

# OA-ICC HIGHLIGHTS

*The latest news and updates from the OA-ICC and its partners*

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Participants in the OA-ICC training course on ocean acidification at the Kristineberg Centre for Marine Research and Innovation.

## Supporting Early Career Scientists

The University of Gothenburg, the OA-ICC, and GOA-ON's North Atlantic Hub held a training course on ocean acidification at the Kristineberg Centre for Marine Research and Innovation in Fiskebäckskil from 14 – 19 March 2022. The six-day course was conducted by the IAEA Marine Environment Laboratories, together with the University of Gothenburg, the Royal Swedish Academy of Sciences, and the Northeast Atlantic Hub of the Global Ocean Acidification Observing Network. It provided participants from 11 countries in Europe with the knowledge necessary for measuring and manipulating seawater carbonate chemistry, setting up experiments, avoiding typical pitfalls, and ensuring comparability with other studies.

The global community's concerns about ocean acidification are reflected in the United Nations Sustainable Development Goal 14, under Target 14.3: "Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels." For nearly 10 years, the IAEA Marine Environment Laboratories have supported countries in studying the impacts of, and addressing, ocean acidification through its Ocean Acidification International Coordination Centre (OA-ICC).

"I left the course feeling well equipped to produce high quality data and energized by networking with a diverse group of scientists," said Sarah Solomon, a participant from the Netherlands.

The IAEA OA-ICC's capacity building programme includes training courses like this one, as well as advanced and collaborative global research activities.

"Courses like this help advance science around the world, ultimately helping improve our understanding of, and shape our response to, ocean acidification," added Sam Dupont, senior lecturer at the University of Gothenburg and an IAEA Expert.



## New OA-ICC Associate Research Scientist

Sarah Flickinger joined the IAEA Marine Environment Laboratories in Monaco as an Associate Research Scientist for the OA-ICC. Sarah has a background in biological oceanography and molecular biology. She is excited to work with the OA-ICC on assisting in project implementation for the OA-ICC and to support GOA-ON as a new member of the GOA-ON secretariat. Welcome Sarah!



## UN Ocean Conference

Co-hosted by the Governments of Kenya and Portugal, the UN Ocean Conference aimed to strengthen progress surrounding some of the most defining issues of our time such as climate change, food insecurity, poverty, human and environmental health, biodiversity loss, and economic inequality. The overarching theme of the Conference was “Scaling up ocean action based on science and innovation for the implementation of SDG 14: Stocktaking, partnerships and solutions.”



IAEA Director General Rafael Mariano Grossi spoke at the UN Ocean Conference interactive dialogue on minimizing and addressing ocean acidification, deoxygenation and ocean warming.

The OA-ICC co-organized and participated in numerous events during the UN Ocean Conference in Lisbon, Portugal from the 27 June to 1 July 2022. The IAEA participated in the high-level interactive dialogue on “Minimizing and addressing ocean acidification, deoxygenation and ocean warming” on June 29 from 10am-1pm. The IAEA OA-ICC was a co-convenor of this topic, and together with IOC-UNESCO, was tasked with drafting the [concept paper](#) for the conference. The IAEA Director General Mr. Rafael Mariano Grossi served as a panelist with other high-level speakers, ocean scientists and practitioners. “Oceans are at the forefront of climate change: they absorb 30 per cent of CO<sub>2</sub> emissions, and the impact that’s having on oceans’ health is evident,” Mr. Grossi said. “We must act to save our oceans, and nuclear can help.” He explained how the IAEA’s laboratories in Monaco continue to be at the centre of

global marine environment research, using nuclear techniques to study the impacts of ocean acidification. The Director of the IAEA Marine Environment Laboratories, Ms. Florence Descroix-Comanducci, delivered closing remarks on behalf of the Director General. The event provided the opportunity to showcase the IAEA’s work on ocean acidification and climate adaptation. It can still be viewed [here](#).

Associate project officer of the OA-ICC, Ashley Bantelman and Research Scientist from NAML, Marc Metian participated in several high impact events and side-events on behalf of the OA-ICC, including a breakfast meeting on “Climate financing for ocean adaptation.” This working breakfast brought together international and regional OA science and policy coordinating bodies, national government representatives, and major international climate finance regimes with charges to support countries in developing and implementing climate adaptation and resilience strategies to advance goals of the Paris Climate Agreement and the 2030 Agenda. The OA-ICC sponsored the participation of three practitioners to attend the UNOC including to participate in this important event.



Side event and evening reception highlighting the UN Ocean Decade Programme: Ocean Acidification Research for Sustainability (OARS).





