



Blue Economy Business and Science Forum Hamburg 2016

12 - 13 SEPT. 2016

HAMBURG, GERMANY
International Maritime Museum



Date, location and venue

The first Blue Economy Business and Science Forum meeting will take place in Hamburg on 12-13 September 2016 at the International Maritime Museum Hamburg.

This venue has been selected for its historical importance for marine and maritime industry, research and finance.

Scope

The EU Blue Economy provides over 5 million jobs and approximately 4% of Europe's Gross Domestic Product. New technologies, including underwater engineering and DNA sequencing offer possibilities to increase this contribution. To capture this potential, the European Commission has launched a Blue Growth initiative which explores new ways to contribute to the EU's economy through technological, industrial and financial innovation whilst respecting the scarcity and vulnerability of marine resources.

As part of this effort, the Commission in its Communication on Innovation in the Blue Economy proposed to launch a Blue Economy Business and Science Forum – a platform for business, science, finance and policy representatives to exchange knowledge and experience, discuss opportunities and barriers for innovation in the blue economy and celebrate scientific and industrial achievements. It will provide a sounding board for industry and an opportunity for the participants to provide timely advice to the Commission.

The Blue Economy Business and Science Forum was officially launched at the European Maritime Day conference, held in Greece in May 2015 and the Hamburg Summit event is the first gathering of the Forum to address the Blue Growth challenges.

Objectives

The Hamburg Summit will gather together over 200 Blue Economy stakeholders to discuss and propose solutions on:

- how to boost the European competitiveness in marine and maritime technologies;
- how to increase collaboration between science and industrial sectors; and
- how to fully demonstrate the value of innovative technologies, scale them up and bring them to the market.

Participants will also discuss bottlenecks hindering the commercialisation of innovative blue technologies in the EU. Innovation is costly and even more so in the marine environment. Therefore, access to finance for innovation will be considered as one of the key issues. The event will explore the new Commission proposal on the European Innovation Council as an opportunity for Blue Economy entrepreneurs-innovators.



13:00 **Registrations & welcome coffee**

14:30 **Summit opening**

The EU's Integrated Maritime Policy and the Blue Growth initiative place the Blue Economy firmly on the agenda of the EU, the Member States and regions. Now is the time to pool all efforts together to unlock the potential of the Blue Economy through investments and innovation.

Video messages from:

- **Karmenu Vella**, *EU Commissioner for Environment, Maritime Affairs and Fisheries*
- **Carlos Moedas**, *EU Commissioner for Research, Science and Innovation*

MODERATOR:

Felix LEINEMANN, *Head of Maritime Policy Atlantic, Outermost Regions and Arctic Unit, Directorate General For Maritime Affairs And Fisheries, European Commission*

SPEAKERS:

- **Olaf Scholz**, *First Mayor and President of the Senate of the Free and Hanseatic City of Hamburg*
- **Joao Aguiar Machado**, *Director-General for Maritime Affairs and Fisheries, European Commission*
- **John Bell**, *Director for Bioeconomy, Directorate-General for Research and Innovation, European Commission*

Industry Keynote Speech

Sigrun Elsa Smaradottir, *Head of Industry Solutions and Consulting, MATIS*

15:30 **Showcase of EU innovative Blue Economy projects, with particular focus on SMEs**

MODERATOR:

Sigi Gruber, *Head of Marine Resources Unit, Directorate-General for Research and Innovation, European Commission*

17:00 **Coffee break**

17:30 **1st Panel Discussion: Innovation in the Blue Economy**
how maritime innovation can be a driver of sustainable blue growth

Growth in the Blue Economy is now the major focus of the integrated maritime policy. Europe's coasts, seas and oceans have the potential to be a major source of new jobs and growth. New growth opportunities come from providing new products and services derived from innovative ideas and actions and appropriate investments are key to unlock this potential.

- What does innovation mean for your business success?
- How can Europe be placed as a driver of the blue economy not only locally but globally?
- How can the European Innovation Council contribute in scaling start-ups into world-beating businesses?
- Where do investors see the opportunities and challenges in the blue economy?

MODERATOR:

Matthew King, *Head of Unit Open Innovation, Directorate-General for Research and Innovation, European Commission*

SPEAKERS:

- **Martin Visbeck**, *Excellence Cluster 'Future Ocean' (Germany)*
- **Jorge Temido**, *Chief Process and Innovation Officer, BuggyPower (Spain)*
- **Fiona Regan**, *Professor of Chemical Sciences, Dublin City University*
- **Toula Onoufriou**, *Professor of Infrastructure Reliability and management, Cyprus University of Technology*

19:00 **End of day one**

19:00 **Gala Dinner**
Blue Economy Business Awards 2016

Welcome messages from:

- **Joao Aguiar Machado**, *Director-General for Maritime affairs and Fisheries*
- **Katharina Fegebank**, *Second Mayor and Senator for the Ministry of Science, Research and Equalities of the Free and Hanseatic City of Hamburg*

¹ <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=COM:2014:254:REV1&from=EN>



08:30 **Welcome coffee**

09:15 **Wake-up Session**
KEYNOTE SPEECH
Pierre Erwes, *Chairman of Biomarine Business Convention, Chairman of the Board BioMarine International Clusters Association*

09:30 **2nd Panel Discussion: From Lab to Market**
how scientific discoveries lead to industrial success
Investment and research & innovation across all sectors of the blue economy are crucial for realising its growth and jobs potential.

- The importance of scientific discoveries for businesses.
- What financial obstacles do innovators face in getting the necessary investment to see projects through to fruition?
- How can the uptake of research results be facilitated, innovation promoted and markets identified?

MODERATOR:
Sigi Gruber, *Head of Marine Resources Unit, Directorate-General for Research and Innovation, European Commission*

SPEAKERS:

- **Kristine Gramstad Wedler**, *Chief Communications Director, Marine Harvest*
- **Torsten Thiele**, *Founder, Global Ocean Trust*
- **Janou Hennig**, *Managing Director, Hamburgische Schiffbau-Versuchsanstalt GmbH*
- **Simon De Pietro**, *CEO, DP Energy and a Board Member of the European Ocean Energy Association*

11:00 **Coffee break**

11:30 **3rd Panel Discussion: Unlocking Innovation through Collaboration**
how different sectors can work better together

The ambition of this Forum is to unlock new ways to increase collaboration between industry, science and the blue economy value chain as a whole to fully capture the value of innovative technologies, scale them up and bring them to the market.

- How collaboration can lead to success in the marine and maritime sectors. How can clusters play a role in facilitating collaboration among different blue economy stakeholders?
- What are the opportunities and challenges for clusters?

MODERATOR:
Francis Vallat, *Chairman of the European Network of Maritime Clusters*

SPEAKERS:

- **Simon Gerrard**, *Industry Liaison Manager, Southampton Marine and Maritime Institute*
- **Michael B. Jones**, *President, The Maritime Alliance & TMA Foundation, San Diego Cluster*
- **Martina Rossi**, *Cluster Manager, Maritime Technology Cluster FVG*
- **Noelia Ortega**, *CEO, CTN Innovative Solutions*

13:00 **Networking Lunch**

14:00 **Feedback Session: Key messages from the three panel discussions**

MODERATOR:
Bernhard Friess, *Director for Atlantic, Outermost Regions and Arctic, Directorate-General for Maritime Affairs and Fisheries, European Commission*

- **Matthew King**, *Head of Open Innovation Unit, Directorate-General for Research and Innovation, European Commission*
- **Sigi Gruber**, *Head of Marine Resources Unit, Directorate-General for Research and Innovation, European Commission*
- **Francis Vallat**, *Chairman of the European Network of Maritime Clusters*

14:15 **Closing plenary session: Key recommendations and conclusions from the Summit**

- What have we learned from the first Blue Economy Business and Science Forum meeting?
- What are the main barriers for innovation and key recommendations and outcomes to boost the innovation and investments in the blue economy?
- What are the next steps for policymakers, industry and science to capture the potential that the Blue Economy has to offer?

