, *Teledyne Caris (Canada)*
- 12.40 **A collaborative approach to ocean and seabed remote monitoring and mapping**
Rumson AI, *DeepOcean (Norway)*
- 12.50 **Navigating Complex Waters: Multi-Stakeholder Cooperation for a Maritime Digital Economy**
Wichand Bastian, *Fugro Germany Marine GmbH (Germany)*
- 13.00 **QUESTION TIME**
- 13.10-14.10 **Break**

14.10-14.30 **KEYNOTE LECTURE**
Chairman: *Alessandro Maiolino (Italy)*

Prediction Predictions for a sustainable and resilient Global Coastal Ocean
Nadia Pinardi, *University of Bologna (Italy)*

14.30-16.20 **ORAL PRESENTATIONS**
COLLABORATION AND PARTNERSHIP, QUALITY, ENABLING TECHNOLOGIES AND OCEAN LITERACY
Chairman: *Claudio Caporale (Italy)*

- 14.30 **The Nippon Foundation-GEBCO, Seabed 2030 Project Status and Way Forward**
Hains Denis, *H2i (Canada)*
- 14.40 **OCTOPUSLE, Bio-inspired active electromagnetic sensor, First sea trials**
Bagot Gary, *ELWAVE (France)*
- 14.50 **Remote Hydrography: Status on Regulation**
Nicolas Gracieux, *Exail (France)*
- 15.00 **Complex marine geophysical surveys for very shallow and shallow waters used for archaeological, environmental and engineering applications**
Velkovsky Kiril, *Center for underwater archaeology (Bulgaria)*
- 15.10 **SMART cables for observing the Ocean**
Sebastiano Messina, *Poliservizi srl - Oceans and Cables srls (Italy)*
- 15.20 **Leveraging Open Source Trusted Crowdsourced Bathymetry Technology for Waterway Monitoring and Change Detection**
Morissette Guillaume, *CIDCO (Canada)*
- 15.30 **GeoAI: Enabling Multipurpose Hydrographic Data**
Woodlief Matthew, *Environmental System Research Institute (United States Of America)*
- 15.40 **Understanding Shallow Waters Sedimentation Processes and their impact on Navigation Safety, Port Efficiency, and Dredging Operations**
Ponce Rafael, *The Hydrographic Society of America (United States Of America)*
- 15.50 **Increased Data Value Through New Technologies**
William James, *Unmanned Survey Solutions (United Kingdom)*
- 16.00 **Enabling USVs to use the same equipment as a traditional survey vessel**
Mallance Duncan, *XOCEAN (United Kingdom)*
- 16.10 **QUESTION TIME**

16.50-18.10

ORAL PRESENTATIONS**COLLABORATION AND PARTNERSHIP, QUALITY, ENABLING TECHNOLOGIES AND OCEAN LITERACY**Chairman: *Denis Hains (Canada)*

16.50

Automated solutions in the offshore marine geophysical data processing
Dragun Dino, HidroCibalae (Croatia)

17.00

Underwater Simultaneous Localization and Mapping (SLAM) with Multi-Layer Refraction Calibration in Shallow Water Experiments**Muhammad Fickrie, HafenCity University Hamburg, Hydrography and Geodesy Department (Germany)**

17.10

Deepwater Autonomous Inspections: a Viable Way for Data Acquisition
Stefano Meggio, Saipem S.p.A (Italy)

17.20

Improvements in target and surface detections
Kuus Pim, Teledyne Marine (The Netherlands)

17.30

Authoritative, qualitative and standardized data as foundation for the blue transition
Caporale Claudio, Italian Hydrographic Institute (Italy)

17.40

Skilltrade Hydrographic Training (online CAT B)
Stam Johan, Skilltrade (The Netherlands)

17.50

Effectiveness of vertical error budget model for portable multi-beam echo-sounder system in shallow water bathymetric survey
Abubakar Aliyu Alhassan, Nigerian Navy Hydrographic Office (Nigeria)

