



ALL-ATLANTIC OCEAN RESEARCH ALLIANCE

Creating an Atlantic Ocean Community by Implementing
the Galway and Belém Statements

AA-BIOTECMAR Report: All-Atlantic Aquaculture and Marine Biotechnology Startup Accelerator Workshop



**BUILDING AN ALL ATLANTIC
OCEAN COMMUNITY**
Implementing the Belém Statement



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JOINT PILOT ACTIONS

ALL-ATLANTIC JOINT PILOT ACTIONS

Following a year-long collaborative process among more than 70 stakeholders at the Atlantic level, the All-Atlantic Ocean Research Alliance Multi-Stakeholder Platform, divided into 5 sub-multi-stakeholders platforms, identified more than 1000 initiatives towards strengthening marine research and innovation collaboration at the Atlantic level, 56 gaps and 79 needs/recommendations to achieve the All-Atlantic Ocean Research Alliance ambition, guided by a total of 20 Strategic Objectives, 20 Operational Objectives, and 10 Key Performance Indicators.

Based on these findings and on the idea of collaboration, alignment, and use of existing resources, they have developed six ambitious and long-term collaborative Joint Pilot Actions:

- [All-Atlantic Training Platform \(AA-TP\)](#)
- [All-Atlantic Aquaculture Technology and Innovation Platform \(AA-ATiP\)](#)
- [All-Atlantic Marine Biotechnology Initiative \(AA-BIOTECMAR\)](#)
- [All-Atlantic Data Enterprise 2030 \(AA-DATA2030\)](#)
- [All-Atlantic Blue Schools Network \(AA-BSN\)](#)
- [All-Atlantic Marine Research Infrastructure Network \(AA-MARINET\)](#)

This report is developed by the **All-Atlantic Marine Biotechnology Initiative (AA-BIOTECMAR)** Joint Pilot Action, that is a collective effort to support the development of new and emerging technologies intended to improve human health, encouraging the sustainable use of marine resources through marine biotechnology and advanced technologies in aquaculture, food production, fisheries management, and environmental monitoring. AA-BIOTECMAR is promoting collaboration among countries of the Belém and Galway statements through workshops and technical visits, identify best methodologies for technology transfer, promote outreach and engage ocean leaders to support the blue growth.

This report is a deliverable in scope of JPA AA-BIOTECMAR, Task 3. Start-up accelerator workshop and Task 4. BIOTECMAR + EATIP workshop. The Start-up accelerator workshop aimed to leverage new start-ups and innovation in marine biotechnology, as well new projects, and services in the fields of marine biotechnology, including novel biomolecules with biological activities, renewable energy, aquaculture, environmental monitoring, maritime activities, information and technology. Task 3. will be pivotal to leverage new international opportunities, investors, investments, and services from various international sources into marine biotechnology and bioeconomy. The BIOTECMAR + EATIP workshop will be a joint workshop between AA-BIOTECMAR and AA-ATiP, bringing together experts in the field of marine biotechnology and innovation to draft possible plans for the future.





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SUMMARY

Summary

The AA-BIOTECMAR Workshops: Aquaculture and Marine Biotech & Aquaculture and Marine Biotech Start-Up Accelerator, were collaborative events for experts, researchers, and stakeholders in the marine biotechnology field. The main goal of the Aquaculture and Marine Biotech workshop was to have an overview of major aquaculture and biotech projects (microbiome research and blue economy) ongoing among Atlantic partners, while the main goal of the Aquaculture and Marine Biotech Start-Up Accelerator workshop was to foster new businesses, new start-ups, collaboration, and exchange of knowledge concerning the development of start-ups and innovative companies in the aquaculture and marine biotechnology sectors, in line with the AANChOR project's broader mission of fostering research partnerships across the Atlantic. During the events, many new opportunities of bi-lateral and multi-lateral cooperation were put on the table as the beginning of a new and fruitful network of collaboration between experts and researchers in the marine biotechnology field.





1. Aquaculture and Marine Biotech Workshop

a. Introduction

The third AA-BIOTECMAR Workshop - Aquaculture and Marine Biotech Workshop - was organized by the Federal University of Rio de Janeiro (UFRJ), and held on June 27th, 2022. Due to the ongoing COVID-19 global pandemic, the workshop occurred online in a videoconference platform.