MODERATOR:
Bernhard Friess, *Director for Atlantic, Outermost Regions and Arctic, Directorate-General for Maritime Affairs and Fisheries, European Commission*

SPEAKERS:

- **Werner Schmidt**, *Director, Environment & Sustainable Territorial Development Department, Projects Directorate, European Investment Bank*
- **Claire Jolly**, *Head, Ocean Economy Group/ OECD Space Forum, Directorate for Science, Technology and Innovation OECD*
- **Tiago Pitta e Cunha**, *Founder, Oceano Azul Foundation*
- **Niall McDonough**, *Executive Secretary, European Marine Board*

15:45 **End of the Summit**



GEORGIA BAYLISS-BROWN
Senior Knowledge Transfer Officer, AquaTT

Georgia Bayliss-Brown is Senior Knowledge Transfer Officer at AquaTT and is responsible for developing knowledge transfer expertise within marine science projects funded by the European Commission, including COLUMBUS "Knowledge Transfer for Blue Growth" (www.columbusproject.eu).

With an academic background in marine climate change and physical oceanography, Georgia has ten years' experience in international project management, science communication and knowledge transfer. She specialises in using a variety of innovative techniques to support and accelerate quadruple helix knowledge uptake and application, focusing on the marine and maritime sector.



JOHN BELL
Director for Bioeconomy, Directorate-General for Research and Innovation, European Commission

John Bell is Director for Bioeconomy, DG Research & Innovation. This includes Horizon 2020, the Bioeconomy strategy, the Bio Based Industries Joint Undertaking, Blue Growth and Food and Nutrition Security research and innovation for a total budget of 3.7 billion.

He has been a European Commission official since 1993. During his career he has worked in external relations on financial aid assistance programmes in the former Yugoslavia, public administration reform in Central and Eastern Europe and on Poland's accession to the EU. Dr. Bell was a



TIAGO PITTA E CUNHA
Founder, Oceano Azul Foundation

Tiago Pitta e Cunha is currently an advisor for ocean policies and maritime affairs. He is in charge of the launching of the Oceano Azul Foundation, an organization exclusively dedicated to ocean sustainability and is a member of the General Council of the University of Lisbon. He was the Counselor for Environment, Science and Maritime Affairs to the previous President of Portugal. He has been working on maritime affairs, mainly as a policy-maker in the field of public policies on oceans and seas for 18 years. He also works as a private consultant on maritime affairs. He has been an advocate of the strategic importance of maritime affairs in Portugal and in Brussels for several years now and has been involved in many public projects relating policy and sea-based economy, including in the media and in the academia. In this context, he has written the book "Portugal e o Mar", published in 2011 by the Fundação Francisco Manuel dos Santos. He is also a member of several steering committees of international networks on maritime affairs. In 2012 he coordinated and drafted a



GORDON DALTON (M)
Ocean Energy Economics Engineer, MaREI Research Centre

Dr. Dalton is an Ocean Renewable Energy Economics Engineer, a staff member of MaREI Research centre, UCC, Cork Ireland. His speciality is techno-economics, socio-economics and business plans.

Gordon is the lead coordinator of the BG5 Maribe H2020 project www.maribe.eu. The Maribe project is a CSA project, spanning 1.5 years, €2M funds, and 10 international partners. The Maribe project proposal gained a review score of 14/15. The Maribe project has a wide selection of partners, including FAO from the United Nations and BVG associates. Gordon was also the lead coordinator of the H2020 Geri4-2015 proposal 'Gendering'. The project received 14.5/15, and attained 'Reserve' status. The project will be resubmitted in 2016.



SIMON DE PIETRO
CEO, DP Energy Ireland

Simon De Pietro is a director of DP Energy Ireland and DP Marine Energy both part of a wider Group with interests in wind, solar, tidal and storage projects in Europe, Australia and Canada. DP Energy has emerged as one of the leading independent developers of tidal energy projects in Europe, with 330MW+ of capacity currently under development and a number of other projects under consideration. Simon

Georgia has been involved in a number of knowledge exchange consortia and was a co-organiser of the growing Marine Knowledge Exchange Network (M-KEN) based in Norwich, UK, bringing together industry, SME, policy and NGO stakeholders with world-class marine scientists, with the common goal of building capacity in collaborative, stakeholder relevant marine science.

Her ever-developing passion and focus is on the efficient communication of science to a plethora of audiences, and finding innovative ways to maximise impact from past and existing marine science research, through targeted knowledge transfer.

member of the Cabinet of Commissioner David Byrne with responsibility for enlargement, food safety, public health and global health security issues, including bioterrorism. He was Head of Cabinet to European Commissioner Meglena Kuneva on Consumer Affairs and Head of Cabinet to Commissioner Máire Geoghegan-Quinn on Research and Innovation, who was responsible for developing and funding Horizon 2020, mainstreaming innovation and simplification. He completed his Doctorate at St John's College, Oxford University in 1993.

comprehensive report entitled "Blue Growth for Portugal", which studies the Portuguese sea-related economy and analyses the finances of the most important companies of that economy. As a policy maker he was a member of the Cabinet of the European Commissioner for Maritime Affairs, from November 2004 to February 2010, and was a key player in the European Commission on the development of the EU Integrated Maritime Policy. In 2003 he was appointed by the Portuguese Prime-Minister as Coordinator of the Oceans Strategic Commission, a high-level working group in charge of designing the Country's national strategy for the oceans. Before that he worked in the United Nations as a Delegate to the International Sea Bed Authority, where he was Vice-President of the Council. He founded and attended for several years the UN Informal Consultative Process on Oceans and the Law of the Sea and participated as a delegate of Portugal in the Assembly of State-Parties of the UN Convention on the Law of the Sea (UNCLOS).

Dr. Dalton is chair of the International Consortium of Research Staff Associations (ICoRSA), consisting of 14 member associations, and a research network of 0.5 million researchers globally. Gordon is the lead coordinator in a 2016 Cost Action proposal 'SECURE'. The project has 20 countries as secondary proposers. Gordon is the chair of the Irish Research Staff Association (IRSA www.irsa.ie) and the Vice Chair of the Cork Branch in UCC (www.ucc.ie/en/irsa).

As a mature student, Dr Dalton completed a degree in electronic engineering in Trinity College Dublin 2002, and a PhD in Australia in renewable energy economics in 2007. Prior to the pursuit of an engineering career, Dr. Dalton had a career in dentistry spanning 12 years.

is co-president of Ocean Energy Europe for the coming year and is regularly called upon to provide inputs into key EU policy discussions and papers.



PIERRE ERWES
Chairman, BioMarine Business Convention

Pierre Erwes is an oceanographer with later specialization in IT and marketing. He is an entrepreneur who has over thirty years of international experience, primarily in the areas of marine bio resources and new technologies. He exercised managerial responsibilities at several companies and international groups. From 2005 to 2008, Pierre Erwes worked at the scientific foundation of Lyon, which supported the development of innovative projects, as well as in the organization of the world life Sciences forum, BioSquare, and BioMarine.

Given the success of BioMarine, it was jointly decided that Pierre Erwes, founder of the event and owner of the trademark, would develop it under an independent structure. It quickly became recognized as the biomarine broker for Innovation, the broker for international collaborations, and the broker for investment.

In 2013 Pierre Erwes launched the BioMarine International cluster's association. Under the honorary chairmanship of HSH prince Albert II of Monaco, BICA's Mission is to foster new direct business opportunities based on region to region direct collaboration. B.I.C.A. benefits from a strong international business platform and an intensely networked set of marine bio-clusters.

