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AZTI Summer School 2021

**#OceanOptimism:
balancing the
narrative about the
future of the ocean**

Online

8th to 10th June 2021

Biographies of the teachers

Angel Borja

Director of AZTI SUMMER SCHOOL

June 9th 9:30-10:15

Reduction of pollution in estuaries and coasts of the Basque Country and recovery of ecosystem services



Angel Borja studied Biology, obtained a PhD in Marine Ecology (University of the Basque Country, 1984) and is Doctor in Sciences (honoris causa) by the University of Hull (UK, 2015). He is Principal Investigator at AZTI, a private non-profit research foundation in Spain, where he has been also Head of the Department of Oceanography and Head of the Marine Environment Area. He is Distinguished Adjunct Professor, at the Faculty of Marine

Sciences in the King Abdulaziz University (Saudi Arabia). His main work is making marine ecology research useful for policy-makers and managers, studying the effects of human activities on marine ecosystems, monitoring of marine waters and recovery after impact. This includes developing methodologies to assess the marine status under European directives (i.e. Water Framework Directive; Marine Strategy Framework Directive), being some of these methods used worldwide. He was member of the Scientific Committee of the European Environment Agency (2013-2020). He is author of more than 270 peer-reviewed papers (Hindex: 67), and Highly Cited Researcher 2018-2020 (Clarivate Analytics, Web of Science). Specialty Chief Editor of *Frontiers in Marine Ecosystem Ecology*, Associated Editor of *Continental Shelf Research* and *Journal of Sea Research*, and member of the Editorial Board of *Ecological Indicators*, *Marine Pollution Bulletin*, *Heliyon* and *Current Opinion in Environmental Science & Health*. Referee in more than 100 international journals and project evaluation agencies, is member of different advisory boards and scientific associations (ASLO, CERF, ECSA, ESP, SIBECOL), serving as chair in numerous international conferences. He has participated in more than 120 European and international projects, being the coordinator of the EU 7th FP project DEVOTES (DEvelopment Of innovative Tools for understanding marine biodiversity and assessing good Environmental Status). He has been characterized by the continuous dissemination of science and organizer of the AZTI's successful marine summer school since 2004. He was awarded with the SETAC Environment Education Award in 2017, and the Lifetime Achievement Award in the International Conference on Benthos, in 2019 (Cochin, India).

Cécile Roddier-Quefelec

June 8th 9:45-10:30

Status of the Environment in Europe and Marine Messages: new transitions under the European Green Deal



Cécile Roddier-Quefelec is an Ocean Governance and Mediterranean Cooperation Expert. She currently works at the European Environment Agency (EEA), within the Marine team, where she develops and facilitates further engagement and sustainability of partnerships and technical networks of relevance for the ecosystem and biodiversity working area.

She coordinates EEA's activities with Regional Seas Conventions and engagement with the European Environment Information and Observation Network (Eionet). She leads the regional cooperation with the Mediterranean region and EEA engagement on ocean governance, in support to knowledge for eco-system-based management. She, in particular ensures implementation of the EEA-UNEP-MAP/Barcelona Convention strategic partnership and joint workplan, and leads EEA's contribution to the Union for the Mediterranean policy agenda. She ensures operationalisation of regional engagement in knowledge development, with contribution to the Mediterranean Foresight exercise MED-2050, contributing to Europe's State and Outlook Report, as well as thematic and integrated assessments.

Her pragmatic vision to address complex challenges among stakeholder groups and her cross-policy knowledge has been key to develop and maintain solid regional cooperation and partnerships. Before joining the European Environment Agency, she worked as a Project Manager State of the Environment and Development at Plan Bleu Regional Activity Centre, where she led the environment component of the EU-funded regional statistical cooperation programme MEDSTAT and coordinated the Mediterranean State of the Environment and Development Report. Agronomist by education, she has specific knowledge and skills in water management, environment statistics and indicators, environmental accounting, and extensive experience on the design, coordination and implementation and monitoring of projects, capacity development, training and involvement of sectorial stakeholders.

Prof. Mike Elliott

June 8th 11:00-11:45

Building for the future of marine science and management - the main messages based on the UN World Oceans Assessment II and the International Decade of the Oceans

June 9th 10:15-11:00

Ecohydrology with Ecoengineering - opportunities for marine, coastal and estuarine remediation linked to the UN Decade of Ecological Restoration



Chair in Estuarine & Coastal Sciences, Research Professor, Department of Biological and Marine Sciences, The University of Hull, UK; and Director, International Estuarine & Coastal Specialists Ltd (<https://iecs.ltd>); URL <http://www.hull.ac.uk/Faculties/staff-profiles/Professor-Mike-Elliott.aspx>. Mike is the Professor of Estuarine and Coastal Sciences at the University of Hull, UK and was Director of the former Institute of Estuarine