The main goal of the workshop was to have an overview of major aquaculture and biotech projects ongoing among Atlantic partners, and to foster collaboration and exchange of knowledge aimed at the development of research on marine biotechnology sectors. The event had 123 participants and the contribution of 7 invited speakers.

The workshop started with the opening remarks from four researchers: Professor Fabiano Thompson opened the event, followed by David Bassett, who is the General Secretary of the EATiP - European Aquaculture Technology & Innovation Platform. Then, Wagner Valenti from Universidade Estadual Paulista (UNESP) spoke about aquaculture projects in Brazil, including the Horizon2020 funded EATIP. Next, Kelly Goodwin from the National Oceanic and Atmospheric Administration (NOAA) introduced the AORA-Marine Microbiome Working Group and Forum (<https://www.marinemicrobiome.org/>).

There were various presentations through which the speakers imparted important information and status about aquaculture and microbiomes. The blue economy was also discussed at length.

The first was Wilson Wasielesky (Federal University of Rio Grande, Southern Brazil) who is part of a group that has been developing technology to grow shrimp in BioFlux systems. This project increased the production from 1 Ton per year (80's year) to 90000 Ton per year (today). Next speaker was Ingeborg Korme, part of JPI Oceans secretariat and the project Blue Bioeconomy (BlueBio ERA-Net Cofund). JPI is a pan-European, inter-governmental platform aiming to increase efficiency and it incorporates 30 partners from 17 countries with the goal to fund projects related to blue bioeconomy. Then Pedro Pousão presented about EPPO - Aquaculture research station of Olhão. Their objective is to join synergies between research, academics, and industries to foster aquaculture's development. Thereafter, Vernon Coyne, described the work done from the University of South Africa, in Cape Town, and the experiences with the production, analysis and studies of abalone, making use of fish immune genes themselves and produce probiotics. Afterwards, Newton Marcial Gomes, researcher at Centre of Environmental and Marine Studies at the University of Aveiro (CESAM-UA), talked about aquaculture microbiome and entrepreneurship and new technologies related to microbiome. Then, Felipe Landuci discussed aquaculture in Rio de Janeiro state, its current scenario and future prospects. Dr. Felipe Landuci is a researcher/aquaculture coordinator at Fundação Instituto de Pesca do Estado do Rio de Janeiro – Rio de Janeiro Fisheries Institute. He first talked about the setting and state of Rio de Janeiro and discussed various products and their opportunities versus their challenges. Lastly, Helena Vieira discussed the blue economy in Portugal, where it is now, what is



happening and its future. She also talked about the industry break up for Portugal. Table 1 shows the invited speakers, their country and their presentation topic.

Speaker	Country	Presentation topic
Wilson Wasielesky Jr	Brazil	Shrimp production method that allowed to increase productivity
Ingeborg Korme	Belgium	JPI's Oceans and the project Blue Bioeconomy (BlueBio ERA-Net Cofund)
Pedro Pousão	Portugal	Company and collaborative laboratory active in the aquaculture sector
Vernon Coyne	South Africa	University of South Africa, in Cape Town, and the experience with abalone
Newton Gomes	Portugal	Aquaculture microbiome and entrepreneurship in CESAM (Centro de Estudos do Ambiente e do Mar) from the University of Aveiro
Felipe Landuci	Brazil	Aquaculture in Rio de Janeiro: current scenario and future prospects
Helena Vieira	Portugal	Blue economy: where it is going and what needs to be done

Table 1: Speakers of the AA-BIOTECMAR Workshop – Aquaculture and Marine Biotech, held on June 27, 2022

b. Presentations

There were various presentations through which the speakers imparted important information and status about aquaculture and microbiomes. The blue economy topic was also discussed at length.

