

The PIER Review

Welcome to the June 2021 issue of the PIER Review, the monthly [GOA-ON Pier2Peer](#) newsletter! This edition introduces the upcoming Pier2Peer team on the Ocean Acidification Information Exchange, AND highlights the work being done by Pier2Peer pair Natalie Monacci from the University of Alaska, and Dr. Ekperusi at the Nigerian Maritime University!

Additionally, this issue contains relevant OA-related news, updates, upcoming webinars, funding and job opportunities, and recently published open-access publications. Please send ideas and feedback for future issues of the *Pier Review* to kerri.dobson@noaa.gov.

Watch this space: Pier2Peer team coming soon on the Ocean Acidification Information Exchange!

Likely within the next month, all members of the Pier2Peer network will be added to a new Pier2Peer team on the Ocean Acidification Information Exchange - please make sure to check your emails and sign in to the OAIE to update your profile. Within this team, all members of Pier2Peer (mentors and mentees) will be able to discuss OA research and careers, and pose questions to the community.

[Join the OA Info Exchange](#)

The OA Information Exchange (OAIE) is a place to swap ideas, share resources, and interact with people in a variety of disciplines across many regions. This includes your mentor or mentee! Scientists, citizen scientists, educators, NGO and government employees, resource managers, fishers, aquaculturists, concerned citizens, and others are all welcome to take part in the OA Information Exchange community!

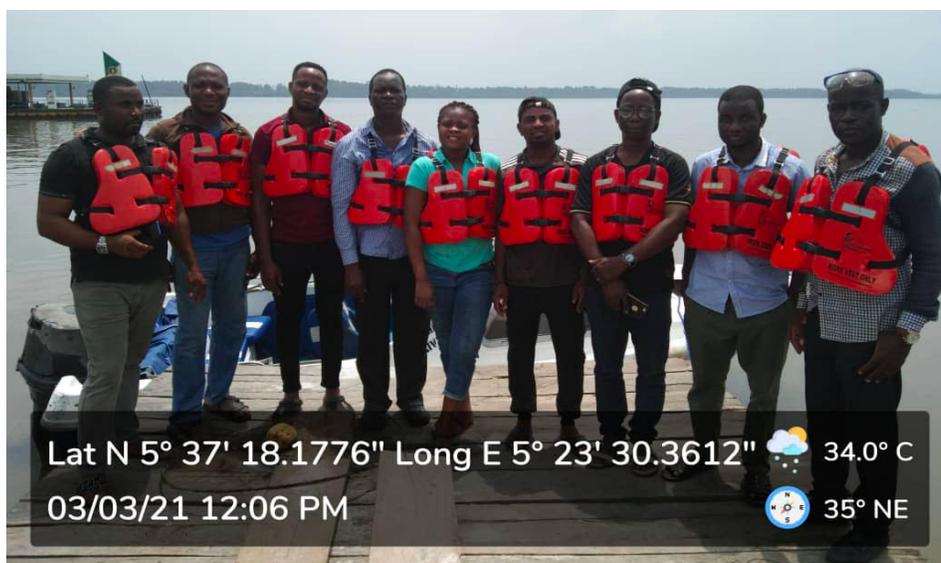


**Ocean Acidification
Information Exchange**

P2P FEATURE

Mentorship in a pandemic: Natalie Monacci and Dr. Abraham Ekperusi

Dr. Abraham Ekperusi at the Nigerian Maritime University (NMU) and Natalie Monacci at the University of Alaska Fairbanks began their Pier2Peer partnership in June 2020. Three months into the global pandemic, they were both well versed in virtual meetings and were able to begin sharing knowledge remotely. During Zoom calls and over email they discussed OA best practices, upcoming workshops and conferences, and emerging literature. In February 2021, Natalie was able to virtually meet the newly formed NMU OA Team to give them a lab tour, demonstrating the analysis of discrete seawater samples as well as the autonomous sensors she was preparing for an upcoming deployment.