In 2016, he is launching with his two associates BlueForward, a Venture Capital fund that will invest in innovative European SMEs that brings sustainable solutions in the following key areas of the Blue Economy:

- Turning Aquaculture and Fishing into sustainable industries
- Sustainable macro-micro algae farming
- Marine biodiversity valorization to enhance global health and sustainability
- New maritime and water technologies



MARINELLA FARRÉ
Spanish Council for Scientific Research

Dr. Marinella FARRÉ (120 ISI papers, H-Index=35): Research scientist permanent staff at ID/EA-CSIC from (Jul. 2008). Currently, she is the supervisor of 2 PhD students, 3 Master Thesis students and 3 post-doctoral researchers. Her research interest is the development of analytical techniques based on biosensors in combination with the state of the art of chromatography coupled to mass spectrometry for the determination of organic contaminants in aquatic system and coastal areas.



KATHARINA FEGBANK
Second Mayor and Senator for the Ministry of Science, Research and Equalities of the Free and Hanseatic City of Hamburg

Born on 27th of February 1977 in Bad Oldesloe, raised in Bargteheide, resident of Hamburg since 2004. 1997-2002 Studies of Political Science, Public Law and English, with the final degree of Master of Arts (M.A.) at the University of Freiburg. 2002-2003 Postgraduate European Studies, with the final degree of Master of European Studies (M.E.S), in Berlin.

2000 Youth Consultant at the United Nations, Department of Economic and Social Affairs, New York, USA. 2003-2004 Project Manager & Research Associate at the Institute for European Politics (IEP) in Berlin. 2004-2007 Scientific Consultant for Migration and Integration Policy of the Ham-

burg GAL (Green Alternative List) parliamentary caucus. 2005-2008 Member of the State Executive Committee of Alliance '90/The Greens in Hamburg. 2007-2013 Research Associate for the Executive Committee of the University of Lüneburg. 2008-2015 State Chairperson of Alliance '90/ The Greens in Hamburg. 2011-2015 Representative and Spokesperson for Social, International and European Affairs of the Greens caucus and Chairperson of the Committee for Social, Integration and Labour Affairs of the Hamburg Parliament. Since 15th of April 2015 Second Mayor and Senator for the Ministry of Science, Research and Equalities of the Free and Hanseatic City of Hamburg.



BERNHARD FRIESS
Director of Atlantic, Outermost Regions and Arctic, Directorate-General for Maritime Affairs and Fisheries, European Commission

Since February 2011, Bernhard Friess has been the Director of the Directorate "Atlantic, Outermost Regions and Arctic" of the European Commission's Maritime Affairs and Fisheries Directorate-General.

Mr Friess studied Law at Munich University. His career with the European Commission included assignment in the areas of Education and Training, Competition Policy and Internal Market Policy.

In September 2002 he was appointed Head of the Financial Services Unit in the Directorate-General for Competition, monitoring and enforcing competition compliance in European banking, securities and insurance markets. In April 2006, he became Head of the Policy and Coordination Unit of the Commission's Internal Market Directorate-General. In June 2009, he was appointed Director of Planning, Personnel and Communication within the Internal Market Directorate-General.



SIMON GERRARD
Industry Liaison Manager, Southampton Marine and Maritime Institute

Dr Simon Gerrard has over 10 years' experience as an academic, albeit quite some time ago now, and nearly 20 years' experience working in the area between academia and industry. He arrived at Southampton University in March 2014 as the Industry Liaison Manager in the Southampton Marine and Maritime Institute (SMMI). Two key roles of this post are to diversify the University's research funding and enhance its global distinctiveness in marine and maritime activity. The principle method of achieving these aims is by stimulating greater levels of multi- and inter-disciplinary research between academics, researchers, business, government and other organisations.

Prior to this post (1988-1999) Simon was a member of faculty in the School of Environmental Sciences at the University of East Anglia, Norwich. His research focused on environ-

mental risk management. Formerly an advisor to the World Health Organisation on Risk Communication, Simon established the European Risk Communication Network – a place where academics and practitioners could meet to discuss risk communication. Similarly, Simon ran the East Anglian Business Environment Club, another academic/industry network. In 1999 he became the School's first Business Innovation Manager responsible for creating an outreach and commercialisation platform. In 2002 he established the Community Carbon Reduction (CRed) programme, the first of its kind in the UK. Through a few more steps, this led to the creation of a university spin-out carbon management consultancy which, amongst other things, operated a range of low carbon technology investment funds.

KRISTINE GRAMSTAD WEDLE
Chief Communications Officer,
Marine Harvest



Mrs. Wedler joined Marine Harvest ASA as Chief Communications Officer in August 2013. Before that she was State Secretary in the Norwegian Ministry of Fisheries and Coastal Affairs. Mrs. Wedler holds a Master's degree in Change Management from University of Stavanger and a Bachelor's degree in European Studies from the University of Oslo.



SIGI GRUBER
Head of Unit, Marine Resources, Directorate-General for Research and Innovation, European Commission

Sigi Gruber is heading the Marine Resources Unit in the Directorate-General for Research and Innovation of the European Commission. The Unit defines and implements research and innovation objectives and priorities to support the EU's Integrated Maritime Policy, in particular the Blue Growth Agenda, thereby contributing to the sustainable and responsible management of marine resources, both in Europe and globally. It consults industry and other stakeholders concerned and ensures coherence between research and innovation objectives and bioeconomy policy objectives. Furthermore, the Unit coordinates the Atlantic Ocean Research Alliance while monitoring and contributing to specific initiatives such as the Joint Programming Initiative Healthy and Productive Seas and Oceans (JPI-Oceans) and the Baltic Sea Research and Development Programme (BONUS).

Sigi started to work for the European Commission in 1991 in the field of Education and Vocational Training. In 2001, she joined the Directorate-General for Research and Innovation where she held responsibility for researcher's career development and mobility, later for research and higher education including the setting up of the European Institute for Technology (EIT), and for EU science, research and innovation cooperation with several key international partners of the European Union from 2008.

In April 2011, Sigi took responsibility for EU science, research and innovation cooperation with North America, Latin America and the Caribbean, where she coordinated the signing of the Canada-EU-US Galway Statement which launched the Atlantic Ocean Research Alliance.



JANOU HENNIG
Managing Director, Hamburgische Schiffbau-Versuchsanstalt GmbH (HSVA)

Dr. Janou Hennig is Managing Director of Hamburgische Schiffbau-Versuchsanstalt GmbH (HSVA), a private company operating in Hamburg, Germany and active in the field of hydrodynamic research and development, arctic technology and customer services since 1913.

Dr. Janou Hennig is visiting lecturer at the University of Duisburg-Essen in Germany.

- She has a background in applied mathematics from Technical University Berlin in Germany where she graduated in 1999.

- In 2005, she received a doctor's degree from Technical University Berlin and the Georg Weinblum Award for her

dissertation on "Generation and Analysis of Harsh Wave Environments". In 2007, she was awarded a Werner-von-Siemens "Young Academic".

- For almost 10 years she worked for MARIN in the Netherlands, where she was involved in scale model testing and computer simulations of offshore structures, and specialized in the modeling of environmental conditions.

- Among others she was overall project manager of the international joint industry project ShortCresT.

- At last, she was leading the MARIN R&D team dealing with hydrodynamic and hydro-structural loading and response of maritime structures.



CLAIRE JOLLY
Head, Ocean Economy Group/
OECD Space Forum, OECD

Directorate for Science, Technology and Innovation - Organisation for Economic Co-operation and Development.

