

Atlantic

MARINE MICROBIOME SIDE EVENT
at the All Atlantic 2021 Forum



**MARINE MICROBIOME WORKING GROUP
SUMMARY & PLEDGES**

Overview 2021 All Atlantic Marine Microbiome Pledges

Provide a forum for collaboration and communication:

1. **World Ocean Day June 8** – one day social media campaign to highlight marine microbiome, and
2. **World Microbiome Day June 27** – an online event organized by the AORA Marine Microbiome Working Group to spark fascination about marine microbiomes
 - a) Encourage people to subscribe to www.marinemicrobiome.org
 - b) AORA Marine Microbiome Working Group (MMWG) released a Roadmap in 2020 with a vision to spark fascination and to demonstrate the socio-economic value of the Atlantic's marine microbiome. Inform people about the [AORA marine microbiome roadmap](#).
3. Host a year-round awareness campaign through website and social media channels for marine microbiome:
 - a) Microbe of the month
 - b) Scientist highlights /interviews
 - c) Youth ambassador highlights/ interviews
 - d) Use forum to highlight diversity, equity, and inclusion disparities and promote solutions.

#MarineMicrobiome #AtlanticAll [LinkedIn page](#), [Facebook Page](#), [Twitter](#)

Share your energy. Join the team. Spread the Word.

www.marinemicrobiome.org

2021 All Atlantic Marine Microbiome Pledge Overview, continued

4. Extend the group more widely to Atlantic Microbiome sectors, maintaining a multilateral, multi-national science-policy interface independent of any given project or programme.
5. Facilitate knowledge sharing regarding marine microbiome standardized sampling methods and best practices by guest editing a Special Issue of Frontiers in Marine Science - *Marine microbiomes towards standard methods and best practices* (<https://www.frontiersin.org/research-topics/15877>).
Submission date extended from Sept 2021 to Sept 2022 to encourage All Atlantic participation.
6. Catalyze international research collaborations, including expanded marine microbiome observations during cruises.
7. Facilitate international communication regarding development of Strategic Plans related to 'omics research, application development.

Connect - Act - Cooperate

www.marinemicrobiome.org

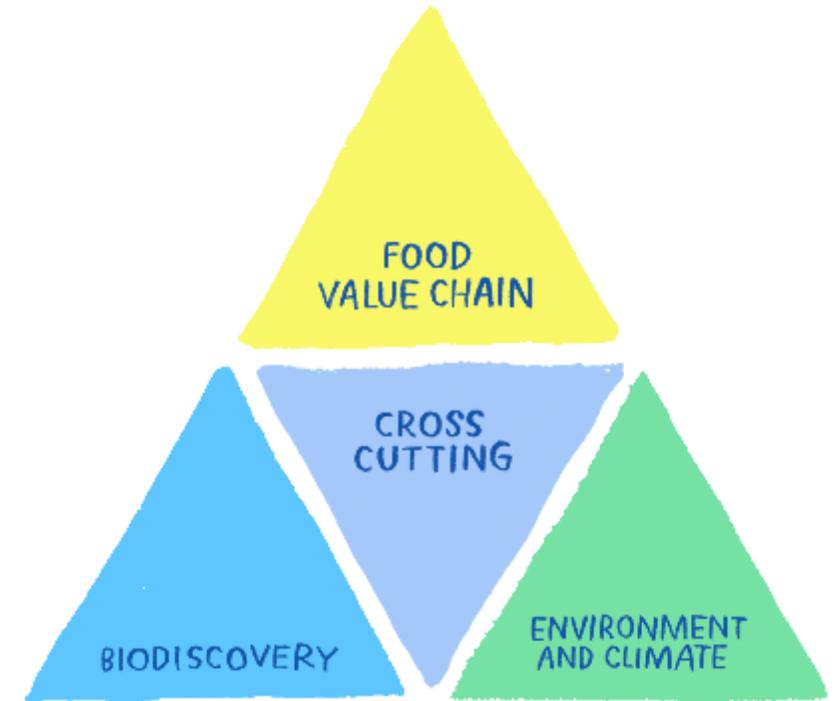
2021 ALL-ATLANTIC (OFFICIAL) ACCEPTED PLEDGES

1) Theme: **ALL**

Marine Microbiome Working Group Expansion

Expand partnerships and sectors while maintaining multi-national science-policy interface independent of and inclusive of all programmes/projects.

- Spark fascination and demonstrate the socio-economic value of the Atlantic's marine microbiome.
- Actively build alliances and collaborations to foster marine microbiome research, development, and innovation across the Atlantic.
- Expand linkages to South Atlantic partners, including All-Atlantic youth ambassadors, through expansion of the working group to larger forums.
- Conduct year-round marine microbiome awareness campaign through website and social media, including campaigns for World Ocean Day and World Microbiome Day.
- Facilitate knowledge sharing regarding sampling and data best practices.
- Facilitate communication regarding development of national Strategic Plans related to 'omics research and applications.



