



Newsletter July 2022

Marine Microbiome & Biotechnology Forum

About the forum

The membership of the forum is website will be updated shortly, event at the All-Atlantic Scientific Atlantic Declaration on Atlantic Ministerial events.



expanding and this section on the following on from our successful side-workshops and the signing of the All-Ocean Cooperation in the July

Activities

Following the All-Atlantic Side Event last year the Forum made some pledges for the upcoming months. Main activities have been:

1. Generating [Animations](#) and graphics for our public outreach campaigns - sparking the fascination and spreading the joy of marine biotechnology and microbiomes. Social media campaign has been run, also in conjunction to World Ocean Day and World Microbiome Day as well.
2. Organising Networking events (online) on our Key Recommendations in the High-Level Briefing [Document](#).
3. Check out the Frontiers in Marine Science - Marine microbiomes towards standard methods and best practices ([link](#)) that we are guest editing to facilitate knowledge sharing regarding marine microbiome standardised sampling methods and best practices. Please note that the submission date has been extended from Sept 2021 to Sept 2022. We encourage All-Atlantic participation in this issue.
4. Catalysing international research collaborations, including expanded marine microbiome observations during cruises. An example is one undertaken with NOAA's Atlantic Oceanographic and Meteorological Laboratory partnering with the AtlantECO project and Tara Oceans Expedition on an expedition researching climate change's impact on the global ocean including the vital food web. For more information see [here](#) and [here](#)
5. We pledged to increase the visibility of the marine microbiome and this year we are making a concerted effort to do so across social media: we published 112 posts in June, our following is increasing with 103 new followers across Facebook, Twitter and LinkedIn (up 37% on the previous month). We had 369 engagements across all social networks i.e. like, comment, share, view, link click. We encourage you all to promote marine biotechnology and marine microbiomes - please use these hashtags [#marinemicrobiome](#) [#AtlanticAll](#), [#AtlanticYouth](#) [#AllAtlantic2022](#). Note our social media handles are: [Twitter MarineMicrobio1](#), [Facebook marinemicrobiome](#) [LinkedIn marine-microbiome-working-group](#)

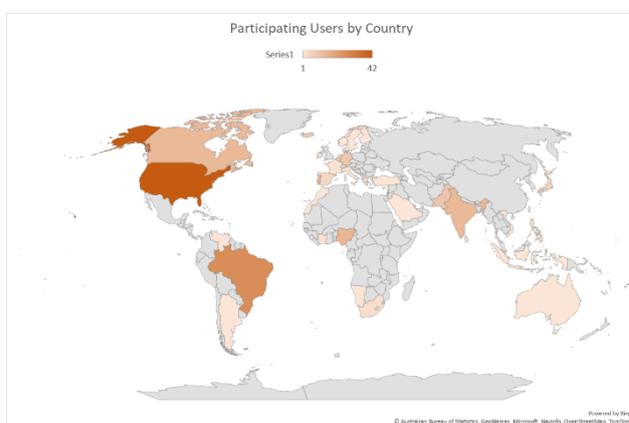


The All-Atlantic Side Event: Harnessing Marine Microbiome & Biotechnology in a Changing World



On June 3rd, the AORA Marine Microbiome Working Group along with the AANCHOR BIOTECMAR joint action group hosted a virtual side event as part of the All-Atlantic Scientific meeting designed to start a conversation about how the two groups could work together under the forthcoming All-Atlantic framework. On this Friday of a holiday weekend, interest remained high in the Marine Microbiome & Biotechnology and the side event attracted a lot of interest with 252 unique registrants representing

North and South America, Europe, Africa and Asia. A wide range of fields, including academia, research and public institutes and students as well as industry partners participated in the event.



Going forward, we would like to work to increase participation from industry as their use of marine microbiomes and biotechnology can help deliver solutions to current challenges identified by side event participants such as bioremediation, carbon removal and sequestration, improving food production, environmental monitoring and providing compounds to support human and ecosystem health.

The side-event began with introductions to the two groups with presentations by Kelly Goodwin and Fabiano Thompson that

highlighted the importance of microbes to ocean ecosystems and the potential for microbiomes, through the application of biotechnology, to be leveraged to address ongoing challenges, particularly in the areas of health, food and climate. Pier Luigi Buttigieg and Julie Robidart then presented two examples of applying marine microbiome studies on large scales, including the development of the OmicBON network to include genomic data within existing observing networks and how to connect microbiomes to processes in the oceans through the application of new technologies.