Claire Jolly is a Senior Policy Analyst and Head of Unit in the Directorate for Science, Technology and Innovation (STI) in the Organisation for Economic Co-operation and Development (OECD). She heads the STI Ocean Economy Group

and the OECD Space Forum. She joined the OECD in 2003, after providing science, technology policy and economic advice to public and private organisations in Europe and North America. Her background is in international economics (Univ. Versailles and Cornell University) and aerospace engineering (ENSTA, Paris).



MICHAEL B JONES
President, The Maritime Alliance & TMA Foundation

Michael is Founder and President of The Maritime Alliance (TMA). Its Mission is "Promoting Sustainable, Science-Based Ocean & Water Industries." Founded in 2007, TMA organizes the San Diego maritime technology community (the largest concentrated BlueTech cluster in the U.S.). It focuses on Economic Development; Ecosystem Development, National/International Outreach, Research and Workforce Development. TMA co-sponsored the San Diego Maritime Industry Report 2012 – a first-of-its-kind study in the U.S. and was chosen by U.S. IOOS (Integrated Ocean Observing System) Program Office at NOAA to co-author a first-ever study on the economic impact of the U.S. ocean observation sector, which was published in February 2016.

Michael was born in Germany and grew up in Arizona. Michael earned a Master's Degree from the Johns Hopkins

University "School of Advanced International Studies" (SAIS) in 1977. His graduate studies included a year in Bologna, Italy; a year at the Catholic University in Lima, Peru; and an internship at the European Community headquarters in Brussels. He has been an angel investor, Board Member, entrepreneur, founder of several non-profits, investment banker, and periodic part-time CFO. Michael is a member of the Advisory Board of the College of Engineering at San Diego State University (SDSU), a Board member of the Maritime Museum of San Diego, and a member of the Board of Governors of the Southern California Coastal Ocean Observing System (SCCOOS). He is a non-resident Senior Fellow at The Foreign Policy Institute at SAIS in Washington, DC to focus on the oceans and growing global Blue Economy. He speaks five languages and travels extensively.



NICOLAS KALOGERAKIS
Professor of Biochemical Engineering, Technical University of Crete

Nicolas Kalogerakis is a Professor of Biochemical Engineering and Vice-President of the University Council at the Technical University of Crete. Prior to that he was a Professor at SUNY-Buffalo (USA) and at the Univ. of Calgary (Canada). He holds a Diploma in Chemical Engineering from NTUA (Athens), a Masters from McGill University and a PhD from the Univ. of Toronto. His area of expertise includes environmental biotechnology focusing on bioremediation and phytoremediation technologies for the restoration of contaminated sites; wastewater treatment and mathematical

modeling of environmental processes. Currently his group is participating in 4 EU funded research projects (FP7 & H2020) and he is the coordinator of the FP7-project KILL*SPIII. Prof. Kalogerakis' publication record includes four patents, one book, 170 papers in referred journals and more than 150 presentations at international conferences. He has more than 5600 citations (WoS) with a H-index of 40. He has served as a member of the EC Environment Committee and as sherpa in the EC, High Level Group on Key Enabling Technologies (2013-2015).



SADASIVAM KAUSHIK
Director of Research, INRA

Dr Sadasivam Kaushik, Director of Research in INRA (Institut National de la Recherche Agronomique), France, working in the area of Fish Nutrition since more than three decades, as the founder-director of the Fish Nutrition Joint research units and head of the Hydrobiology Station at St Pee sur Nivelle, France. He is currently coordinating an FP7 project, ARRANA, (www.arraina.eu), aiming towards development of low FM-low FO, sustainable aquafeeds for ensuring nutritional quality and food safety of farmed seafood. He



MATTHEW KING
Head of Unit, Open Innovation, Directorate-General for Research and Innovation, European Commission

Matthew King is the Head of Unit for Open Innovation in the Directorate-General for Research and Innovation of the European Commission. In that capacity he looks at issues surrounding the improvement of the EU's innovation performance. Prior to that he was head of Unit for Maritime Policy in the Atlantic, Arctic and Outermost Regions in the European Commission, Directorate General for Maritime Affairs and Fisheries. That Unit is responsible for developing and implementing a strategy for the Atlantic region, and has developed an Action Plan for the Atlantic to



PETROS KOKKALIS
Executive City Councillor for Local Economic Growth & Entrepreneurship for the City of Piraeus

Petros Kokkalis is currently a municipal councilor at the city of Piraeus in Greece, and leader of the 'Blue Growth' initiative that promotes maritime-related innovative entrepreneurship. He is an impact investor and the co-founder of social enterprises such as the environmental NGO 'Organization Earth,' and 'Aeiphoria.net,' a sustainable-business startup incubator. He is frequently active as a mentor to aspiring entrepreneurs, and a judge on Greek and international entrepreneurship competitions.

Mr. Kokkalis has also instigated the 'Citizens for the Global Goals' campaign, an initiative aiming to inform the public on the Global Goals for Sustainable Development, as well as methods for the goals to be met locally. Furthermore, following the recent coordination of all NGO efforts for refugee support at the port of Piraeus, Mr. Kokkalis launched 'Earth Refugee,' an initiative consisting of basic but often overlooked emergency, mitigation, adaptation, integration tools and developmental services for refu-

has an outstanding reputation in the field of fish nutrition. Besides his strong publication record, he has been closely linked with the aquaculture industry around the world. He avails over a vast network, among animal scientists, among fish nutritionists and physiologists, in academia and in industry, in all the continents. He is also the current President (2014-2016) of the European Aquaculture Society www.easonline.org.

take this forward, in partnership with Member States and regional authorities. In his function, he also held responsibility for the wider 'blue growth' agenda, which seeks to improve the rate of job creation and growth from sustainable use of the seas, such as ocean energy. Most of Mr King's career prior to that was spent in the Financial Services Directorate-General, in units dealing with the regulation of financial markets, and in the Commission's Delegation in the United States. Mr King joined the European Commission in 1994, having graduated from Oxford University.



FELIX LEINEMANN
Head of Unit, Atlantic, Outermost Regions and Arctic, Directorate-General for Maritime Affairs and Fisheries, European Commission

Felix Leinemann has worked for the European Commission since 2003 on a variety of topics including Inland Waterway and Maritime Transport, the European Union's Global Navigation Satellite System Galileo, Intelligent Transport Systems, Land Transport, Aviation, International Transport Affairs, Maritime Affairs and Fisheries.

Prior to becoming Head of Unit for Maritime policy Atlantic, outermost regions and Arctic in 2016, Mr Leinemann worked as Assistant to the Director General for Maritime

gees, in cooperation with state authorities, international & national NGOs, foundations, grass roots groups, individual volunteers, entrepreneurs & corporations.

Mr. Kokkalis currently serves as Vice President of the 'Kokkalis Foundation', a non-profit organization whose mission is the promotion of a peaceful, democratic and prosperous Southeastern Europe, President of 'Athens Information Technology,' a non-profit academic and research institution, sits on the board of 'Athens Tech,' a technology, innovation and entrepreneurship private College, and is a member of the Endeavor Senior Advisors' network.

In the past, he has served as Vice-President of Intracom Holdings, one of the largest multinational technology groups in South-Eastern Europe, Vice-President of Intralot S.A., a gaming technology supplier and lottery licensed operator, and Vice-President of the Greek football club Olympiacos CFP from 1995 to 2008.



JOÃO AGUIAR MACHADO
Director-General for Maritime Affairs and Fisheries, European Commission

J. Aguiar Machado is in charge of implementing the new Common Fisheries Policy and to secure sustainable fisheries, a stable supply of seafood for EU market and also prosperous coastal communities. As the DG in charge of Maritime Policy, his mission is also to promote an integrated approach to all maritime policies. Before taking his current position, he was Director-General at the European

Affairs and Fisheries, and from 2012 to 2014 as Transport Counselor in the Delegation of the European Union to the USA. Before that, he worked as a member of the private office of European Commission Vice-President Siim Kallas, responsible for transport, after having been Assistant to the Director General for Mobility and Transport since 2010. He holds a law degree and a PhD from the University of Freiburg i.Br., Germany, following studies in Freiburg, Germany, and Padova, Italy.