NMU OA team at Okerenkoko Island, Nigeria Maritime University.
From left: Captain Emmanuel (NMU transport officer), Dr. Ekperusi, Dr. Eyo, Dr. Bariweni, Ms Amarachi, Dr. Ideki, Dr. Okiotor, Mr Adegboye, and Captain James (NMU transport officer).

"Natalie has been of immense help to me as a mentor and to the NMU OA Team. She provided the relevant resources needed for a newcomer into the OA field. Aside from always being available for regular meetings, her wealth of knowledge and experience in the field has guided our team in the course of planning and conducting chemical monitoring along the Niger Delta coastline. She is always ready to advise and answer any questions that were presented to her prior to the team starting our fieldwork. She always provides us with relevant and upcoming events and literature in the field. In the real sense, she is like a mentor to the entire team. She is the unseen hand guiding the team in our journey into OA science and research." - Dr. Abraham Ekperusi

"The work Dr. Abraham and the entire NMU OA Team are doing is extraordinary. I feel like a member of their team and cannot wait for what comes next." - Natalie Monacci

Nearly a year into this partnership, Abraham and Natalie are currently working on obtaining funding for Dr. Michael Okiotor, a member of the NMU OA Team, to allow in-person training on monitoring techniques and data management at the Ocean Acidification Research Center in Fairbanks, Alaska. You can follow them on Twitter for more updates:

@OARC_Alaska

@nmu_OA

@Ekperusi_05



College of
Fisheries and
Ocean Sciences



Do you have an exciting accomplishment or experience with the Pier2Peer program you would like to share? Send it to Kerri Dobson at Kerri.Dobson@noaa.gov and you could be featured!

NETWORKS

New [Pier2Peer Mentors](#) are available

Do you know someone who is looking to expand their skill-set or their understanding of OA? Then encourage them to join the Pier2Peer Network! Have you already joined the Network, but haven't been matched with a mentor yet? Then, you are in luck! Over the last couple of months, several new researchers have signed up to be Pier2Peer mentors, and previous mentors have new capacity to take on new mentees. Visit the Pier2Peer webpage for more information.

If you are attending a meeting and are interested in sharing a few slides on the program and disseminating sign-up information, then please email Kerri Dobson at kerri.dobson@noaa.gov. She will send you communication materials and sign-up sheets to share.

[Join the Interdisciplinary Marine Early Career Network \(IMECaN\)](#)

Officially launched at the IMBeR Future Oceans2 Open Science Conference in Brest, France, in 2019, [IMECaN aims to:](#)

- Provide a networking platform for early career marine researchers to develop collaborations;
- Provide training and development in areas not traditionally provided through formal education and training programmes; and
- Provide leadership opportunities for ECR marine researchers, particularly from developing nations.

UPCOMING EVENTS & CONFERENCES

[World Oceans Day 2021](#)

Date: 8 June 2021

Location: Virtual (free)

Description: Every year the United Nations selects a theme for World Oceans Day to engage the global community around key ocean topics. The theme for 2021 is “The Ocean: Life and Livelihoods” – shedding light on the wonder of the ocean and how it is our lifeline, supporting humanity and every other organism on earth. The online event will feature speakers including Jean-Michel Cousteau, and Dr. Sylvia Earle.

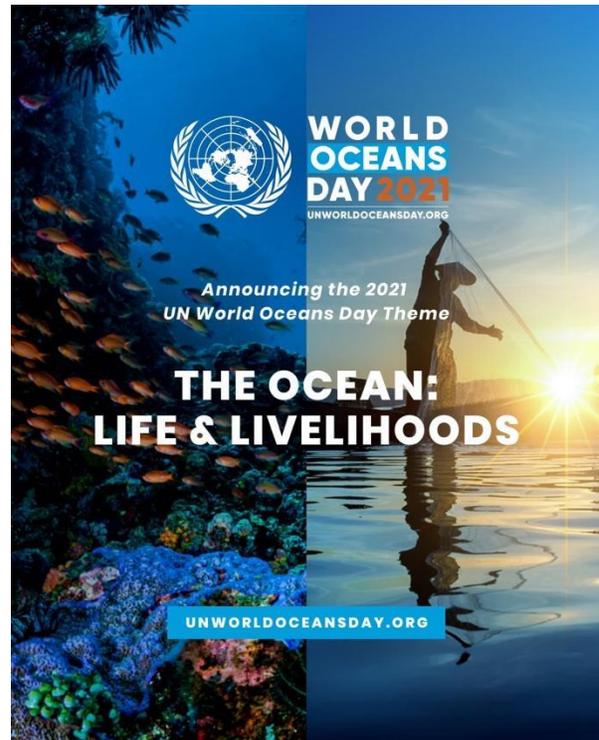
[OA Session at ASLO \(Association of Limnology & Oceanography\)](#)