Following the first four speakers, the side event had four panel discussions regarding **1) Environment and Climate, 2) Ecosystem and Host Health, 3) Food Security and Future Foods** and **4) Overcoming Barriers to Implementation**. In each panel, discussions focused on how marine microbiomes and biotechnology can address current needs and how a collaborative All Atlantic group could help provide solutions. Highlights of these discussions include the need to invest in improving ocean literacy, which can be facilitated by learning to tell our story in an engaging way using many different tools to reach different audiences. This can help us to reach and influence decision makers, which in turn can address some of the barriers to applying new techniques. Throughout the side event,



a lively discussion within the chat addressed linking marine microbiomes to functions and processes, processing large datasets, the challenge of unknown and novel sequences in marine microbiomes, how to compare microbes across different methods and techniques, as well as practical needs including training new personnel, modifying policy, developing networks and coordinating and expanding funding (locally and globally) for both collection and analysis of marine microbiomes and the application of biotechnology to address global challenges. Microbiomes are useful tools for a more sustainable use of the ocean and the blue (low carbon) economy.

Moving forward, the AORA Marine Microbiome Working Group and AA-BIOTECMAR are continuing to discuss what a combined, All Atlantic group will look like. As a collaborative network, we plan to work towards linking researchers, industry and governments to promote the value and importance of marine microbiomes in supporting ocean ecosystem health and the potential to use microbiomes and biotechnology to address food security, climate change and human health. The Group consider that it can contribute to a low carbon economy across the Atlantic.

AA-BIOTECMAR

The All-Atlantic Marine Biotechnology Initiative (AA-BIOTECMAR) Joint Pilot Action was developed under the [AANCHOR](#) project which aims to raise its impact by bringing together numerous international stakeholder platforms with complementary expertise in different scientific areas, thus creating added value.




AA-BIOTECMAR -
All-Atlantic Marine Biotechnology Initiative

BIOTEC BIOINFORMATICS TOOLS AND APPLICATIONS WORKSHOP

SPEAKERS
April. 21, 2022

- Thulani P. Makhhalanyane (University of Pretoria)
- Georgios Papas (University of Brasilia - UNB)
- Matt Olm (Stanford University)

April. 22, 2022

- Diogo Techoeke (Federal University of Rio de Janeiro)
- Karthik Anantharaman, Patricia Tran, and Zhichao Zhou (University of Wisconsin - Madison)
- Andrei Stecca (Joint Genome Institute - JGI)

Free Registration

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AA-BIOTECMAR and Marine Microbiome will join forces, promote efficient cooperation and maximise impact by bringing together organisations and projects having experience and an interest in the marine biotechnology area at the Atlantic Ocean level, including the All-Atlantic Ocean Research Alliance related projects.

The first AA-BIOTECMAR Workshop was a two-day international event organized by the Federal University of Rio de Janeiro that was held on November 1st and 2nd, 2021. The Marine Microbiome Forum was presented at the workshop by Margaret Rae, Co-Chair of the Forum.

The workshop, whose themes were strongly focused on microbiomes and reef, led to the conclusion that bioprospecting, i.e. the exploration of natural sources for new products of social and commercial value, is still a very crude field of action. To refine it, the AA-BIOTECMAR consortium will try to develop new pipelines that protect and develop these valuable resources.

The 2nd workshop was organised on April 21-22 2022 on Biotec Bioinformatics Tools and Application. Over 500 people attended the workshop.

Key points from these workshops:

- Strong themes in the workshop were microbiomes and reef
- It was felt that bioprospecting (the exploration of natural sources for new products of social and commercial value) was still a very crude field of action.
- The AA-BIOTECMAR consortium strives to develop new pipelines that protect and develop these valuable resources.
- Many new opportunities of multi-lateral and bi-literal cooperation
- Cooperation depends on people and individual actions are needed to catalyze the possibilities of international cooperation for South-South and North-South cooperation