18.00

Professional Divers and cognitive Functions**Coco Marinella, Department of Education Sciences and .R.I.T. Service Center: Bio-Nanotech Research and Innovation Tower, University of Catania (Italy)**

18.10

QUESTION TIME

Wednesday, November 8th 2023

09.00-09.40 KEYNOTE LECTURES

Chairman: *Alessandro Maiolino (Italy)*

- 09.00 **The countries' connectivity to the web: the submarine cable networks**
Elio Rubino, *ELETTRA TLC SpA (Italy)*
- 09.20 **From Autonomous Underwater Vehicle (AUV) to Autonomous Subsea Drone (ASD):
expanding the domain of underwater surveys and advanced subsea tasks**
Matteo Marchiori, *SONSUB SAIPEM (Italy)*

09.40-10.20 ORAL PRESENTATIONS SUSTAINABLE UNDERWATER INFRASTRUCTURES

Chairman: *Vincenzo Crupi (Italy)*

- 09.40 **Wet balking effect assessment and sedimentation volume calculation using hydro-
graphic techniques at Samanalawewa Reservoir**
Pinnagoda Vithanage Dilhan Tharanga, *The National Aquatic Resources Research and Develop-
ment Agency (NARA), The National Hydrographic Office (Sri Lanka)*
- 09.50 **Cybersecurity challenges of Underwater installations**
Bonincontro Antonio, *Italian Hydrographic Institute (Italy)*
- 10.00 **Preventing damage costs to submarine cables: the importance of communication, shar-
ing informations and lessons learnt with local communities**
Maiolino Alessandro, *Oceans & Cables Ltd (Italy)*
- 10.10 **Submarine Cables: Sustainable Underwater Infrastructures**
Crupi Vincenzo, *Department of Engineering, University of Messina (Italy)*
- 10.20 **QUESTION TIME**
- 10.30-11.00 **Break**

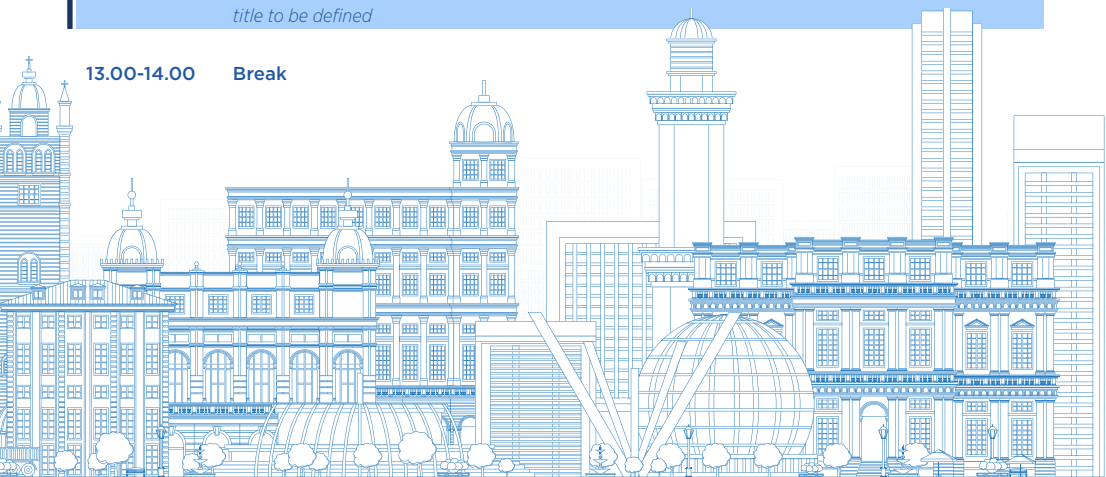
11.00-12.00 LECTURE SPONSORED BY ESRI ESTABLISHING A HYDROSPATIAL SYSTEM AND THE S-100 INFLUENCE

