



Technology
Forum 2022



2021
2030
United Nations Decade
of Ocean Science
for Sustainable Development

THINKING AHEAD: THE TECHNOLOGY OF THE SCIENCE WE WILL NEED FOR THE OCEAN WE WANT

22-24 March 2022



MODERATOR

Steve Hall

INDEPENDENT CONSULTANT AND FORMER VICE-CHAIR OF UNESCO'S INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

Steve Hall CMarSci FIMarEST is an ocean science, technology, planning and policy consultant, based in UK. He is a former vice-chair of UNESCO's Intergovernmental Oceanographic Commission, and worked at the National Oceanography Centre for 27 years on marine autonomous systems, sustained ocean observing and ocean-related policy.

Steve has served as CEO of the Society for Underwater Technology, Pembrokeshire Coastal Forum & Marine Energy Wales. Now independent, he focuses on advanced marine technology, policy, defence and adaptation to sea level rise as a founding member of the Rising Seas Institute.

Jyotika I. Virmani

EXECUTIVE DIRECTOR OF THE SCHMIDT OCEAN INSTITUTE

Former Executive Director of Planet & Environment at XPRIZE overseeing global competitions to spur innovation in this domain.

Co-Chair of the UN Ocean Decade Technology & Innovation Informal Working Group, serving on National Geographic's Executive Committee for Research & Exploration, the U.S. IOOS Federal Advisory Committee, and Monterey Bay Aquarium Research Institute's Board.



KEYNOTE

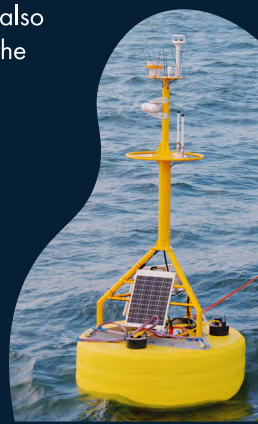
Justin Manley

PRESIDENT OF THE MARINE TECHNOLOGY SOCIETY

Justin Manley is a technologist and executive with experience in startup, public corporation, academic, and public sectors. After professional roles at MIT, supporting NOAA and in the private sector he founded Just Innovation Inc. in 2015 to support a variety of clients with a focus on uncrewed and undersea systems. He is President-Elect of the Marine Technology Society, a member of the NOAA Ocean Exploration Advisory Board and co-chairs the Technology & Innovation Informal Working Group for the UN Ocean Decade. He is also dedicated to innovation, advising startup companies and as a judge for the ANA AVATAR XPRIZE.



KEYNOTE



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Rene Garelo

PROFESSOR EMERITUS AT IMT ATLANTIQUE, LIFE FELLOW IEEE

His main research interests lie in Remote Sensing, 2D signal processing, statistical and spectral analysis applied to ocean surface features detection and characterization. For the last two decades, he has worked in the development of signal and image processing tools for the interpretation of satellite signals and the extraction of sea surface features, either natural (wind, waves, currents) or manmade (ships, oil pollution, marine debris). These application fields were supported by several European projects and industrial contracts. He is presently engaged in several initiatives on the topic of Marine Debris and Plastic in the oceans.

Chiara Petrioli

PROFESSOR AT UNIVERSITY OF ROME LA SAPIENZA

Chiara Petrioli is Professor of Computer Science and Engineering at University of Rome La Sapienza, Founder and Director WSense Srl.

"As a kid I was always fascinated by the abysses described by Jules Verne. Today I am exploring them with the technology I invented. Hold on to your dreams!"



KEYNOTE



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Nick Wise

CEO OCEANMIND

Nick Wise is founder and CEO of OceanMind, a non-profit organisation dedicated to protecting the world's oceans. Using satellites and artificial intelligence, OceanMind powers effective fisheries enforcement and enables more responsible seafood sourcing, increasing compliance and sustainability. Building on this success, OceanMind is now developing AI to detect modern slavery on the oceans, particularly in fisheries, and to detect the desecration of war graves through unauthorised undersea salvage.