Starting with Professor Wilson Wasielesky from the Federal University of Rio Grande, Southern Brazil. He is part of a group that has been developing technology to grow shrimp in BioFlux systems. In the 80's the Brazilian production was in low stocking densities (300 kg to 1 Ton per hectare per harvest), in the 90's raised from 1 Ton to 2 Ton per hectare per harvest. From 1997 to 2003 increased the production from 3000 Ton per year to 90000 Ton per year. However, there were some problems at the start of the century as the production started to decrease due to various viral diseases. The production team started looking for solutions. After working in partnership with Waddell Mariculture Center (the Marine Resources Research Institute - MRRI), in the United States of America to find solutions for environmentally sustainable cultures for shrimp production, they started to think about developing a specific technology for Brazil. After 10 years of work, they began to focus on the process of transferring technology from the University to the shrimp farms. They started to administrate about 20 courses for producers in Brazil. In Brazil BioFlux technology was starting to get adopted and an increase in production was observed. He concluded his presentation mentioning that there's still room for this system to be improved by the use of biotechnology.



The next speaker was Ingeborg Korme, who is part of JPI Oceans secretariat. She presented the BlueBio ERA-Net project, a pan-European inter-governmental platform that has the aim to increase blue bioeconomy efficiency. It incorporates 30 partners from 17 countries with the goal to facilitate project funding. JPI Ocean used the value chain approach to largely fund research and innovation projects, covering topics from exploration of aquatic bioresources, to sustainable biomass production and processing all the way to the market. The funded projects aimed at enabling not only technology and infrastructure, but also capacity building. They had one call each year for the last three years. Some of the funded projects were also presented. Ingeborg concluded her contribution mentioning that synergies between funded projects were also created.

Then Pedro Pousão presented EPPO - Aquaculture Research Station of Olhão. He shared a description of the facilities and research areas in the field of aquaculture. These included sustainable and environmentally friendly production systems, bio-indicators of fish quality and welfare, new species for aquaculture, development of rearing protocols, and feeding and nutrition. He also talked about research line, like broodstock, larvae and juveniles and cultivation systems. Their objective is to join synergies between research, academics and industries to foster aquaculture's development. He also shared about their partners and work packages in detail.

Thereafter, Vernon Coyne, described the work done from the University of South Africa, in Cape Town, and the experiences with the production, analysis and studies of abalone. He discussed about how all farmed animals are stressed, being too late to save them when the stress reaches a critical level. They tried to find identity biomarkers which can help monitor the health of the farmed animals. The project started off with aquarium-based experiments. They had 2000 abalone sampled from two farms, two geolocations and two seasons. They are also working on the production of diagnostic and therapeutics for farm fish using a very different approach, which makes use of fish immune genes themselves. They also produce probiotics that are increasing the survival rate.

Afterwards, Newton Marcial Gomes, researcher at CESAM, Center of Environmental and Marine Studies at the University of Aveiro, talked about aquaculture microbiome and entrepreneurship and new technologies related to microbiome. There has been a very steep increase in fish demand and to respond to catch up to those numbers, super intensive systems were used. These resulted in spread of diseases, which became more viral, what can lead to huge loses in the future. To fight this, as microbiologists they wondered how to work on the microbiome of the systems. They wanted to work on the development of new technologies to anticipate and diagnose disease outbreaks in aquaculture. They developed AquaHeal - Microbial modulation in aquaculture with recirculation system: towards a production system suppressor of diseases. They also worked on project BlueComposite.

Then, Felipe Landuci discussed aquaculture in Rio de Janeiro state, its current scenario and future prospects. Dr. Felipe Landuci is a researcher/aquaculture coordinator at Fundação Instituto de Pesca do Estado do Rio de Janeiro – Rio de Janeiro Fisheries Institute. He first talked about the setting in the state of



Rio de Janeiro. Aquaculture is the second largest economy (R\$ 8,7 trillion) in the country, which is based on oil extraction. Also, they have the most advanced infrastructures in Brazil due to ancient occupation. Agriculture represents a small portion of this income (<1%). Fishing industry was once the largest in the country, but today it is only the fourth. He discussed various products and their opportunities versus their challenges. For example, Brown mussel - *Perna Perna* has a good growth rate in the metropolitan region, but has a lack of hygienic sanitary program. He noted that all products except seaweed are under production capacity. Now they are working on a regional environmental monitoring program in rivers, sea and farms to investigate the possible causes of the mortality outbreaks. He referred a model based on regression analysis to evaluate the aquaculture zones susceptibility to faecal contamination, and the dispersion/deposition of organic matter from cobia farming.