& Coastal Studies (IECS) from 1996-2017. He is also the Director of International Estuarine & Coastal Specialists Ltd. He is a marine biologist with a wide experience and interests and his teaching, research, advisory and consultancy includes estuarine and marine ecology, policy, governance and management. Mike has published widely, co-authoring/co-editing 18 books/proceedings and >295 scientific publications. This includes co-authoring *'The Estuarine Ecosystem: ecology, threats and management'* (with DS McLusky, OUP, 2004), *'Ecology of Marine Sediments: science to management'* (with JS Gray, OUP, 2009), and *'Estuarine Ecohydrology: an introduction'* (with E Wolanski, Elsevier, 2015). He was an editor and contributor to the *'Coasts and Estuaries: the Future'* (Wolanski, Day, Elliott and Ramachandran; Elsevier, 2019) and the *Treatise on Estuarine & Coastal Science* (Eds.-In-Chief - E Wolanski & DS McLusky, Elsevier). He has advised on many environmental matters for academia, industry, government and statutory bodies worldwide. Mike is a past-President of the international Estuarine & Coastal Sciences Association (ECSA) and is a Co-Editor-in-Chief of the international journal *Estuarine, Coastal & Shelf Science*; he currently is or has had Adjunct Professor and Research positions at Murdoch University (Perth), Klaipeda University (Lithuania), the University of Palermo (Italy), Xiamen University (China) and the South African Institute for Aquatic Biodiversity. He was awarded Laureate of the Honorary Winberg Medal 2014 of the Russian Hydrobiological Academic Society. He is also a member of many national and international committees linking marine science to policy.

Nancy Knowlton Ph.D.

June 8th 11:45-12:30

#OceanOptimism: Where are the success stories in ocean conservation?



Dr. Nancy Knowlton is a coral reef biologist and author of the National Geographic book *Citizens of the Sea*. Her research has taken her around the world and covered many topics: coral symbioses, reproductive biology and phylogeny; cryptic species; human impacts and alternate stable states; and rates of molecular evolution. She co-led the Census of Marine Life Coral Reef project, and chaired the World Bank Targeted Research Program on Coral Reefs. Her research

has produced over 175 publications and 33,000 citations.

Most recently Dr. Knowlton has focused on the importance of success stories in conservation, beginning in 2009 with a series of symposia entitled *Beyond the Obituaries: Success Stories in Ocean Conservation*. In 2014, she helped launch the #OceanOptimism campaign on Twitter, and she recently summarized ocean successes for the Annual Review of Marine Science <https://www.annualreviews.org/doi/pdf/10.1146/annurev-marine-040220-101608>. In 2017 she co-hosted the inaugural Earth Optimism Summit.

Dr. Knowlton spent much of her career at the Smithsonian, initially at the Smithsonian Tropical Research Institute and later at the National Museum of Natural History, where she is the Sant Chair Emerita. She was also a professor at Yale and the founding director of the Center for Marine Biodiversity and Conservation at the Scripps Institution of Oceanography. She currently serves on the Global Board of The Nature Conservancy and the Ocean Studies Board of the National Academy of Sciences.

Dr. Knowlton was elected to the American Academy of Arts and Sciences and to the U.S. National Academy of Sciences in 2013. She is a winner of the Peter Benchley Prize, the Heinz Award, the Women's Aquatic Network 2018 Woman of the Year award, the National Marine Sanctuary Foundation Lifetime Achievement Award, and the International Coral Reef Society's Darwin Medal.

Dr. Knowlton is actively engaged in science communication and has given numerous public lectures and media interviews. At the Smithsonian, she served as Editor-in-Chief of the Ocean Portal website. You can follow her on twitter at @SeaCitizens.

Fabian Zimmermann

June 9th 9:30-10:15

Is the 'aquacalypse' cancelled? How science-based management enables sustainable fisheries



Fabian Zimmermann is a researcher at the Institute of Marine Research (IMR), working with stock assessment and management of shellfish stocks such as edible crab, Norway lobster and northern shrimp in Norway. After studying biology at the University of Berne in Switzerland, he obtained in 2011 a PhD in fisheries biology at the University of Bergen (UiB) in Norway, exploring the biological and economic importance of fish body size for optimal management.

During postdoctoral positions at IFREMER in France, and UiB and IMR in Norway, he broadened his research scope to study the key drivers of population dynamics, especially density dependence and recruitment, and their relevance for stock assessment and management. His current research interests include drivers of variability in stock dynamics and how to assess and manage fish stocks when data availability is severely limited, a widespread challenge in global fisheries.

Patrick Meire Ph.D.