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Emma Heslop

PROGRAMME SPECIALIST · GLOBAL OCEAN OBSERVING SYSTEM (GOOS)

Emma is a physical oceanographer with significant strategic & business development expertise. She completed a PhD in physical oceanography is passionate about the need for sustained monitoring of the oceans and the utility of ocean data for science, government and industry applications, now and into the future.

In 2018 she joined the IOC of UNESCO to support the development of the Global Ocean Observing System (GOOS), in particular developing and now implementing its ambitious 2030 Strategy. The ocean has a key role to play in our sustainable future and ocean observations are the foundation to achieving this.

Pierre-Yves LeTraon

SCIENTIFIC DIRECTOR OF MERCATOR OCEAN INTERNATIONAL

P.Y. LeTraon is the scientific director of Mercator Ocean International and research director at Ifremer. He is in charge of the scientific direction and program management of the Copernicus Marine Service. His areas of expertise include in-situ and satellite ocean observing systems, ocean forecasting and operational oceanography. He is member of the EOOS Steering Committee, co-chair of the OceanPredict Advisory & Sponsors Board group and member of the GEO Blue Planet Executive committee. As part of his Ifremer activities, he leads the development of a high level national coordination of French Ocean Observing activities (Fr-OOS).



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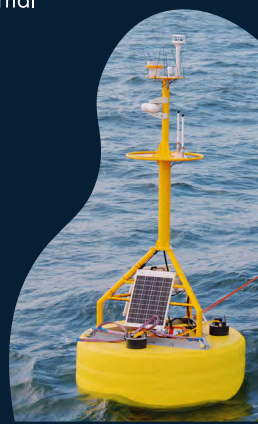


PANELLIST

Matt Mowlem

PRINCIPAL INVESTIGATOR, OCEAN TECHNOLOGY AND ENGINEERING AT NOC

Prof. Matt Mowlem has 24 years of experience developing ocean sensors and in research management, including fifty EC, UK and industry projects. He currently coordinates the European Union's Horizon 2020 project "TechOceanS" developing a wide range of biological and biogeochemical sensors and measurement systems. In 2019 he founded ClearWater Sensors Ltd. to commercialise the world's most robust and deep diving reagent-based sensors for nutrients, pH and iron. He remains a Principal Investigator at the NOC. He has published >100 peer reviewed journal articles, holds 5 granted patents and has lifetime grant capture >£30M.



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Sara Iverson

SCIENTIFIC DIRECTOR OF THE OCEAN TRACKING NETWORK (OTN)

Sara Iverson is a Professor of Biology and the Scientific Director of the Ocean Tracking Network (OTN), a global aquatic animal tracking, technology, data management, and partnership platform, and Canadian National Research Facility, headquartered at Dalhousie University. OTN uses electronic tracking technologies and robotic underwater vehicles to provide state-of-the-art capacities in ocean observation and knowledge on aquatic animal movements, habitat use, interactions and survival, in the face of changing environments to advance the governance and sustainability of the ocean's resources. Sara received her PhD jointly from the Smithsonian Institution and University of Maryland, USA, specializes in marine animal physiological ecology, and is a Fellow of the Royal Society of Canada.

Ward Appeltans

PROJECT MANAGER AT OCEAN BIODIVERSITY INFORMATION SYSTEM

Ward Appeltans is the marine biodiversity focal point at UNESCO's Intergovernmental Oceanographic Commission (IOC) where he manages the Ocean Biodiversity Information System (OBIS) and supports the Biology and Ecosystems Panel of the Global Ocean Observing System (GOOS BioEco). He also manages two eDNA projects, one in the Pacific Islands to detect marine invasive species and a recent one to assess biodiversity in UNESCO's marine World Heritage sites. Mr Appeltans is also a member of the steering group of the Marine Biodiversity Observation Network (MBON) and is a member of the coordination team of the UN Ocean Decade Marine Life 2030 programme.