Dates: 22-27 June 2021

Location: Virtual

Description: **SS84 Ocean acidification: trends and effects from local to regional scales**

Ocean acidification (OA) is getting more attention among the scientific community as new evidence is highlighting its effects on marine biogeochemistry, as well as on key marine ecosystems. The interplay of ocean acidification, warming, deoxygenation, and direct anthropogenic pressures is perturbing all ecosystems and putting the livelihoods, health, well-being and prosperity of people relying on marine resources under threat. This is why regional co-operations are key to further understand OA effects at local, regional, and global scales, an idea that is supported through GOA-ON (Global Ocean Acidification-Observing network) regional hubs (i.e. OA Med-Hub, OA-Africa, LAOCA, and many more). These hubs aim to connect scientists who are working on ocean acidification in a particular region and who are willing to cooperate to better understand the different aspects of OA from chemistry to biology, during present, future, as well as the past via paleo-studies of carbonate chemistry dynamics. This session aims to highlight the latest OA research globally, with a particular attention to marginal seas such as the Mediterranean Sea, which is considered a natural laboratory where synergistic trends of warming, OA and other drivers are already highlighted. We anticipate this to be a highly multidisciplinary session, with contributions from a range of fields including biology, chemistry, biogeochemistry, paleo-climatology, and modeling with a particular focus at local and regional levels. Session chairs: Steeve Comeau (steeve.comeau@obs-vlfr.fr) of Laboratoire d’Oceanographie de Villefranche, Abed El Rahman Hassoun (abedhassoun@cncr.edu.lb) of the National Council for Scientific Research (CNRS-L)-National Center for Marine Sciences, and Michele Giani (mgiani@ogs.trieste.it) of the National Institute of Oceanography and Experimental Geophysics (OGS), Trieste, Italy.



[14th International Coral Reef Symposium](#)

Dates: 19-23 July 2021 [Registration is open!](#)

Location: Virtual

Description: The 14th International Coral Reef Symposium is the primary international conference on coral reef science, conservation and management, bringing together leading scientists, early career researchers, conservationists, ocean experts, policy makers, managers and the public. This will be a key event to develop science-based solutions addressing the present and future challenges of coral reefs, which are globally exposed to unprecedented anthropogenic pressures. The event will present the latest scientific findings and ideas, provide a platform to build the essential bridges between coral reef science, conservation, politics, management and the public, and will promote public and political outreach. Relevant sessions include: 1E What can corals and marine calcifiers tell us about anthropogenic effects and trajectory of coral reef ecosystems under global change?, 7J How can innovative techniques to investigate calcification and its mechanism shed light into the past, present and future of coral reef organisms?/How do new insights into biomineralization help us understand the reef calcification response to global climate change?, 9E Ocean acidification and coastal acidification: What are the drivers, processes and consequences for coral reef ecosystems?

[World Aquaculture 2020 \(now 2021\)](#)

Dates: 5-8 December 2021 [Registration is open!](#)

Location: Singapore EXPO Convention & Exhibition Centre and MAX Atria, Singapore

Description: The annual meeting of the World Aquaculture Society will be held in Singapore this year. The Asian-Pacific region has dominated aquaculture production for decades. However, aquaculture continues to expand broadly across the region. Within Singapore, aquaculture is becoming increasingly integrated into its food system. A major international trade show to learn about the latest aquaculture technologies will also take place at the meeting.