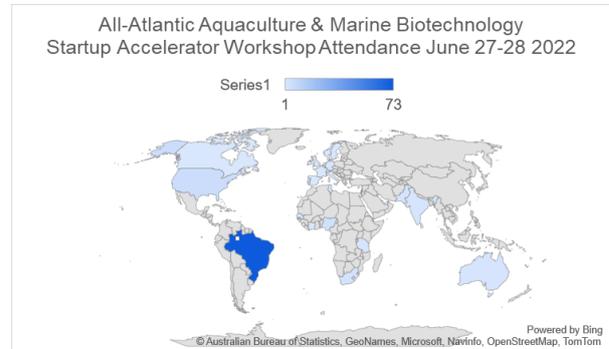
- Now planning many more collaborations, networking events & training workshops

All-Atlantic Aquaculture & Marine Biotechnology Startup Accelerator Workshop

AA-BIOTECMAR organised The Aquaculture and Marine Biotech startup workshop between 27 and 28 June as a follow up of the All-Atlantic Ocean Research Forum Scientific Event in Brasilia May 31 to June 2.

There were 121 registrations from 25 countries from different continents. Presentations were given by researchers, government officers, entrepreneurs and industry representatives on biotechnology, microbiome, mariculture, drug development, food development and low carbon economy. For

instance, with i) the development of integrated multitrophic aquaculture, ii) development of natural product discovery workflows, iii) the establishment of a prototype protocol for better microbial and viral biodiversity tools (including bioinformatics) from meta- to other -omics to be used at all sites, iv) the development of tool for coral reef conservation actions, including coral farming, eDNA monitoring (viromes and microbiomes); the discovery of new drugs (e.g. antibiotics) and food items, new symbionts (and possible probiotics) new chemolithotrophs, new viruses, culturing the uncultivated microorganisms. More information on the outcome will follow.



Upcoming:

The Ministerial Event in Washington D.C.

Outcomes from the Scientific Event in Brasilia will be highlighted at the Ministerial Event in Washington, D.C. in July 12-14, which will be in person and streamed live. The event will feature ministerial interventions and roundtable discussions, as well as the signing of the All-Atlantic Ocean Research & Innovation Alliance Declaration. The main ministerial event will also be accompanied by side events hosted at several Embassies.

ALL-ATLANTIC OCEAN RESEARCH FORUM 2022

**SIGNED THE ALL-ATLANTIC OCEAN
RESEARCH AND INNOVATION
ALLIANCE DECLARATION**

Wednesday 13th of July

#AllAtlantic2022
#AtlanticAll
#AtlanticYouth



MINISTERIO DA
CIÊNCIA, TECNOLOGIA
& INOVAÇÕES





Three of our steering committee members:

- Kelly Goodwin, US National Oceanic and Atmospheric Administration
- Alice Ortmann, Fisheries and Oceans Canada
- Fabiano Thompson, Federal University of Rio de Janeiro, Brazil

will be attending and participating in the events in Washington DC.

Ministers from the South and North Atlantic will sign the All-Atlantic Ocean Research and Innovation Alliance Declaration, signatories are from Argentina, Brazil, Canada, Cabo Verde, the European Union, Morocco, South Africa, and the United States.

This event is being hosted by the US Government, Brazilian Government and European Commission.

To watch the Ministerial Event Live Streams you can subscribe to the AORA YouTube channel [here](#)

We will be *live* posting on social media, mainly from our Twitter and LinkedIn, throughout the week - please support us to promote the events and make visible marine biotechnology and marine microbiome by liking and sharing with your networks. The agenda for the events can be found [here](#)

Aquaculture Canada and WAS North America 2022

Aquaculture Canada and WAS North America 2022 - August 15 - 18, 2022 in St Johns, Newfoundland, Canada (<https://www.was.org/meeting/code/wana2021>).

An aquaculture conference and trade-show focused on the science, technology and business of aquaculture. A special session will focus on genomics, including microbiomes.

Check out the session: The Use of eDNA as a Tool for Understanding and Managing Marine Ecosystems, August 18, 11:00 - 16:00



Social Media & Greater Visibility

A final reminder of our social media handles, we invite you to follow us, share, react and together promote greater awareness of the importance of marine biotechnology and the marine microbiome:

- **Twitter** **MarineMicrobio1**
- **Facebook** **marinemicrobiome**
- **LinkedIn** **marine-microbiome-working-group**

Tag us on your posts and we will help promote them. Use the following hashtags to create greater visibility:

- **#MarineMicrobiome**
- **#AtlanticAll**
- **#AtlanticYouth**
- **#AllAtlantic2022**