Commission's Directorate-General for Mobility and Transport. Previously Mr. Aguiar Machado worked mostly on trade matters and international relations, namely as Deputy Director-General for Trade and Deputy Director-General for External Relations. Mr. Aguiar Machado studied economics in Lisbon and Bruges.



BORIS MANNHARDT
CEO, Biocom AG

He joined BIOCOM in 2007 and established the (business) communication services unit in the company. Previously he spent more than six years in seed and start-up financing of biotechnology companies. He has advised national and regional ministries in the areas of Life Sciences for more

than ten years and planned and managed numerous projects concerning bioeconomy. Boris holds a degree in molecular biology and did his PhD thesis at the German Cancer Research Center.



NIALL MCDONOUGH
Executive Secretary, European Marine Board

Dr. Niall McDonough is Head of the European Marine Board (EMB), Europe's foremost marine science policy think-tank, representing 35 national marine science organizations from 18 countries. EMB delivers strategic advice on seas and ocean research priorities to European and national research funding agencies and policymakers. Niall originally trained as a marine biologist with research interests in aquaculture, fisheries and marine resource management. He has previously held mana-

gement roles with the Environmental Change Institute at NUI Galway, and the Centre for Marine Resources and Mariculture at Queen's University Belfast, attracting significant research funding to both centres and coordinating a number of national and international research projects. Niall sits on a number of international advisory boards and panels including the Strategic Advisory Board of the Joint Programming Initiative on Healthy and Productive Seas and Oceans (JPI Oceans).



CARLOS MOEDAS
Commissioner for Research, Science and Innovation, European Commission

Carlos Moedas has been Commissioner for Research, Innovation and Science since 2014. Prior to that, Mr Moedas has worked as Secretary of State to the Prime Minister of Portugal from 2011 until 2014 and Member of the Portuguese Parliament in 2011. From 2010 until 2011 he worked as Senior Economic Advisor of the Portuguese Social Democratic Party (PSD). In 2008 he founded the Crimson Investment Management and worked as Managing Director and Member of the Executive Committee Board of Aguirre Newman from 2004

until 2008. From 2002 until 2004 he worked as Consultant on mergers and acquisitions, Deutsche Bank and Eurohypo Investment Bank and he was Investment Banking Associate at Goldman Sachs from 2000 until 2002. From 1993 until 1998 he worked as Engineer and Project Manager at Suez Group.

Mr Moedas is of Portuguese Nationality. He earned a Degree in civil engineering at the Instituto Superior Técnico de Lisboa, Portugal, and an MBA at the Harvard Business School, US.



TOULA ONOUFRIOU
Professor of Infrastructure Reliability and Management, Cyprus University of Technology

Carlos Moedas has been Commissioner for Research, Innovation and Science since 2014.

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NOELIA ORTEGA
CEO, CTN Innovative Solutions

Master in information Technologies (UPCT, 2.006) B. Eng. Electronics and automation engineer (UPCT, 2.001) and B. Eng. Industrial (UCLM, 1.999). She has more than 15 years of experience in executive management (Advanced Management Degree- IE Business School, 2.012) and in particular in the start-up of technological initiatives in the marine and maritime sectors. At present, she is CEO at Centro Tecnológico Naval y del Mar (CTN), a private non-profit association to support maritime companies and organizations in their R&D initiatives. At her role in CTN she has been involved in the foundation of two maritime clus-

ters being member of their Board of Directors: the National Spanish Maritime Cluster- CME and the Murcia Region Cluster- NYM .

She has a wide experience in International Technological Cooperation Projects and Programs: project coordinator of MEDGuard (GoS), exploitation manager of Lincoln (BG-2016), researcher of NEXOS(Ocean of Tomorrow 2012) among others. She is used to collaborate with academic environments in different specialization areas, as well as with public and private stakeholders for delivering results to create differentiation and growth.



JAMAL OUAZZANI
Research Director, ICSN

Dr. Jamal Ouazzani completed his PhD in applied microbiology in 1988 from Paris XI University, France and obtained a permanent research position at the Centre National de Recherche Scientifique (CNRS) in 1989. Since 2002, he has acted as Research Director at the CNRS Institut de Chimie Des Substances Naturelles (ICSN) and has headed the ICSN Pilot Unit. He has engaged in diverse consulting activities

since 1996, for environmental, cosmetic and pharmaceutical companies and is a leading expert in the field of bioremediation. He has published more than 59 publications in peer-reviewed journals, has obtained eleven patents and has benefited from European Commission grants in the context of four collaborative projects, including coordinating the project TASCAR.



MYRON PECK
Project Coordinator, Institute of Hydrobiology and Fisheries Science, University of Hamburg

He is the project coordinator of the Blue Growth project CERES (Climate Change and European Marine Resources – 2016-2020) focusing on EU Fisheries and Aquaculture industries. He has been involved as a task leader in 5 previous EU projects (VECTORS, FACTS, ECODRIVE, UNCOVER, RECLAIM). He received his PhD in Biological Oceanography from the Graduate School of Oceanography, University of Rhode Island (2002). His research group utilizes field surveys, laboratory experiments and model simulations to explore how climate change and other factors impact on the growth and survival of marine animals. His research integrates ecophysiological measurements and biophysical modelling to help gain a cause-and-effect understanding of how environmental drivers affect species and food webs with emphasis on marine fish. His research attempts to

provide robust, science-based advice for marine policy and ecosystem management. He is the Coordinating Editor-in-Chief of the journal Marine Ecology Progress Series and co-chair of the ICES-PICES Strategic Initiative on Climate Change Impacts on Marine Ecosystems (SICCME). He is the former President of the American Fisheries Society - Early Life History Section and former chair of the ICES working group on Integrative, Physical-biological and Ecosystem Modelling (WGIPEM). He has published >100 peer-reviewed studies, contributed to 4 books on fish early life stages and climate effects and has provided invited keynote addresses at 6 international symposia on climate, fish and fisheries.



FIONA REGAN
Professor of Chemical Sciences, Dublin City University

Fiona Regan, is Professor in Chemical Sciences at DCU and is Director of the DCU Water Institute. She completed her PhD in analytical chemistry in 1994, and postdoctoral research in optical sensing in 1996 at DCU. Fiona took up a position at Limerick Institute of Technology as lecturer in Environmental and Analytical Science in 1996. In 2002 Fiona returned to the School of Chemical Sciences, DCU, as a lecturer in analytical chemistry, in 2008 she became senior lecturer and in 2009 became the Beaufort Principle Investigator in Marine and Environmental Sensing. She

established the Marine and Environmental Sensing Technology Hub (MESTECH), DCU in 2010. As Director of MESTECH she also coordinates the Marine ICT SmartBay research activities under PRTL V, leading the National Infrastructure Access Programme (NIAP). Fiona has mentored >20 PhD and MSc students and has published > 100 papers, book chapters, proceedings etc. She currently manages a group of 8 researchers in areas of sensing and materials for environmental monitoring.



MARTINA M.P. ROSSI
Cluster Manager, Maritime Technology Cluster FVG

Since 2015 appointed Cluster Manager in charge of the general management of the activities of the cluster, directly reporting to the CEO. After the technical education in the Yacht Design field in 2009, she gained 5 – year experience in project management within technology clusters management organizations in the maritime technology field. Her experiences are related to the management of regional

(ERDF funded projects), national and international cooperative projects (MED Programme) for the Cluster, before as Assistant project manager and since 2013 as Project Manager, and to the coordination of the National Waterborne Working Group of the Italian National Technology Cluster for surface mobility.