Lastly, Helena Vieira discussed the blue economy in Portugal, where it is now, what's happening and its future. The Portuguese ecosystem was discussed which figures on the ranking of Portugal on indexes such as quality of life or Foreign Direct Investment (FDI). Europe itself has a higher number of start-ups per capita than the United States of America. Portugal has a higher number of start-ups than the average in Europe. She talked about the industry break up for Portugal and then about the achievement of the blue economy and also what is missing.

c. Concluding Remarks

The workshop members made a few concluding remarks, regarding the needs for the sectors of aquaculture and marine biotech such as:

- i. Provide opportunities to inspire entrepreneurship;
- ii. Implement demonstration project(s) to model the biotech process, including navigation of contraction obligations and connection to industry partners;
- iii. Develop the ability to analyse and manipulate microbial communities (consortia versus single cultures),
- iv. Transfer knowledge and technology to encourage uptake by farming and aquaculture sectors.

In summary, the ocean is the largest microbiome on the planet and the heart of the living ocean. Many groups and agencies across the globe are interested in understanding its dynamics, harnessing its power, and communicating the value of this immense resource. Microbiome is crucial for aquaculture development. Greater understanding of the marine microbiome may help us better predict and manage our oceans, while exploring a largely untapped resource for biodiscovery and the sustainable bioeconomy.



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2. Start-up Accelerator Workshop

a. Introduction

The fourth AA-BIOTECMAR Workshop - Startup Accelerator - was organized by the Federal University of Rio de Janeiro (UFRJ), and held on June 28th, 2022. Due to the ongoing COVID-19 global pandemic, the workshop occurred online in a videoconference platform. It brought experts, researchers and other stakeholders together to share knowledge and find possible ways to enhance new business, new start-ups, and innovation across the Atlantic.

The event had 113 participants and the contribution of 7 speakers. The workshop started with the opening remarks from Sofia Cordeiro, AANChOR’s Coordinator. She then passed the word to David Bassett who introduced the AA-ATiP JPA and its activities. David’s speech was followed by the following speakers:

Speaker	Country	Presentation topic
Renata Ramalhosa	Portugal	Beta-I and importance of collaboration in solving challenges of the blue ecosystem
Denise Hissa	Brazil	Start-up Biotech4life to provide sustainable and customised environmental solutions
Fernando Vendramini	Brazil	Algii, created to develop the economic potential of the algae <i>Kappaphycus alvarezii</i> with multiple uses
Janaina Kimpara	Brazil	Research, technology transfer and entrepreneurship opportunities in Brazil
Luiz Landau / Fabio Hochleitner	Brazil	Results from their research that can support activities in aquaculture and biotechnology
Alexandre José Macedo	Brazil	Regenera - Biotechnological solutions and products from Blue Amazon
Bruno Galler Kubelka	Brazil	AlgaSul taking ocean microorganisms to fish tanks

Table 2: Speakers of the AA-BIOTECMAR Workshop – Start-Up Accelerator, held on June 28, 2022

b. Presentations

Renata Ramalhosa, the first speaker of the day, shared about Beta-I experiences. On the blue economy side, they developed the first blue tech accelerator in Portugal, where they brought several organisations to work together and understand and diagnose the challenges of having a blue economy and an ecosystem of stakeholders who could work together to solve the challenges, not just their own but also on the supply chain. They developed an open innovation programme to diagnose the challenges by looking all over the world for start-ups and entrepreneurs that could come to Lisbon to be incubated in this accelerator and develop solutions for the challenges. This represents collaborative innovation.



Next up was Denise Hissa, who shared figures of production in aquaculture in Brazil. She also talked about the environmental challenge of wastage. She referred to the high consumption of things like shrimp or fish, where a large number goes to waste and spreads diseases. She then discussed the results of converting this waste into profitable products. Dr. Hissa also explained that Biotech4life developed a product for cleaning up oil spills in the ocean. She shared how the parts of fishes or shrimps that are usually thrown away inappropriately are actually parts that can be used too and have value. The start-up called Biotech4life was founded to provide sustainable and customised environmental solutions. They have their own products where they have used a bacterial consortium to use biotransformation and convert shrimp and fish waste into value added products. She shared about the process and the potential clients. Dr. Hissa also mentioned that her company develops products for mariculture and the enzyme industry.