[5th International Symposium on the Ocean in a High-CO₂ World](#)

New dates: 13-16 September 2022

Location: Lima, Peru

Description: The 5th International Symposium on the Ocean in a High CO₂ World has officially been rescheduled. Abstracts are currently being accepted (follow the abstract template [.doc template](#), MS Word or compatible) and must be submitted electronically to: abstract@highco2-lima.org. Results will be notified by May 8, 2022. For more information on the Symposium themes and details, please visit the [Symposium website](#).

[2022 UN Ocean Conference](#)

Dates: TBD 2022

Location: Lisbon, Portugal

Description: The Ocean Conference, co-hosted by the Governments of Kenya and Portugal, comes at a critical time as the world is strengthening its efforts to mobilize, create and drive solutions to realize the 17 Sustainable Development Goals (SDGs) by 2030. The UN Ocean Conference will propel much needed science-based innovative solutions aimed at starting a new chapter of global ocean action towards advancing [SDG 14: Life Below Water](#).

UPCOMING WEBINARS

[GOA-ON Webinar Series](#)

The goal of the GOA-ON Webinar Series is to foster greater collaboration and a sense of community among the GOA-ON community. Webinars, advertised on the GOA-ON Webinar Series [webpage](#), will take place every few weeks and will consist of a presentation followed by a question and answer session. All webinars will be recorded and shared on the [GOA-ON Youtube Channel](#). GOA-ON hopes to use this webinar series to lift the voices of early career scientists, like Pier2Peer mentees, and other members of the GOA-ON research community who wish to share their science with a broader audience. If you are interested in giving a presentation or would like to suggest a topic, please fill out this [form](#).

All webinars within the GOA-ON Webinar Series are recorded and can be viewed on the [GOA-ON YouTube Channel](#). For more information about the GOA-ON Webinar Series, check out its new [webpage](#).

Past webinars:

1. [Unifying biological observations to detect and compare OA impacts across marine species and ecosystems](#) (Sam Dupont, Steve Widdicombe)
2. [Measuring OA to support the 2030 agenda for sustainable development](#) (Kirsten Isensee, Katherina Schoo)
3. [Measuring protons with photons: A pH analyzer and community science program to change the relationship between humans and ocean science](#) (William Paradis, David Long, Kalina Grabb)
4. [What do you \(really\) need to know to understand multiple stressors?](#) (Sam Dupont, Christina McGraw, Christopher Cornwall)
5. [Canada's ocean acidification community of practice](#) (Kristina Barclay)

The next webinar will be shared by Dr. Mohammed Idrissi, Dr. Melissa Chierici, and Dr. Chibo Chikwililwa and will take place on Thursday, 10 June 2021 at 16:00 Central Africa Time (UTC +2). The webinar is entitled, "Arctic-African collaborative OA research on the Canary Current and Benguela Current upwelling systems". Register [here](#) and read more about it below.



Global Ocean Acidification
Observing Network

GOA-ON WEBINAR SERIES

Arctic-African collaborative OA research on the Canary Current and Benguela Current upwelling systems

Thursday, 10 June 2021 at 16:00 Central Africa Time (UTC +2).

Register here: <https://attendee.gotowebinar.com/rt/3237564080229696528>

Dr. Mohammed Idrissi

National Institute of
Fisheries Research,
Casablanca, Morocco

Dr. Melissa Chierici

University Centre on
Svalbard,
Norway

Dr. Chibo Chikwililwa

University of Namibia,
Namibia



Description: The Canary Current and the Benguela Current upwelling systems support significant local and international fish resources along the west coast of Africa. These fisheries contribute to the region's economy and provide important food and employment opportunities to coastal communities. In 2017, the 30-year long Ecosystem Assessment for Fisheries (EAF) Nansen Program, which is supported by the FAO and the Norwegian Ministry of Foreign Affairs, initiated studies on ocean acidification in these upwelling systems. The Canary Current Large Marine Ecosystem survey was performed between May 2017 and December 2019 aboard the R/V Dr. Fridtjof Nansen. It consisted of 110 stations situated at twenty seven sections perpendicular from the coast. Total alkalinity (TA) and pH data were collected using potentiometric titration and spectrophotometric pH measurements, respectively. The other parameters describing the carbonate chemistry and ocean acidification state were derived from TA and pH using the CO2SYS calculation program. Large variability along the coast was observed, connected to salinity changes, primary production, temperature, and biological processes. Results from a similar study focused on the Benguela Current upwelling system will also be shared during this webinar.



