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AZTI Summer School 2022

Addressing the cumulative impacts of multiple human pressures in marine systems

Aquarium of San Sebastian (Spain)

8th to 9th September 2022

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Biographies of the teachers

Angel Borja

Director of AZTI SUMMER SCHOOL

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).

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Prof. Mike Elliott

September 8th 16:00-17:00
Conceptualizing the problem of cumulative pressures and footprints

September 9th 15:30-17:30
Practical session: Exploring variability in environmental impact risk from multiple human activities across aquatic ecosystems

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. 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.

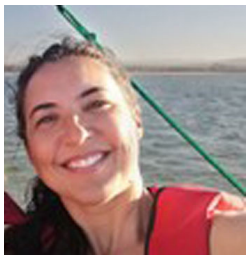
https://iecs.ltd

http://www.hull.ac.uk/Faculties/staff-profiles/Professor-Mike-Elliott.aspx

Heliana Teixeira

September 8th 17:00-18:00
Exploring variability in environmental impact risk from multiple human activities across aquatic ecosystems

September 9th 15:30-17:30
Practical session: Exploring variability in environmental impact risk from multiple human activities across aquatic ecosystems



Costal and marine benthic ecologist at the Center for Environmental and Marine Studies (CESAM) and the Dep. Biology of the University of Aveiro (Portugal). She holds a PhD in Biology, specialty Ecology from the University of Coimbra, Portugal, with training at Univ. Murcia (SP), AZTI Foundation (SP) and SCCWRP (USA). As a post-doc she worked at IMAR (Coimbra, PT) and as a Scientific Officer at the EC Joint Research Centre JRC (Ispra, IT). Her main research focuses aspects related with environmental assessment and conservation ecology, such as pressure-response relationships to reverse the negative impacts of anthropogenic disturbances; the use of ecological indicators for assessing quality trends in estuarine, coastal, and marine ecosystems; local processes and impacts of biological invasions driven by climate and anthropogenic pressures; and understanding biodiversity links to ecosystem services supply. Recently she has been working on socio-ecological research topics, using ecosystem services together with stakeholder participatory processes in conservation ecology. She is author of more than 40 peer-reviewed papers (Hindex: 31). Since 2004 that she participates in international expert working groups, providing scientific support to environmental policies on the domains of Water, Marine Strategy, Biodiversity and Nature Conservation, Invasive Alien Species. Currently, she is part of the EU Water Directive ECOSTAT WG on physical-chemical standards in support of good ecological status; integrates the COST ACTION Alien CSI for increasing understanding of alien species through citizen science, and collaborates with LifeWatch ERIC Internal Joint Initiative for developing Virtual Research Environments for Non-indigenous and invasive species. She runs the R&D projects FITA and CREPIDULA and participates in the PORBIOTA Portuguese e-Infrastructure for Information and Research on Biodiversity (PT node of LifeWatch ERIC), in SALTFREE and in GoBig projects. Since 2018, is associate editor for Frontiers in Marine Science in Marine Ecosystems Ecology.

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Dr. Vanessa Stelzenmüller

September 8th 18:30-19:30
Operationalizing risk-based cumulative effect assessments in the marine environment

Research Unit Leader – Marine Spatial Management- and Research Director at Thünen-Institute of Sea Fisheries (Germany). Vanessa studied marine environmental science at the University of Oldenburg, Germany and obtained a PhD in aquatic ecology in 2005. As a postdoc she worked on fisheries effects of marine protected areas at the ICM CSIC, Barcelona and as a research scientist at CEFAS, UK focusing on cumulative impact assessments and marine spatial planning (MSP). Since 2010 she is heading the research unit on marine spatial management at the Thünen-Institute of Sea Fisheries, Bremerhaven, Germany. Her main research interests comprise the development of: i) trade-off analysis of spatial management options in the context of fisheries socio-ecological systems, ii) practical approaches and tools for MSP accounting for aquaculture and fisheries, and iii) risk-based assessment of cumulative effects of human pressures and climate change on ecosystem components and functions. She coordinated various national projects and international tasks in relation to risk assessment and MSP and co-chairs the ICES expert group on cumulative effects assessment for management (WGCEAM). Further, she is a member of the advisory board of the German MSP process and national and international MSP related projects.

Stelios Katsanevakis

September 9th 09:00-10:00
Mapping the multiple impacts of invasive species

Professor of Marine Ecology in the Department of Marine Sciences, University of the Aegean (Greece). He is the Head of the Marine Biodiversity and Ecosystems Management lab. He was previously employed in the Hellenic Centre for Marine Research (HCMR) for five years, and in the European Commission's Joint Research Centre for three years, working on the development of the European Alien Species Information Network (EASIN). He teaches marine ecology, marine biodiversity, and applied marine ecology at both undergraduate and graduate levels. He has supervised / currently supervises 10 PhD students. His recent research focuses on three main topics: (i) marine conservation, especially the further development and implementation of systematic conservation planning, and improving the effectiveness of marine protected areas; (ii) marine alien invasions and their impact on biodiversity and ecosystem services; (iii) developing and applying methods for marine monitoring. He has participated as coordinator or principal researcher in >30 research projects, and was the Chair of the COST Action MarCons 'Advancing marine conservation in the European and contiguous seas'. He is the Editor-in-Chief of the international journal BioInvasions Records, and associate editor in the journals Frontiers in Marine Science and Mediterranean Marine Science. He is (co)author of 179 peer-reviewed articles in international journals, and his work has received >11,000 citations with an h-index of 57 (scholar.google). He is included among the top 2% scientists worldwide in Marine Biology, based on Scopus standardized citation metrics.