June 9th 11:30-12:15

The restoration and recovery of Scheldt estuary



Patrick Meire Ph.D. (°1958), studied biology at Ghent University (B) where he also obtained his PhD. For six months (1983), he was a visiting research fellow of the University of Oxford, Department of Zoology. In 1989-1990, he worked one year at the Dutch Delta Institute for hydrobiological Research, one of the research institutes of the Dutch Academy of Science. In 1990, he became senior researcher at the Institute

of Nature Conservation, a research Institute of the Flemish Government. Since 1995, he holds the chair for Integrated Water Management at the Institute of Environmental Studies of the University of Antwerp (part-time visiting professor). Since 1999, he is full-time professor at the University of Antwerp, Department of Biology and head of the Ecosystem Management research group.

His research career is focused on the study of the environmental impact of human activities on aquatic and wetland systems and the translation of these insights into concepts for integrated water and ecosystem management. He started his research with a study on the impact of the construction of a storm surge barrier in the Oosterschelde estuary on waterbirds and macrozoobenthos. This work was extended to several research projects studying various water management problems in the large water bodies of the Dutch Delta area, such as eutrophication, water quantity management and ecosystem protection. In the Scheldt estuary, the main focus is directed at studying the impact of different measures to improve the safety against inundations and the effects of dredging. The main focus is understanding the interaction between the habitat structure (geomorphology), hydrodynamics and the ecological functioning (nutrient cycling, productivity, carrying capacity,..). The results of these studies were the basis for the Sigmaplan, the management plan of the Schelde estuary which includes the realization of more than 3500 ha of new tidal habitats and wetlands.

P. Meire has published more than 400 papers and reports of which approximately 250 are cited in the ISI Web of Science (A1&P1 publications); he has an h-index of 41. P. Meire's full publication record can be found at <https://www.uantwerpen.be/en/staff/patrick-meire/>

Oihane C. Basurko

June 10th 9:30 - 10:15

From global to local: solutions to marine litter



She is PhD in the sustainability assessment of marine technologies, Newcastle University (UK). She has worked in national and international projects related to marine sustainability, ballast water management, and assessment of carbon footprint of shipping. She joined AZTI in 2010, and since, she has been involved in the: assessment and optimisation of energy

efficiency in fishing and aquaculture, including energy auditing, engine and fuel consumption monitoring, and data modelling using intelligent algorithms; and Life Cycle Assessment and sustainability assessment of marine innovations.

Álex Fernández Muerza

June 10th 10:15-11:00

How media can assist scientists in disseminating positive messages



He is a journalist specialized in science and environment. Collaborator in several media such as Muy Interesante, Radio Euskadi, El País... and one of the founders of Ballena Blanca magazine, specialized in environment and economy.

Doctor in Journalism and professor of the Master of Journalism and Scientific Communication of the UNED; and winner of several journalistic

awards for some of his articles.

Very active in social networks, where he has several thousand followers (On Twitter @ecienciaom).

Fiorenza Micheli

June 10th 11:30-12:15

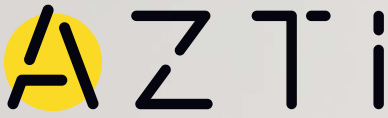
Ocean Solutions for Nature and People



Fiorenza Micheli is co-director of Stanford's Center for Ocean Solutions and of Hopkins Marine Station, and the David and Lucile Packard Professor of Marine Science at Stanford University. Her research focuses on the processes shaping marine communities and coastal social-ecological systems, incorporating this understanding in marine conservation and for co-designing solutions with decision-makers and communities. She

investigates climatic impacts on marine ecosystems, particularly the impacts of and adaptation to warming, hypoxia and ocean acidification in marine species, communities and fisheries, marine predators' ecology and trophic cascades, the dynamics and sustainability of small-scale fisheries, and the design and function of Marine Protected Areas.

Her research takes place in California, Mexico, the Mediterranean Sea, Palau, The Pacific Line Islands, the Caribbean and the Chagos Archipelago. To date, she has authored or co-authored over peer-reviewed publications, and many reports and general articles (<https://scholar.google.com/citations?user=Le4ScQcAAAAJ>). She is a Pew Fellow in Marine Conservation, a fellow of the California Academy of Sciences, an Aldo Leopold Leadership Fellow, a Fulbright Scholar, and senior fellow at Stanford's Woods Institute for the Environment. She was President of Western Society of Naturalist for 2011 and she is currently advisor to the Monterey Bay National Marine Sanctuary, Seafood Watch, Global Fishing Watch and the Benioff Ocean Initiative. She co-directs Stanford's Center for Ocean Solutions with Jim Leape, former Director General of WWF International, and she co-directs Stanford's Hopkins Marine Station, with Dr. Jeremy Goldbogen, a marine mammal and marine technologies expert. Dr Micheli has advised or co-advised over 30 postdocs, and over 70 graduate students and 100 undergraduate students. She has conducted extensive public engagement and outreach activity, has been involved in policy processes and has provided leadership in ocean science and ocean solutions.



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