Principal Maritime Consultant and Practice Lead
Rafael Ponce, *Esri*

12.00-13.00 ACADEMIC DISCUSSION

title to be defined

- 13.00-14.00 **Break**



14.00-14.20 POSTER PRESENTATION & EXHIBITION VISIT

From data provision (SDI) to knowledge creation (SKI): the future for marine geospatial information

Milli Manuela, *Italian Hydrographic Institute (Italy)*

An assessment of coastal erosion and human pressure in Cap-Haïtien (Haiti)

Picco Paola, *Italian Hydrographic Institute (Italy)*

Vulnerability of coastal cliffs and delocalization: a proposal of littoral management

Melis Maria Teresa, *University of Cagliari, Department of chemical and geological sciences (Italy)*

The exceptional meteorological event on the Gulf of Genoa from 27-32 October 2018: the satellite data processing for the marine wind field extrapolation

Monteverde Claudio, *A.P.S. Meteorological Agrarian Geological Observatory Raffaelli from 1883 (Italy)*

EMODnet Seabed Habitats Products: EUSeaMap, EOVs and Composite Products

McGrath Fergal, *Marine Institute/ INFOMAR (Ireland)*

Advancing Knowledge of the Antarctic Seafloor through Multibeam Data Collection Along Research Vessel Routes

Andrea Varzi, *National Institute of Oceanography and Applied Geophysics - OGS (Italy)*

Understanding the influence of kelps on arctic sea currents: Implications for ecosystem resilience

Kosek Klaudia, *Institute of Oceanology Polish Academy of Sciences (Poland)*

Thinking towards securely in infrastructures

Barbagallo Evelyn Carmen, *University of Messina - Engineering department (Italy)*

14.20-16.30 ORAL PRESENTATIONS

COASTAL RESILIENCE

Chairman: *Giovanni Randazzo (Italy)*

- 14.20 **Coastal Resilience - Maintaining Long-Term Records with Emerging Technologies**
Ambroziak Tirren, *Oceanwise Ltd (United Kingdom)*
- 14.30 **Coastal Monitoring and Harbor Surveying by Use of Airborne LiDAR Bathymetry**
Fontana Thomas, *Alto Drones GmbH (Italy)*
- 14.40 **Evaluation of ICESat-2 satellite based LiDAR penetration in shallow waters for bathymetric data acquisition: Case study of the Venice Lagoon**
Nardini Roberto, *Italian Hydrographic Institute - Italian Navy, Marine Geophysical and Oceanographic department (Italy)*
- 14.50 **Long-term coastal water monitoring by dual-polarimetric Sentinel-1 SAR imagery**
Verlanti Anna, *University of Cagliari (Italy)*
- 15.00 **Towards a Digital Twin of the coast - spatio-temporal analytics of coastal processes**
Hartmann Knut, *EOMAP (Germany)*
- 15.10 **Monitoring Ross Ice Shelf Area Extension Variation around Antarctica**
Khalil Mohamad, *University of Genova, Department of mechanical, energy, management, and transport engineering - DIME (Italy)*
- 15.20 **Multi-disciplinary Survey of Kiribati Outer Islands**
Peyton Derrick, *IIC Technologies (Canada)*
- 15.30 **LiDAR Survey - Inshore Bathymetry Survey**
Zaquini Mirko, *SAIPEM (Italy)*
- 15.40 **Enhancing Coastal Resilience: Fast, accurate and sustainable Airborne Lidar Bathymetry, applied to vulnerable islands**
Mahapatra Pooja, *FUGRO (The Netherlands)*
- 15.50 **Integrated survey of multibeam echosounder and mobile laser scanner for marine rapid environmental assessment (MREA) in Genoa Harbour**
Balogun Abdulmajeed, *Nigerian Navy Hydrographic Office (Nigeria)*