Fernando Vendramini followed, representing Algii. Algii was created to develop the economic potential of the algae *Kappaphycus alvarezii* with multiple uses in cooking and cosmetics, promoting health, beauty and well-being due to the natural presence of minerals, fibres and antioxidants in the seaweed. In 2020 they launched their own products and e-commerce site. They want to help the local community and they believe that collaborative work is essential to achieve greater results. He shared that the market was picking up and that there is great potential in the industry. They are committed to sustainability, the environment and scientific knowledge. Further, they develop capacity building across Brazil.

The next speaker was Janaina Kimpara. She is a part of the Brazilian Agriculture Research Corporation. They focus on research and innovation in seaweed. Seaweeds production growth has gone up significantly. She shared more about seaweed trade and relevant figures and about main uses of seaweed like human food, hydrocolloids, abalone feed, livestock feed and many more. There are opportunities for entrepreneurs in this area. There was more information about the pains and opportunities of the industry and a case study. Dr Kimpara highlighted EMBRAPA, a company relying on innovation, focused on the generation of knowledge and technology for the Brazilian farming, built a database on bioeconomy start-ups and companies across the entire Brazil, thus mapping the activities in this sector.

Luiz Landau introduced LAMCE - COPPE – UFRJ and then Fabio Hochleitner presented the LAMCE initiatives, solutions and methodologies developed by start-ups in conjecture with LAMCE. He shared about the history of LAMCE and their infrastructure. LAMCE idealizes and executes R&D projects in the area of computational environmental modelling and has numerous activities. Their multidisciplinary team was presented and so where the start-ups that works with LAMCE. LAMCE initiatives focus on coastal and ocean observations for social benefit. A core business of LAMCE, a node of AIRCENTRE in Brazil, is the ocean-meteorological monitoring. Its overall goal is to ensure the sustainable development and the use of atmosphere, ocean and coastal observations for the benefit of the society. One point of discussion was the monitoring and sustainability of Baía da Ilha Grande, a bioeconomy business hotspot in the state of Rio de Janeiro.

Alexandre José Macedo shared about the start-up Regenera. How there are new leads for bioactive molecules but technical and legal issues make it difficult to access the particular biological market.



Regenera was formed to build a bank of microorganisms and solutions for the industry. In their bank, they are able to look for new marine microorganisms legally available for bioprospecting and technological development. He shared about the process of doing their business and their technological portfolio, presenting their projects.

The last speaker of the workshop was Bruno Galler Kubelka who represented AlgaSul - Biotecnologia de Microalgas. He shared about their progress and how they wanted to solve problems like difficulty in planning, loss in cultures and high costs. They developed a product with a concentrate of microorganisms which people/clients can use in. A super nutritious microorganism for fishes, which makes corals more beautiful and healthier. They have in house developed technologies and essentially take all potential of ocean nutrition from the ocean to the tank.

The workshop closing remarks were delivered by Fabiano Thompson.

c. Concluding Remarks

One of the main achievements of this workshop was to foster collaborations across governments, academic, and private sectors in the sector of Marine Biotechnology. Among the main needs identified, the following can be highlighted:

- i. Develop the next generation of innovators (and new demonstration facilities and businesses);
- ii. Facilitate open innovation and technology transfer through early connections between science and industry;
- iii. Foster markets for marine microbiome derived products.

The presentations mainly focused on the development of start-ups and innovative companies in the aquaculture and marine biotechnology sectors, highlighting their bioprospecting potential that hasn't been properly harnessed thus far. International cooperation across the Atlantic at the South-South and North-South levels was achieved. Many new opportunities of bi-lateral and multi-lateral cooperation were put on the table, rendering this workshop as the beginning of a new and fruitful network of collaboration between experts and researchers in the marine biotechnology field. It became clear that marine biotechnology is further developing into new businesses and start-ups.