PANELLIST

Simona Aracri

PERMANENT RESEARCHER AT THE NATIONAL RESEARCH COUNCIL OF ITALY

Permanent Researcher at the National Research Council of Italy – Institute of Marine Engineering. She holds degrees in Marine Engineering and Naval Architecture and a Ph.D. in Physical Oceanography from the National Oceanography Centre - University of Southampton. Her research interests encompass: the application of robotics for observational oceanography and environmental monitoring. She is interested in the entire process of data collections, from the device design to the deployment setting and, ultimately, in the resulting data.



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Florence Salvetat

HEAD OF THE METROLOGY LABORATORY OF IFREMER

She has been managing this ISO 17025 accredited metrology laboratory dedicated to oceanographic parameters (temperature, pressure, conductivity, dissolved oxygen, pH, turbidity, and fluorescence) for more than 20 years. She is deeply involved in research and developments projects and collaborations to improve traceability and uncertainty estimation for oceanographic parameters like salinity and pHT.

Her current project collaborations with oceanographic and national metrology institutes: SAPHTIES (EMPIR), JERICO-S3, NAUTILUS, MINKE (H2020).

Johannes Post

MANAGING DIRECTOR OF DEESEA MINING ALLIANCE AND HYDROMOD SERVICE

He has more than 30 years of professional experience within international marine projects from marine mining tests and related environmental reef surveys in the central Red Sea (1976 - 1983) to deep-sea mining strategies on gas hydrates in the Korean EEZ (2006). His experience includes broad knowledge and experience in R&D projects and studies on marine technology and marine environmental aspects. Long term experiences in marine surveys all over the world with a focus on marine environment, technology, hydrophysics, geophysics, sediment transport and prognostic modelling.



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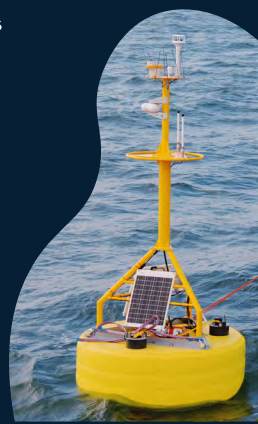


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Martin Visbeck

HEAD OF RESEARCH UNIT PHYSICAL OCEANOGRAPHY AT GEOMAR

He led the 'Future Ocean' Network in Kiel to advance integrated marine sciences by bringing together different disciplines to work on marine issues. He serves on a number of national and international advisory committees including member of the Governing Board of the International Science Council (ISC), Joint Scientific Committee of the World Climate Research Programme (WCRP), leadership council of the Sustainable Development Solutions Network (SDSN), and past member of the Interim Decade Advisory Board for the UN Decade of Ocean Science Decade for Sustainable Development 2021-2030 and the EU ocean mission board assembly. Martin Visbeck is involved in strategic planning and decision-making processes about the ocean and sustainable development at a national, European and global level.



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Inga Lips

SECRETARY GENERAL OF EUROPEAN GLOBAL OBSERVING SYSTEM (EUROGOOS)

Dr Inga Lips is the Secretary General of the European Global Observing System (EuroGOOS). She has combined biological and physical oceanography, integrating traditional ship-based measurements and laboratory analysis with data from autonomous measuring and sampling platforms. She has led many national and international projects, coordinated the national open sea monitoring program in Estonia, developed national and Baltic Sea wide oceanographic measurement programmes, and established Marine Ecology Lab at Tallinn University of Technology. She is serving as a co-chair of the steering group of the European Ocean Observing System (EOOS) and represents EuroGOOS at the GOOS Regional Alliances (GRA) council.

Gergely Sipos

HEAD OF SERVICES, SOLUTIONS AND SUPPORT AT EGI FOUNDATION

Gergely is the Head of the Services, Solutions and Support department at the EGI Foundation. He is responsible for the provisioning and innovation of services owned by the EGI Foundation, and for overseeing the operational status of the EGI infrastructure. The three teams of his department, with the help of EGI's national e-infrastructures, perform user community engagement, requirement collection & analysis, service piloting and service customisation for communities, as well as deliver operational services, training and support.