WERNER SCHMIDT
Director, Environment & Sustainable Territorial Development, European Investment Bank

Werner Schmidt has been working on project, policy and sector advisory work for more than 25 years. He joined the European Investment Bank in 1996 in the Bank's Project Directorate, where he was in charge of the appraisal and monitoring of projects in the agribusiness, fisheries and forestry sector.

ment within the Projects Directorate. The Department is in charge of the techno-economic appraisal of investment projects in the following sectors: a) water management b) agribusiness and rural development, c) regional development and d) urban development.

From 2005 to 2011, he was team leader in Operations Evaluation of the EIB Group. From 2011 to 2015, Werner was in charge of the Quality Management/Coordination Division within the Projects Directorate.

Prior to joining the EIB in 1996, Werner worked inter alia for the World Bank, the European Commission and the German bilateral technical assistance organization in Albania, Pakistan, Russia, Caucasus and Central Asia. Werner studied is an agricultural engineer and economist, who did his studies in Kiel and Weihenstephan, Germany.

On 1. March 2015, he became the Director of the Environmental and Sustainable Territorial Development Depart-



OLAF SCHOLZ
First Mayor and President of the Senate of the Free and Hanseatic City of Hamburg

Olaf Scholz was born in Osnabrück in 1958 and graduated from the Hamburg University with a degree in law. In 1975 he joined the Social Democratic Party (SPD) where he has held several senior positions including Deputy Chairman of the party's youth organization and Secretary General of the party (2002-2004). Currently he is Vice Chairman of the German SPD and Chairman of the Hamburg SPD. He was

Member of the German Bundestag (1998-2001, 2002-2011) holding senior positions in the SPD parliamentary group and Federal Minister of Labour and Social Affairs (2007-2009). In 2001 he served as Hamburg's Minister of the Interior. Since 2011 Olaf Scholz is the First Mayor and President of the Senate of the Free and Hanseatic City of Hamburg.



SIGRÚN ELSA SMARADOTTIR
Head of Industry Solutions and Consulting, Matis

Sigrún Elsa (MBA) is Head of Industry Solutions and Consulting at MATIS, Icelandic Food and Biotech R&D. Her focus is mainly on strategy and policy projects, business development, and industry oriented innovation projects in the field of Bioeconomy with the aim to further the impact of research. Sigrún led the Nordic project "Future Opportunities for Bioeconomy in the West Nordic Countries". She is currently heading the Nordic projects "Arctic Bioeconomy-II" and "Innovation in the Nordic Bioeconomy" which is

the innovation part of "NordBio" the Icelandic presidency program in the Nordic Council of Ministers 2014-2016. Sigrún Elsa also chairs the West Nordic Bioeconomy Panel and coordinates the work of the minister appointed committee delivering a Bioeconomy strategy for Iceland. Further Sigrún Elsa is a member of the international advisory Committee of the Global Bioeconomy Summit, the Nordic Marine Think Tank and heads the organising committee of the World Seafood Conference 2017.



MARGHERITA SOSIO
Microbiology Director at Naicons Srl

Margherita Sosio, is currently Microbiology Director at Naicons Srl, Italy. She has worked for over 20 years on antibiotics and antibiotic producing strains, contributing to novel antibiotic production processes, assay development

for antibiotic discovery, isolation of novel taxa of antibiotic producers and actinomycete genomics. She is the author of over 60 publications and patent applications in the field of antibiotics.



BJÖRN SUCKOW
Team Leader, Water, Aquaculture, Maritime Environment Protection

Björn Suckow is the team leader of the group "Water, Aquaculture, Maritime Environment Protection" at ttz Bremerhaven, an independent, non-profit research provider for SMEs and the industry. He also wrote and coordinates the FP7-funded project "EnviGuard - Development of a biosensor technology for environmental monitoring and disease prevention in aquaculture ensuring food safety". He is also working on the H2020-funded project "PrimeFish" to strengthen the competitiveness of European seafood pro-

ducers and is the head of the German innovation network "Wasser und Technik" (Water and Technology). Until 2014 Björn has been a project manager at ttz Bremerhaven mainly dealing with and working in aquaculture and ballast water projects. He studied Marine Environmental Sciences at the University of Oldenburg, Germany and spent a year at the faculty of Marine Science at the University of Las Palmas de Gran Canaria, Spain.



Projects



JORGE TEMIDO
Chief Process and Innovation
Officer, BuggyPower

Jorge Temido is BuggyPower's Chief Process and Innovation Officer (CPIO), following his previous activity as R&D Project Manager in this company. With a PhD in Civil Engineering – Hydraulics, Water Resources and Environment and prior a degree of Graduate Civil Engineer, both from University of Coimbra, Mr. Temido's main expertise is in design engineering (PE) and his technical experience is in planning, design, and operation of urban and industrial water and wastewater systems. He was also Executive President of Águas de Coimbra – E.E.M., a Portuguese national public company of Water Supply, Wastewater and Stormwater Management. With a Master in Business Administration from University of Coimbra, Mr. Temido gained his management experience being an entrepreneur, founder and partner of two successful startups, an engineering firm specialized in design and operation of water and wastewater systems and a com-

pany acting in telemetry applications and M2M solutions for the Oil&Gas market and environmental services, today listed on NYSE Alternext.

Mr. Temido interest in environmental sustainability, innovation and business strategy led him to hold positions as R&D manager, Board Adviser, and Consultant at several leading companies in Water, Food, and IT sectors.

Through all his professional career, Mr. Temido kept his activity as Professor of Water and Wastewater Engineering at the Department of Civil and Environmental Engineering of University of Coimbra for more than 25 years, and as Professor of Management and Entrepreneurship at University School of Real Estate Activities in Lisbon for the late 5 years, ceasing his academic activity last year to embrace this challenge at BuggyPower.



TORSTEN THIELE
Founder, Global Ocean Trust

Torsten Thiele is the Founder of Global Ocean Trust, a not-for-profit promoting ocean solutions through technology, finance and innovation. An expert on ocean governance, he consults widely with public, private and civil society institutions. Torsten Thiele acted as IUCN observer at the recent United Nations preparatory committee meetings for a new High Seas Biodiversity Agreement and sits on the science and stakeholder board of the EU-funded SenseOcean project. He is presently a Visiting Fellow at the LSE Institute of Global Affairs.

For many years Torsten Thiele worked at leading financial institutions in London, where he was involved in structuring infrastructure project debt facilities and undertaking telecommunications and technology equity investments, including in subsea cables.

Torsten Thiele holds graduate degrees in law and economics from Bonn University, an MPA from the Harvard Kennedy School and an MPhil in Conservation Leadership from the University of Cambridge.



FRANCIS VALLAT
Chairman, European Network
of Maritime Clusters

Francis Vallat graduated in economy, law and literature. A reputable oil tanker shipowner for 32 years (he publicly requested in 1990 that the Authorities declare war to "rustbucketships") he also chaired the "Institut Français de la Mer" during 10 years. In 2005 he created the "Cluster Maritime Français" CMF (gathering to date over 400 maritime companies and professional federations, which he chaired till 2015), and co-created the "European Network of Maritime Clusters" (gathering to date the national maritime clusters of 18 countries) which he is currently chairing.

Finally he chairs Euromaritime, the periodical European Business Show on Maritime Economy.

A long lasting fighter for quality shipping and maritime safety, Francis Vallat has been representing France at the "European Maritime Safety Agency from 2002" till beginning 2012. (he chaired the Agency in 2005, and has been vice-chairman of the Board from 2002 to 2008).