- 16.00 **Bridging the Gap: Integrating Topographic and Bathymetric Data for Comprehensive Coastal Analysis**
Karaki Ali Alakbar, *Geomatics Laboratory, Department of Civil, Chemical and Environmental Engineering (DICCA), University of Genoa (Italy)*
- 16.10 **Coastal Geomorphology and Hydrodynamic Modelling in Namatanai Village in the New Ireland Province of Papua New Guinea**
Amba George Michael, *C/-Malit Limited (Papua New Guinea)*
- 16.20 **QUESTION TIME**
- 16.30-17.00 **Break**

17.00-18.00 **ACADEMIC DISCUSSION**
title to be defined

Thursday, November 9th 2023

09.00-09.20 **KEYNOTE LECTURE**
Chairman: *Alessandro Maiolino (Italy)*

Ocean Exploration: a new challenge for the Energy Transition
Giovanni Ranieri, *CEO Next Geosolution SpA (Italy)*

09.20-10.10 **ORAL PRESENTATIONS**
OCEAN EXPLORATION
Chairman: *Marco Filippone (Italy)*

- 09.20 **Exploration of hydrothermal venting sites and sulphide deposits using deep-towed multibeam echo sounder data**
Dufek Tanja, *HafenCity University Hamburg (Germany)*
- 09.30 **The Potential of the Hydrospatial Domain for Small Island Developing States (SIDS) - A Focus on Seychelles**
Adrienne Francesca, *Seychelles Hydrospatial Observatory for Research and Exploration (SHORE) Institute (Seychelles)*
- 09.40 **The complexity of measuring sea-ice thickness with acoustic sensors**
Werner Ellen, *HafenCity Universität Hamburg (Germany)*
- 09.50 **Ocean exploration from small platforms using compact multibeam systems**
Uni Bull, *NORBIT Subsea (Norway)*
- 10.00 **Building space-based hydrographic survey capabilities through collaborative projects and international partnerships**
Goodrich Kyle, *Tcarta (United States Of America)*
- 10.10 **QUESTION TIME**

10.20-11.20 **WORKSHOP SPONSORED BY ESRI**
PATTERNS AND PRACTICES FOR BUILDING MSDI WITH WebGIS

Speakers:
Matt Woodlief, *Senior Solution Engineer, Esri (USA)*
Rafael Ponce, *Principal Maritime Consultant and Practice Lead, ESRI (USA)*
Geoff Dean, *Senior Business Development Manager, Maritime, ESRI (USA)*

11.20 - 11.50 **Break**

11.50-12.10

KEYNOTE LECTURE

Chairman: *Alessandro Maiolino (Italy)*

Switching on the light – hydrography’s key role in reversing the ocean’s declining health

Louis Demargne, IOC UNESCO (France)

12.10-12.50

ORAL PRESENTATIONS

BLUE TRANSITION

Chairman: *Giovanni Ranieri (Italy)*

12.10

From Italian Hydrographic Office FIG/IHO/ICA Cat. A and Cat. B course to the new challenges of the Blue Transition – talent, skills and energy of the future

Taccardi Gabriella, Italian Hydrographic Institute (Italy)

12.20

The role of science diplomacy in strengthening cooperation between the two shores of the Mediterranean within the framework of a Blue transition

Ghribi Mounir, National Institute of Oceanography and Applied Geophysics - OGS (Italy)

12.30

Green boat: sustainability and innovation for the boating of the future

Briguglio Giovanni, Institution, Department of Engineering, University of Messina (Italy)

12.40

From seabed to cloud, groundtruthing seagrass data

Brocke Hannah, Plan Blue (Germany)

12.50

QUESTION TIME

12.50-13.50

ACADEMIC DISCUSSION

title to be defined

13.50

IFHS Student Award

14.00

CLOSING CEREMONY

IHS - IFHS

Handover to the next Hydro 2024; IHS President, David Vincentelli IFHS

Plaque delivery to founding and historical members of IHS





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