Gergely holds an MSc and PhD in computer science with specialisation in management, from the University of Miskolc (Hungary).



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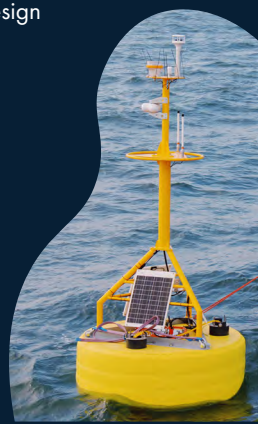


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Marta Ottogalli

KNOWLEDGE MANAGER CONSULTANT AT UNEP

Marta Ottogalli coordinates concept-to-launch of the UNEP Global Partnership on Marine Litter (GPML) Digital Platform. The Digital Platform is a partly open-source, multi-stakeholder platform that compiles different resources, connects stakeholders, and integrates data to guide action towards the long term elimination of marine litter and plastic pollution. She is specialized in open-source and AI digital platforms supporting evidence-based decision-making, enabling forecasting, personalisation and match-making functionalities. Lastly she has extensive experience implementing agile, user experience (UX), and design thinking frameworks to foster innovation



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Kate Larkin

DEPUTY HEAD OF THE EUROPEAN MARINE OBSERVATION AND DATA NETWORK

Kate Larkin (PhD) is Deputy Head of the European Marine Observation and Data Network (EMODnet) Secretariat and Head of Research at Seascope Belgium. She has worked in the domain of marine biogeochemistry and ocean observation for 20 years spanning research, scientific project management and science-policy roles at the National Oceanography Centre, UK (2002-2011), the European Marine Board (2012-2018) and EMODnet (2019 -). Kate's role focuses on marine knowledge brokerage, connecting Europe's ocean observation capability to EMODnet services and driving EMODnet's wider partnerships across the marine knowledge value chain, including with data infrastructures and services e.g., Copernicus Marine, marine research infrastructures, the Blue Economy, policy, civil society and citizens, in the context of EU Green Deal and UN Ocean Decade.

Francisco Chavez

FOUNDING MEMBER OF THE MONTEREY BAY AQUARIUM RESEARCH INSTITUTE

Francisco Chavez is a biological oceanographer who studies how climate variability and change impact ocean ecosystems on local to basin scales. He has over 250 peer-reviewed publications with 15 in Nature and Science. He is a Fellow of the American Association for the Advancement of the Sciences, honored for distinguished research on the impact of climate variability on oceanic ecosystems and global carbon cycling; and of the American Geophysical Union, honored for advancing fundamental knowledge of the physical-biological coupling between Pacific Decadal Oscillations, productivity, and fisheries. He was awarded a Doctor Honoris Causa by the Universidad Pedro Ruiz Gallo in Peru in recognition of his distinguished scientific career and for contributing to elevate academic and cultural levels of university and society. Chavez is the 2014 recipient of the Ed Ricketts Memorial award.



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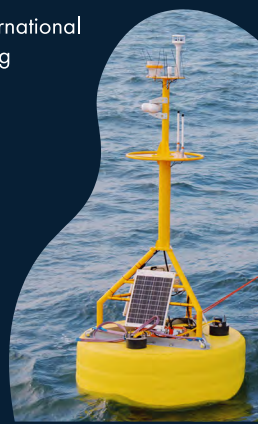
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Dariia Atamanchuk

RESEARCH SCIENTIST AT OCEAN FRONTIER INSTITUTE

Dariia Atamanchuk is a researcher scientist and chemistry graduate based in Canada. She completed a PhD in Natural Sciences, and her areas of expertise include biogeochemical cycles of oxygen and carbon dioxide, air-sea interactions, ocean-based CDR, development and use of autonomous oceanographic sensors and platforms.

She is member of the Scientific Steering Group 'Instruments and Platforms' of the International Ocean Carbon Coordination Project, of CLIVAR Atlantic Region Panel (starting Spring 2022), and member of OOI Biogeochemical Sensor Data Working Group.



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