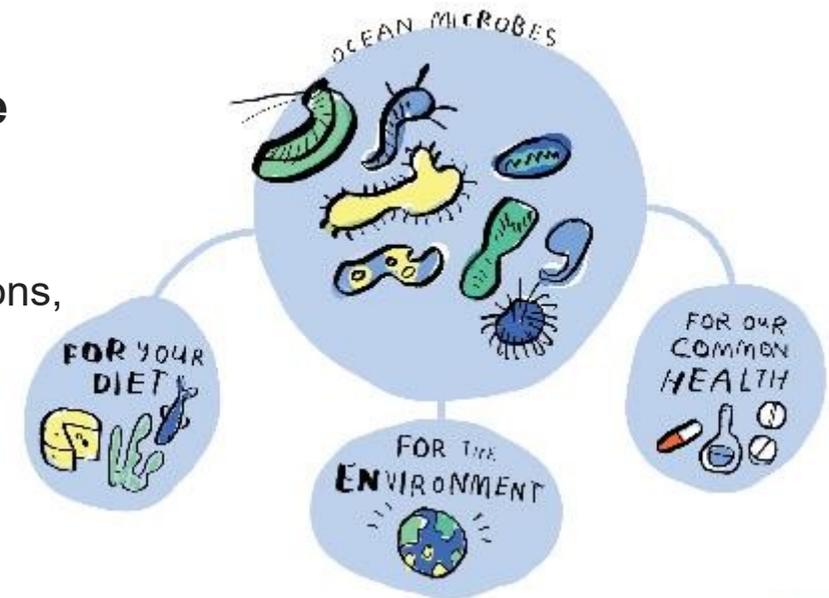
[AORA marine microbiome roadmap:](#)

2) FOOD SECURITY, OCEAN RESOURCES AND BIODIVERSITY

- *Map and quantify the DNA of the Atlantic Ocean*
- *Understand the role of biodiversity in maintaining marine ecosystems functioning*

We are on the threshold of a new and exciting era of discovery in the oceans that will shape the development of human endeavors for decades to come.

- Expand marine microbiome observations by catalyzing international collaborations, including joint cruise efforts.
- US scientists will participate during Mission Microbiomes cruise legs, 2022.



3) OCEAN TECHNOLOGY

- *Exploit the potential of marine biotechnology*

The Marine Microbiome Working Group and forum(s) will work to inspire marine microbiome science, biodiscovery, innovation, entrepreneurship. The marine microbiome is key to biodiscovery and food production, providing new sources of value to society.

- Raise awareness of marine microbiomes with regard to biodiscovery and sustainable food production.
- Use the marine microbiome working group and forum to promote connections that facilitate open innovation, technology transfer, and leveraged opportunities (e.g., between government, academia, industry, NGOs, general public) by featuring and connecting researchers, policymakers, business leaders, and Youth Ambassadors.



Additional pledges offered during the session:

- Many participants pledged to subscribe to www.marinemicrobiome.org, to provide ideas, graphics, interviews, etc. for the year-around campaign, and to share posts on social media platforms.
- Pledge to help implement the AORA Marine Microbiome Roadmap, which contains short-, mid-, and long-term actions.
- Pledge to make concrete links between microbiome research, ocean operations, and societal needs, involving all relevant stakeholders in co-design.

PANEL SUMMARY

Icebreaker: Only 65% of participants initially knew that World Microbiome Day is June 27th

Panel 1: Standards and Best Practices

Commitment to incorporate the microbiome into the “digital twin of the ocean.” Poll results suggest that getting and analyzing samples is challenging, but there are also large challenges in turning observations into “digital knowledge”

Panel 2: Socio-economic value, ethics, and transfer of technology

Challenges regarding integrating sequencing into observations was well summarized in talks. Talks will be posted on website

Many tricky questions that require answers – particularly regarding environmental release of engineered organisms.

Panel 3: Spark fascination.

Word diagram was great, put them together and see that Microbes = curious LIFE

Work on messaging to the public on the positive aspects of microbiomes (many people only know about germs)

Thank you, panelists! See bios [here](#)

QUESTION/ COMMENT RECAP

- Sequencing is still expensive for developing countries
- Having trouble finding microbiome datasets
- Been talking about standardization for a long time – how do we really get there?
- The digital twin is a view of the ocean - who controls it?
- How, specifically, should we train the next generation of microbiome scientists?
- How can I become an All-Atlantic Ambassador?
- Discussion on the use/ release of engineered biology.

Action Items from questions:

This group could/should:

- Provide portal of microbiome data sets
- Provide portal of training and conference opportunities, particularly for S. Atlantic
- Feature in the social media campaign the disparity of access to sequencing technology
 - **What else can we do to push Diversity, Equity, and Inclusion? Email us with ideas!**

PARTNERSHIPS

A partial list was constructed during the talk:

- AORA Marine Microbiome Working Group (EU-CA-US members)
- Multiple academic partners (e.g., panelists)
- On the website marinemicrobiome.org: [BlueBio Cofund](#), [AtlantEco](#), [Biotechnologia marinha](#), [AANCHOR](#), [NOAA 'Omics](#), [Genome Canada](#)
- Genome Canada
- NOAA
- Rannis
- SIMBA
- Technical University Denmark
- MBON
- EMBL
- IFREMER
- Past Horizon 2020 programs (iAtlantic, etc...)
- UN Decade Actions (e.g., POGO OBON, Marine Life 2030)

Need to fully capture the many partnerships

and work to extend (e.g., iBOL, BIOSCAN, mBRAVE...)