He is a member of the French "Académie de Marine" and (reserve) Navy Captain



KARMENU VELLA
Commissioner for
Environment, Maritime Affairs and
Fisheries, European Commission

In 1976 Karmenu Vella was elected to parliament. He continued to be elected in the nine consecutive elections that followed. In 1981 he was appointed as minister for public works, and in 1984 he was appointed as minister for industry. He served as minister for tourism in 1996-98, and was again appointed as minister for tourism in March 2013.

In 1973 he started his own private practice as an architect and civil engineer. In that year he was also appointed director of Mid-Med Bank, and in 1974 he became managing director of the Libyan Maltese Holding Company. In 2001 he was appointed executive chairman of Corinthia Hotels International.

In 2009 and 2010 he served as executive chairman of the Mediterranean Construction. In 2010 he was also appointed chairman of Orange Travel Group; a foundation member of Vodafone Malta Foundation; and board director of Betfair Group. He was also the founding chairman of the Maltese-Turkish Business Council.

He graduated with a degree in architecture and civil engineering from the University of Malta and later obtained his master of science in tourism management from Sheffield Hallam University.



MARTIN VISBECK
Head of GEOMAR
Helmholtz Centre for Ocean
Research, Kiel University

Martin Visbeck is professor at Kiel University and head of the research unit "Physical Oceanography" at GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany since 2004. After receiving his PhD from Kiel University in 1993, he worked as associate researcher and professor at Massachusetts Institute of Technology, Lamont-Doherty Earth Observatory and Columbia University. He was awarded the Storke-Doherty Lectureship in 1997 and tenure by Columbia University in 2003.

Research interests of Martin Visbeck and his group revolve around the ocean's role in the climate system. They maintain direct current measurements to document the variability and change of North Atlantic Deep Water formation and examine ocean mixing with a focus on the dynamics of oxygen minimum zones. To this end, they make use of research vessel based expeditions and are increasingly using and advancing robotic platforms, including profiling floats and gliders.

Martin Visbeck's interest in the development of integrated ocean observatories led to the launch of a large-scale EU project "AtlantOS" in 2015, setting out to coordinate the in-situ observations of the Atlantic Ocean with the participation of European and international partners. As the speaker of the German excellence initiative 'The Future Ocean', he is involved in integrated marine sciences bringing together different disciplines. Recently, he is engaged in the sustainable development of the ocean.

Through his participation in several national and international advisory committees (WCRP, UN-SDSN, ICSU, German Future Earth), Martin Visbeck is involved in strategic planning and decision-making processes about the ocean. In acknowledgement of his contributions to ocean sciences, Martin Visbeck has been elected as a fellow of American Geophysical Union and a member of the European Academy of Sciences in 2015.



ARRAINA Project

Half of our seafood supply comes from aquaculture. When it comes to cultured fish, traditionally, the feeds used for rearing them have been based highly on fishmeal and fish oil derived from capture fisheries. However, there is increasing pressure on this raw material due to growing demands from a variety of users including the expanding aquaculture sector and the human health market (e.g. fish oil food supplements). Hence the sustainability and competitiveness of aquaculture may depend on the replacement of fishmeal and fish oil with alternative ingredients such as plant-based feeds. The FP7 project, ARRAINA has been responding to this need by measuring the long-term effects these changes in diet will have on the full life cycle of fish for which presently little is known.

By developing applied tools and solutions of technological interest to the European fish Feed industry, in collaborations with SMEs, ARRAINA will further strengthen the links between the scientific community and the EU feed industry and will contribute to increase the productivity and performance of the aquaculture sector leading to competitive advantage of the whole sector at a global level.

For general information on the project, the project factsheet can be downloaded from the ARRAINA website, www.arraina.eu. Or contact the ARRAINA Project Coordinator, Sadasivam Kaushik.



BLUE GROWTH INITIATIVE Project

The Blue Growth initiative is a business idea competition and acceleration programme for innovative startups, aiming to inspire young entrepreneurs, stimulate the local maritime economy, and educate on sustainable business practices. Our impact is to create disruption in the maritime sector which can introduce promising business opportunities, create new jobs, and transform traditional processes into more productive and sustainable activities.

Our goal is to support great ideas and get them through the tough early stages, so that entrepreneurs can transform their dreams into good business with a positive economic, environmental, and social impact (3BL). The program provides to the participating teams with business and sustainability training that will enable them to create scalable businesses and eventually enter the market as change-agents towards a sustainable business model supporting at the same time the global goals of UN.

<http://bluegrowth.gr>

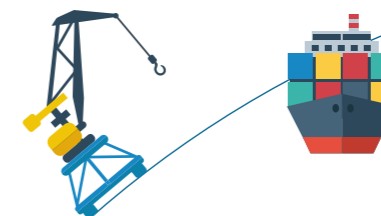


CERES Project

The EU-funded project CERES (ceresproject.eu) brings together 26 partners from 17 European countries (including 7 industry representatives) to advance a cause-and-effect understanding of how climate change will influence Europe's most important fish and shellfish populations and fisheries and aquaculture activities. CERES closely cooperates with industry and policy stakeholders to define climate change scenarios to be tested. This four-year project will:

1. Provide region-specific forecasts of future changes in European marine and freshwater ecosystems;
2. Project changes in the distribution and productivity of wild and cultured animals and 'scale up' to consequences for shellfish and fish populations as well as their economic sectors;
3. Assist in the adaptation of aquaculture and fisheries sectors to these biophysical changes by developing new operating procedures, early warning methods, infrastructures, location choice, and markets;
4. Assess relative exposure, sensitivity, vulnerability and adaptive capacity of European aquaculture and fisheries sectors to climate change;
5. Consider market-level responses to changes (both positive and negative) in commodity availability;
6. Assess risks based on drivers of change, threats to fishery and aquaculture resources, barriers to adaptation and likely consequences if mitigation measures are not put in place;
7. Formulate viable adaptation strategies within the industries to circumvent/prevent perceived risks or to access future opportunities;
8. Formulate policy guidelines and highlight where established governance structures may hinder successful adaptation to long-term climate change.

<http://www.biologie.uni-hamburg.de/de/ihf.html>



COLUMBUS Project

The COLUMBUS project intends to capitalise on the European Commission's significant investment in marine and maritime research by ensuring accessibility and uptake of research Knowledge Outputs by end-users: policy, industry, science and wider society. COLUMBUS will ensure measurable value creation from research investments contributing to sustainable Blue Growth within the timeframe of the project.

The core element of COLUMBUS's approach is to operate a network of nine Competence Nodes across Europe, consisting of Knowledge Fellows with a support team, who together cover all of Europe's sea basins and their marine and maritime activities.

COLUMBUS' established "Knowledge Fellowship" carries out Knowledge Transfer using a methodology based on the needs prioritised early in the project; specifically, to accelerate and strengthen the adoption of discovered research knowledge that will impact on society and our daily lives. Working together as a team and active network, this combined critical mass provides a multiplier effect to help achieve measurable impacts and to develop a blueprint for future activities in this field of work, ultimately contributing to the development of a thriving and sustainable marine and maritime economy. These Knowledge Fellows work across nine Competence Nodes, each with a specific focus area: Aquaculture; Fisheries; Monitoring & Observation; Marine Biological Resources; Maritime Transport & Logistics; Marine Physical Resources; Maritime Tourism; Marine Governance & Management; and Marine Environment & Futures.



ENVIGUARD Project

The objective of the EnviGuard project is to develop a highly specific and precise in situ sensor system for currently hard to measure man-made chemical contaminants and biohazards (toxic microalgae, viruses & bacteria, biotoxins & PCBs) that can be used as an early warning system in aquaculture and as an environmental monitor. The modular system will consist of three different sensor modules (microalgae/pathogens/ toxins & chemicals) integrated into a single device, which saves, displays and sends the collected data real time to a server. EnviGuard will be able to accomplish this in real-time for a period of at least one week without maintenance in an offshore, marine surrounding. Users of EnviGuard can access their data online any time they need to.