FUNDING & JOB OPPORTUNITIES

[REV Ocean Cruises in 2022](#)

Description: REV Ocean will be opening its first call for proposals for research and innovation projects on board RV REV Ocean in April 2020. We are looking for the best marine scientists and innovators globally, to focus on solutions to three of the most important challenges facing the ocean today: (1) plastic pollution, (2) climate change / ocean acidification, and (3) overfishing and destructive fishing impacts. To ensure research proposals are of the highest quality and match with REV Ocean selection criteria, all projects will be evaluated in a thorough and transparent international peer-reviewed process. The successful proposals will have access to the vessel and its equipment for cruises in 2022.

Deadline: TBD - The date of announcement and closing for this call will be relatively short; follow their social media and check their [website](#) to be alerted when the call opens.

[EMBO \(European Molecular Biology Organization\) Short-Term Travel Fellowships](#)

Description: Until the end of 2021, two of EMBO's Fellowship Programmes will consider applications for scientific exchanges involving institutes in Japan, an EMBC Member State, EMBC Associate Member State, or a country/territory covered by a cooperation agreement with EMBC.

Requirements: Short-Term Fellowships fund research exchanges of up to three months between laboratories in eligible countries. Awarded applicants can stay on their research visit for an additional three months maximum (NB: extension unfunded). The aim is to facilitate valuable collaborations with research groups applying techniques that are unavailable in the applicant's laboratory. Short-Term Fellowships are intended for joint research work, and are not awarded for exchanges between two laboratories within the same country.

Amount: Travel and living costs of the traveling fellow only.

Deadline: Fellowship applications are accepted on a rolling basis.

[40 Student Opportunities available through NOAA](#)

This list contains information about camps, events, scholarships, internships, fellowships, and other opportunities for a broad range of audiences including highschool students, undergraduates, graduate students, and post-docs.

Jobs Lists

[The Global Marine Community Newsletter & Jobs List](#)

[Ocean Opportunities](#)

[Josh's Water Jobs List](#)

[International Ocean Carbon Coordination Project Jobs](#)

[OA-ICC Job News Stream](#)

[NOAA OAP Job List](#)

[Ocean Carbon & Biogeochemistry List](#)

[Pathways to Science](#)

THE LATEST LITERATURE

OA-ICC bibliographic database

The OA-ICC bibliographic database currently contains more than 8,300 references related to ocean acidification, and includes citations, abstracts and assigned keywords. This bibliographic database is now freely available on the platform [Zotero](#). In order to access this database, go to either of these citations management websites and create a free account. Click on the Groups tab, search for “OA-ICC”, and join this group. **To receive daily notifications of new ocean acidification literature, news, and opportunities, subscribe to the [OA-ICC News Stream](#).**

Here are some of the latest OPEN ACCESS OA-related articles:

Bednarsek et al., (2021) Synthesis of Thresholds of Ocean Acidification Impacts on Echinoderms. *Frontiers in Marine Science*, <https://doi.org/10.3389/fmars.2021.602601>

Bernhard et al., (2021) Impacts of Multiple Stressors on a Benthic Foraminiferal Community: A Long-Term Experiment Assessing Response to Ocean Acidification, Hypoxia and Warming. *Frontiers in Marine Science*, <https://doi.org/10.3389/fmars.2021.643339>

Butenschon et al., (2021) Alkalinization Scenarios in the Mediterranean Sea for Efficient Removal of Atmospheric CO₂ and the Mitigation of Ocean Acidification. *Frontiers in Climate*, <https://doi.org/10.3389/fclim.2021.614537>