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3. Aquaculture and Marine Biotech & Start-up Accelerator Workshop Agenda

ALL-ATLANTIC AQUACULTURE & MARINE BIOTECHNOLOGY STARTUP ACCELERATOR WORKSHOP

A Joint Marine Biotechnology Initiative for the Atlantic



Meeting venue : Online
Date, time: 27 June 2021, 10:00 – 13:00 BRT
28 June 2021, 10:00 – 13:00 BRT

Description: Within the scope of the AANCHOR project and the All Atlantic Ocean Research Alliance, and following the previous capacity building & network events held by the Joint Pilot Action All-Atlantic Marine Biotechnology Initiative (AA-BIOTECMAR), on the 27th and 28th of June (from 10:00 to 13:00 BRT) the All-Atlantic Aquaculture & Marine Biotechnology Startup Accelerator Workshop will be hosted by AA-BIOTECMAR.

The event, which will take place online, aims to foster collaboration and exchange of knowledge aimed at the development of startups and innovative companies in the aquaculture and marine biotechnology sectors. On the 27th, the focus will be a scientific/academic overview of Aquaculture and Marine Biotechnology themes, especially with an emphasis on environmental mitigation activities and low footprint. During the 28th, the focus will be the promotion of marine startups. Speakers will address topics such as the acceleration and expansion of enterprises, entrepreneurship and innovation for both sectors. To this end, academics and experts from countries in America, Europe and Africa will present their perspectives, research and contributions in dynamic sessions during the two days of the workshop.

Registrations: [Click here to register.](#) The event link will be sent to your registration email.

Event link: [Click here to join the workshop.](#)

Agenda (times are presented in BRT):

MONDAY – 27 JUNE 2022		TUESDAY – 28 JUNE 2022	
10:00 - 10:10	Opening remarks	10:00 - 10:10	Opening remarks
10:10 - 10:30	Wilson Wasielesky Jr	10:10 - 10:30	Renata Ramalhosa
10:30 - 10:50	Helena Vieira	10:30 - 10:50	Emir Sirage
10:50 - 11:10	Ingeborg Korme	10:50 - 11:10	Denise Hissa
11:10 - 11:30	Pedro Pousão	11:10 - 11:30	Fernando Vendramini
11:30 - 11:50	Vernon Coyne	11:30 - 11:50	Janaina Kimpapa
11:50 - 12:10	Newton Gomes	11:50 - 12:10	Luiz Landau
12:10 - 12:30	Felipe Landuci	12:10 - 12:30	Alexandre José Macedo
12:30 - 12:50	Fabiano Thompson	12:30 - 12:50	Bruno Kubelka
12:50 - 13:00	Closing remarks	12:50 - 13:00	Closing remarks



This workshop was produced in the scope of the AANCHOR Coordination & Support Action project, aimed to support the implementation of the Belém Statement. This Action has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 818395.



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AANCHOR is a Coordination & Support Action project aimed to support the implementation of the Belém Statement. It has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 818395.



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4. Aquaculture and Marine Biotech & Start-up Accelerator Workshop Attendance List

Obs. The registration link was the same for the two events.

#	Name	Organisation	Country
1	Alexandre José Macedo	Regenera Moléculas do Mar	Brazil
2	Alice Ortmann	Fisheries & Oceans Canada	Canada
3	Ana Celia Castro	UFRJ	Brazil
4	Ana Helena Ferreira Ferreira		Brazil
5	Ana Lúcia Vendramini	UFRJ	Brazil
6	Asia Kamyshnikova	UFRJ	Brazil
7	Betina Lukwambe	University of Dar es Saalam	Tanzania
8	Betina Lukwambe	University Of Dar Es Salaam	Tanzania
9	Bruno Galler Kubelka	AlgaSul Biotecnologia de Microalgas	Brazil
10	Caíque Martinez Neves	Sociedade Portuguesa de Inovação	Portugal
11	Carlos Filipe Guimarães	Nilton Lins University Business Incubator	Brazil
12	Carmem-Lara Manes	Manes Research&Consulting	France
13	Carolin Löscher	University of Southern Denmark	Denmark
14	Carolina Salvador Duque Estrada	UFRJ	Brazil
15	Carsten Wolff	Technology Innovation Institute	United Arab Emirates
16	Chase Bohne	Brigham Young University Hawaii	United States
17	Christine Rolin	Highlands and Islands Enterprise	Scotland
18	Conor Daly	ESB	Ireland
19	Cristiane	UFRJ	Brazil
20	Cristiane Thompson	Universidade Federal do Rio de Janeiro (UFRJ)	Brazil
21	David Bassett	EATiP - European Aquaculture Technology & Innovation Platform	Belgium
22	Denise Cavalcante Hissa	Biotech4life	Brazil
23	Denise Hissa	Biotech4Life - StartUp	Brazil
24	Diogo Tschoeke	UFRJ	Brazil
25	Dkawlma Tora	Atlantic Technical University in Cape Verde (www.uta.cv)-WASCAL (www.wascal.org)	Cape Verde