In order to achieve EnviGuard's goals, the latest findings of nanotechnologies, genomics, molecular science, bio-receptors as well as material science and information technology are combined. Molecular probes, aptamers and antibodies are being used to detect the desired targets. The signaling works electrochemically and through optical label-free responses based on changes in reflectivity of nanostructured surfaces.

EnviGuard will put the participants at the forefront of quickly developing markets. In addition, arrays of biosensors could become critical to understand and predict the propagation of pathogens and toxins, which could bring valuable information for aquaculture planning, site selection and biosecurity control.



KILL*SPILL Project

"Integrated Biotechnological Solutions for Combating Marine Oil Spills"

The development of bio-based products & technologies to detect, monitor and detoxify marine oil spills in an eco-friendly way. Management; and Marine Environment & Futures.

Oil spills releasing petroleum hydrocarbons into the marine environment can be cleaned up in several ways. These include sponge-like sorbents that absorb oil, dispersants that disperse oil into tiny droplets and microorganisms that biologically degrade oil by consuming it as an energy and carbon source. The latter process is known as biodegradation or bioremediation. The EU-funded project KILL*SPILL aims to find such viable solutions to oil spills using both established and novel methods.

First response actions following an oil spill include dispersion of oil or containment (by booms) and recovery by skimmers. On the other hand, KILL*SPILL products are intended for longer-term actions across a range of conditions. Researchers have thus far advanced novel hydrocarbon-detecting biosensors that monitor the efficiency of oil-degrading bacterial communities, and development of bioremediation agents (biosurfactants for bio-based dispersants, microbial-chemical combinations for integrated bioremediation agents).

They have also isolated bacterial strains from marine, terrestrial and industrial environments to study their oil-degrading capabilities. Systems in development include bacteria adapted to the high pressures of deep-sea environment (in high pressure bioreactors), oil-degrading microorganisms with high tolerance to environmental stresses, and microbes that degrade oil in ocean floor sediments under anaerobic or aerobic conditions.

KILL*SPILL's versatile range of tools covers gaps in current approaches to cleaning up oil spill disasters. Furthermore, novel technologies have been developed for long term remediation of contaminated sediments as well as ex situ technologies for beach sand contaminated with spilled oil.

Acknowledgement: The KILL*SPILL project has received funding from the European Union's FP7 research and innovation programme under grant agreement No 312139

www.killspill.eu



MARIBE Project

MARIBE is a Horizon2020 project that aims to unlock the potential of multi-use of space in the Blue Economy. This forms part of the long-term Blue Growth (BG) strategy to support sustainable growth in the marine and maritime sectors as a whole which is at the heart of the Integrated Maritime Policy, the EU Innovation Union, and the Europe 2020 strategy for smart, sustainable growth.

MARIBE promotes smarter and more sustainable use of the sea through multi-use of space (MUS). It has investigated the potential of combining the activities of different maritime sectors in the same place or on a multi-use platform (MUP) to make more efficient use of space & resources. MARIBE focuses on new & emerging industries (Blue Growth industries) that can benefit from this cooperation and the synergies that arise.

Engagement with industry is at the core of MARIBE's approach and it has engaged companies to develop 9 MUS and MUP projects. The consortium has used its diverse expertise to act as a business incubator' for these projects fostering the entrepreneurship & innovation of the companies involved. It has assisted in the creation of business plans and financial projections for each project that are essential for securing investment. MARIBE has devised standard financial Excel templates for each project to populate. These standard excels create comparable case studies that the consortium is now analysing to draw out key learnings about the feasibility of multi-use of space. Based on the outcomes, it will make strategic recommendations to the European Commission on how future funding should be assigned to promote MUS in Blue Growth.



NOMORFILM Project

Novel marine biomolecules against biofilm - Application to medical devices

Microalgae are a source of secondary metabolites useful as new bioactive compounds. Activity of these compounds against bacterial pathogens and biofilm formation has not been determined yet. Biofilm formation is especially important in infections and tissue inflammation related to implants and catheters. These problems finally cause a release of the implant, which must be removed and replaced by a new one, entailing an increase in antibiotic consumption, together with a health costs of about 50,000-90,000 € per infection episode.

Taking both problems in account, the search of new antimicrobial agents that will be effective against the bacteria in their two ways of life, planktonic and biofilm stage, is a priority need in the clinical practice.

For this reason, the overall objective of NOMORFILM project is to search for antibiofilm compounds isolated from microalgae that will be useful in the treatment of this kind of infections and could be incorporated in the manufacturing of medical prosthetic devices.



PHARMASEA Project

Bacterial pathogens that are unaffected by antibiotics are a horror of modern medicine. An increasing number of microbes are developing resistance to standard drugs, and with this, the previously trusted medical weapons are losing their edge. The EU-funded project PharmaSea develops and commercialises bioactive compounds from marine organisms, and evaluates their potential as novel drug leads. The project brings researchers to some of the deepest, coldest and hottest places on the planet. By choosing deep and cold marine environments, PharmaSea hopes to tap into novel diversity not seen before. Deep trenches are islands of diversity in which evolution may have progressed differently and the chemistry of microorganisms from deep trenches shows high novelty. Within the project, around 100,000 tests have already been carried out. The goal is to identify two compounds that can be produced at a larger scale and selected for pre-clinical trials. So far, the most promising findings are compounds that could help against diseases of the nervous system, especially epilepsy and Alzheimer's disease. PharmaSea is coordinated by the University of Leuven, Belgium and the Marine Biodiscovery Centre at the University of Aberdeen, United Kingdom. The collaborative projects build upon a highly interdisciplinary consortium of more than 20 partners from 13 countries from industry, academia and non-profit organisations, and brings together researchers from the areas of marine genomics, biosynthesis and chemical structure analysis as well as legal experts.

<http://pharma-sea.eu>



SEA-ON-A-CHIP Project

SEA-on-a-CHIP aims to develop a miniaturized, autonomous, remote and flexible immuno-sensor platform based on a fully integrated array of micro/nano-electrodes and a microfluidic system in a lab-on-a-chip configuration combined with electrochemical detection for real time analysis of marine waters in multi-stressor conditions.



TASCMAR Project

TASCMAR aims to respond to a key challenge set by the EU 'Blue Growth' strategy : the sustainable exploitation of marine compounds. The project is also addressing a public health priority in Europe and worldwide: disorders and diseases related to ageing.

TASCMAR is a European Commission funded project aspiring to develop new tools and strategies to overcome existing bottlenecks in the discovery and industrial exploitation of marine-derived biomolecules (secondary metabolites and enzymes) with applications in the pharmaceutical, nutraceutical and cosmeceutical industries. Exploitation of neglected and underutilised marine invertebrates and symbionts from the mesophotic zone will be combined with innovative approaches for the cultivation and extraction of marine organisms, from lab to pilot-scale, including the construction of new biotechnological equipment. This approach will ensure the sustainable supply of biomass while promoting the production of high added value bioactive marine compounds. State-of-the-art analytical instrumentation and in-house databases will be employed for the dereplication and characterisation of valuable compounds and a focused panel of in-vitro, cell-based, in-ovo and in-vivo bioassays, for discovering metabolites with anti-ageing and/or angiogenesis modulating activity, will guide the project's workflow to reveal the lead compounds. In addition, the catalytic potential of mesophotic symbionts and deriving enzyme candidates will be evaluated in the fine chemicals and bioremediation industries. TASCMAR will be continuously evaluated for its socioeconomic and environmental impact in order to balance industrial development and sustainable growth. The project also aims to develop higher standards for bioprospecting in areas of rich marine biodiversity.

www.tascmar.eu