Capasso et al., (2021) Intracellular pH regulation: characterization and functional investigation of H⁺ transporters in *Stylophora pistillata*. *BMC Molecular and Cell Biology*, 22(18), <https://doi.org/10.1186/s12860-021-00353-x>

Caserini et al., (2021) Potential of Maritime Transport for Ocean Liming and Atmospheric CO₂ removal. *Frontier in Climate*, <https://doi.org/10.3389/fclim.2021.575900>

Feng et al., (2021) The Combined Effects of Increased pCO₂ and Warming on a Coastal Phytoplankton Assemblage: From Species Composition to Sinking Rate. *Frontiers in Marine Science*, <https://doi.org/10.3389/fmars.2021.622319>

Gonzalez-Delgado et al., (2021) Chemical characterization of the Punta de Fuencaliente CO₂-enriched system (La Palma, NE Atlantic Ocean): a new natural laboratory for ocean acidification studies. *Biogeosciences*, 18: 1673-1687, <https://doi.org/10.5194/bg-18-1673-2021>

Graiff et al., (2021) Seasonal Photophysiological Performance of Adult Western Baltic *Fucus vesiculosus* (Phaeophyceae) Under Ocean Warming and Acidification. *Frontiers in Marine Science*, <https://doi.org/10.3389/fmars.2021.666493>

Ishida et al., (2021) Long-term ocean acidification trends in coastal waters around Japan. *Scientific Reports*, 11:5052, <https://doi.org/10.1038/s41598-021-84657-0>

Keli et al., (2021) Comparative Sensitivities on Zooplankton to Ocean Acidification Conditions in Experimental and Natural Settings. *Frontiers in Marine Science*, <https://doi.org/10.3389/fmars.2021.613778>

Matoo et al., (2021) Temperature but not ocean acidification affects energy metabolism and enzyme activity in the blue mussel, *Mytilus edulis*. *Ecology and Evolution*, 11(7): 3366-3379, <https://doi.org/10.1002/ece3.7289>

Minuti et al., (2021) Increased Thermal Sensitivity of Tropical Marine Gastropods Under Combined CO₂ and Temperature Stress. *Frontiers in Marine Science*, <https://doi.org/10.3389/fmars.2021.643377>

Niemi et al., (2021) Biological Impact of Ocean Acidification in the Canadian Arctic: Widespread Severe Pteropod Shell Dissolution in Amundsen Gulf. *Frontier in Marine Science*, <https://doi.org/10.3389/fmars.2021.600184>

Siedlecki et al. (2021) Coastal processes modify projections of some climate-driven stressors in the California Current System. *Biogeosciences*, 18: 2871-2890, <https://doi.org/10.5194/bg-18-2871-2021>

Tangherlini et al., (2021) Ocean Acidification Induces Changes in Virus-Host Relationships in Mediterranean Benthic Ecosystems. *Microorganisms*, 9(4), <https://doi.org/10.3390/microorganisms9040769>

Wang et al., (2021) Regulation of apoptosis by Pacific oyster *Crassostrea gigas* reveals acclimation strategy to CO₂ driven acidification. *Ecotoxicology and Environmental Safety*, 217: 112235, <https://doi.org/10.1016/j.ecoenv.2021.112235>

Williamson et al., (2021) Ideas and perspectives: When ocean acidification experiments are not the same, repeatability is not tested. *Biogeosciences*, 18: 1787-1792, <https://doi.org/10.5194/bg-18-1787-2021>

Wimart-Rousseau et al., (2021) Seasonal and Interannual Variability of the CO₂ system in the Eastern Mediterranean Sea: A Case Study in the North Western Levantine Basin. *Frontiers in Marine Science*, <https://doi.org/10.3389/fmars.2021.649246>

Zheng et al., (2021) Effects of Ocean Acidification on Carbon and Nitrogen Fixation in the Hermatypic Coral *Galaxea fascicularis*. *Frontiers in Marine Science*, <https://doi.org/10.3389/fmars.2021.644965>