https://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.3000918

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Marta Col

September 9th 10:00-11:00
Interaction of fishing exploitation and multiple pressures, including climate change

She studied Environmental Sciences, and obtained a PhD in Ecology, Animal Biology and Vegetal Biology (Autonomous University of Barcelona, 2006). She worked at the Biology Department of Dalhousie University (Halifax, Canada), at the Fisheries Centre of the British Columbia University (Vancouver, Canada), IRD – UMR MARBEC (Sète, France) and at University of Cape Town – MA-RE Institute (South Africa). Currently, she is a senior researcher at the Institute of Marine Sciences (ICM-CSIC), in Barcelona, Spain, a research institute belonging to the Spanish Council of Research in Spain. Her research focuses on understanding patterns and processes that have and will characterize marine ecosystems and, in particular, changes of, and threats to, marine biodiversity. She studies community and food-web dynamics linked with human activities (such as fisheries, eutrophication, invasive species and climate change), and how these translate into changes in ecosystem structure and functioning, and into services that humans obtain from the ocean. She develops and applies a variety of ecological analyses based on ecosystem modelling techniques and statistical tools, and she uses historical data, experimental results and field data sets. She currently works on developing and testing scenarios of future trajectories of change to find best solutions for transformative management of the oceans. She is a member of the Global Ocean Modelling (GOM) from the Institute for the Oceans and Fisheries (University of British Columbia, Vancouver, Canada), and of the Ecopath International Research and Development Consortium. She is editor of the ICES Journal of Marine Science and a member of the Editorial Board of Ecological Modelling. She is author of more than 200 peer-reviewed papers (Hindex: 65) and highly cited researcher in 2021 (World's Top 2% Scientists, Stanford University). She has participated in > 180 contributions in national and international conferences, has been a teacher at several graduate and specialized courses, and has reviewed >250 publications from > 30 journals.

Ibon Galparsoro

September 9th 11:30-12:30
Renewable energy (wind, waves) farms and multiple effects on marine ecosystems

Doctor in Marine Sciences by the University of Vigo and principal Investigator in the AZTI Marine Research Unit. He has more than 18 years of professional experience in different lines of marine research applied to Integrated Coastal Zone Management. Among the main lines of research developed are: Marine and Maritime Spatial Planning, modelling, assessment and mapping of coastal and marine ecosystem services, development of tools to aid decision-making in the area of marine spatial planning (renewable energy, aquaculture, marine protected areas, etc.), environmental impact and ecological risks related to human activities, studies related to the conservation and declaration of marine protected areas, implementation of the Marine Strategy Framework Directive; as well as the mapping and characterization of seabed and benthic habitat and species modelling. He is Associated Editor of Frontiers in Marine Ecosystem Ecology journal and has been guest editor of two special issues in Elsevier. He has a vast experience in oral presentations at international conferences and has participated in several invited conferences in courses, workshops and seminars. He has also participated as professor in several Postgraduate Masters (University of the Basque Country; University of Navarra) and as an expert in working groups of international organizations (ICES).

https://www.scopus.com/authid/detail.uri?authorId=9939527500

https://www.researchgate.net/profile/Ibon_Galparsoro

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Simonetta Fraschetti

September 9th 12:30-13:30
Can we use marine protected areas to fight against multiple pressures and impacts?

Full Professor in Ecology at the Department of Biology, University Federico II, Naples, Italy where she teaches Fundamental Ecology (Graduate Diploma in Biology) and Marine Ecology (Master Diploma in "Biology and Ecology and the Marine Environment and Sustainable Use of the Resources"). Chair of the European Marine Board Working Group on Marine Habitat Mapping, President of the Marine Biological Symposium and member of the Administration Council of the Stazione Zoologica Anton Dohrn where she has been previously Research Fellow. Member of the PhD School in Biology of University of Naples Federico II. She combines descriptive research, manipulative experiments and spatial analysis techniques for gaining a better understanding of the patterns of distribution of marine biodiversity and of the processes shaping marine communities, with the final aim to improve the conservation, management and restoration of marine coastal systems. Her research activities can be summarized in four lines of research: 1- understanding the drivers of persistence and loss in marine coastal systems, 2- assessing the effects of multiple stressors, 3- design, siting, and effectiveness of protection of Marine Protected Areas (MPAs) with the target of introducing MPAs within a Maritime Spatial Planning framework, 4- development of baseline knowledge and experimental approaches to support nature-based solutions to restore macroalgal forests. She is also involved in several initiatives to reinforce network of researchers and stakeholders involved in the conservation and management of European and contiguous seas. She has been invited to serve on advisory committees of international projects and as member of the International Committee Margalef Prize for the acknowledgement of excellent scientific careers in the field of ecology and environmental sciences. She is member of the Board of scientific journals as Marine Ecology Progress Series and Marine Ecology, She has a consolidated experience in the evaluation processes of national and international projects, recruitments and career progress. Google Scholar documents that her work has been cited more than 9000 times, for an H-index of 52.

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