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26	Dr A Oladoye	Unilag	Nigeria
27	Dr.Rupak Kumar	CDSCO, New Delhi	India
28	Eduardo Mesquita	Universidade Federal Fluminense	Brazil
29	Engr Afolabi, Olusegun	University of Lagos	Nigeria
30	Eric Arthur Bastos Routledge	Embrapa	Brazil
31	Erik Zhivkopljas	Stockholm Resilience Center	Sweden
32	Esthefany Caroline De França Silva	UNESP	Brazil
33	Fabiano Thompson	ufrj	Brazil
34	Fabio Hochleitner	LAMCE/COPPE/UFRJ/BR	Brazil
35	Felipe Cohen	University of Sao Paulo	Brazil
36	Felipe Schwahofer Landuci	Fundação Instituto de Pesca do Estado do Rio de Janeiro - FIPERJ	Brazil
37	Florbela Soares	Ipma	Portugal
38	Fortunato Palma Esposito	Stazione Zoologica Anton Dohrn	Italy
39	Frederico Mesquita	FIPERJ/TCT5	Brazil
40	Giovanna Machado	Centro De Tecnologias Estratégicas Do Nordeste	Brazil
41	Gizele Duarte Garcia	UFRJ	Brazil
42	Gizyelle Costa Miguel	Prooceano	Brazil
43	Grant January	University of Plymouth	United Kingdom
44	Gregory Maes	University of Leuven	Belgium
45	Guilherme Búrigo Zanette	Fisheries Institute Foundation of the State of Rio de Janeiro	Brazil
46	Hannah Mattsson	UFRJ	Brazil
47	Helena M. Vieira	Universidade de Lisboa, Faculdade de Ciências	Portugal
48	Henrique Rossetti Tognonato	University of São Paulo	Brazil
49	Ibrahim HAMA	FAO	Sénégal
50	Ingeborg Korme	JPI Oceans and Blue Bioeconomy ERA-NET	Norway
51	Janaina Mitsue Kimpara	Embrapa	Brazil
52	Jay-Dee Atkins	University of Cape Town	South Africa
53	João Dias	uesc	Brasil
54	José Fernando Vendramini	Algii - Kappaphycus alvarezii Cosmetic	Brasil
55	Josephine Adebayo	University of Ibadan	Nigeria



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56	Kelly Goodwin	NOAA	Usa
57	Kelly Goodwin	NOAA	Usa
58	Koffi Nouho Ouattara	Université NANGUI ABROGOUA	Côte D'ivoire
59	Larissa Sbeghen Pelegrini	UNESP	Brasil
60	Laura Bahiense	UFRJ - Federal University of Rio de Janeiro	Brasil
61	Leandro Amaral Herrera	São Paulo Environmental Research Institute	Brasil
62	Leonardo Fontes Bachá	UFRJ	Brasil
63	Leonardo Mantilla-Aldana	Zoomare	Spain
64	Luciana Leomil	UFRJ	Brasil
65	Luciane Maria Perazzolo	Univetsidade Federal de Santa Catarina	Brasil
66	Luis Poersch	FURG	Brasil
67	Luiz Fernandes	Universidade Federal do Espírito Santo	Brasil
68	Luiz Landau	LAMCE/COPPE/UFRJ	Brasil
69	Luiz Paulo De Freitas Assad	COPPE / UFRJ	Brasil
70	Luíza Favarato Santos	Federal University of Espírito Santo	Brasil
71	Marcella De Lima Hilário		Brasil
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BUILDING AN ALL ATLANTIC OCEAN COMMUNITY
Implementing the Belém Statement



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