The OA-ICC also co-organized a side event on “Taking Action to Address Ocean Acidification & Implement SDG 14.3,” a side event and evening reception highlighting the UN Ocean Decade Programme: [Ocean Acidification Research for Sustainability \(OARS\)](#),” and an event titled “Ocean Acidification: Co-designing data connections to underserved communities for equitable outcomes,” a recording of which can be viewed [here](#).

### OA-ICC Releases New Training Material

The OA-ICC recently released new training material that is available to the general public on “[How to measure pH in biological experiments](#).” The material includes a simple video tutorial and manual for TRIS buffer preparation, pH probe calibration, sampling and calculations.

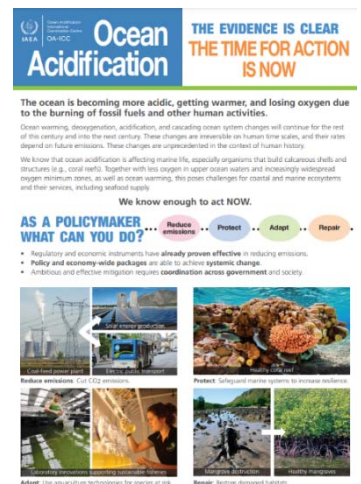
Measuring pH in seawater using a glass electrode is not trivial and requires TRIS buffer. TRIS buffers are commercially available from Dr. Andrew Dickson's laboratory at the Scripps Institution of Oceanography, California. However, access to this buffer can be difficult due to a continuously increasing demand as well as costs including shipping, customs fees, and taxes, making them less available for countries and laboratory with limited funds.

A simplified buffer preparation method is described in Paulsen & Dickson (2020) making the use of TRIS buffers available to a wider range of researchers. The aim of this train material is to help experimentalists entering the field of ocean acidification to make their own TRIS buffer, calibrate their glass electrodes for pH measurement on the total scale, take water samples and calculate pH on the total scale (pHT). The videos are available in English, French and Spanish.

### OA-ICC Publishes New Policy Briefing Based on Latest IPCC Reports

The OA-ICC published a new resource, titled “[Ocean Acidification: The Evidence is Clear. The Time for Action is Now.](#)” This policy briefing highlights the findings of the [Intergovernmental Panel on Climate Change Working Group I, II, and III reports](#) and details policy actions that can be enacted now.

The publication provides key solutions such as reducing CO<sub>2</sub> emissions, protecting marine systems to increase resilience, adapting to ocean changes, and repairing and restoring damaged habitats.



### The 5th International Symposium on the Ocean in a High CO<sub>2</sub> World



[The 5th International Symposium on the Ocean in a High-CO<sub>2</sub> World](#) is being organized by the Pedro Ruiz Gallo National University in cooperation with the International Atomic Energy Agency (IAEA) from 13-16 September 2022 in Lima, Peru. This Symposium follows the symposia in Paris in 2004, Monaco in 2008, Monterey in 2012, and Hobart in 2016, which were all key events for the international community of researchers studying ocean acidification and related stressors.

The focus of the 5th symposium, similar to that of the four previous symposia, is ocean acidification and the associated impacts on marine organisms, ecosystems, and biogeochemical cycles. Ocean acidification will be considered in combination with other global changes such as warming and deoxygenation. The Symposium is inter-disciplinary and contributions are expected to detail advances in observations, modelling, field, and laboratory studies. Dedicated



sessions will emphasize processes and impacts as well as consequences for humans and their potential responses through policy and management. Register for the Symposium [here!](#)

The OA-ICC will also be organizing two [side events](#) during the Symposium: The Ocean Acidification GOA-ON Regional Hub Coordination Workshop; and the SOLAS-IMBER Ocean Acidification (SIOA) and OA-ICC Expert Group Annual Meeting.

#### NEXT ISSUE:

- *The 5th International Symposium on the Ocean in a High CO<sub>2</sub> World*
- *SOLAS-IMBER Ocean Acidification (SIOA) and OA-ICC Expert Group Annual Meeting*
- *Ocean Acidification GOA-ON Regional Hub Coordination Workshop*
- *OA-ICC Multiple-Stressors Training in Monaco*
- *10th Anniversary of the OA-ICC*



Ocean Acidification  
International  
Coordination Centre  
**OA-ICC**

#### OA-ICC online resources:

- [OA-ICC news stream](#) – recent publications, media coverage, meeting announcements, jobs etc.
- [Twitter page](#) – tweets of the latest news stream posts, shared daily.
- [OA-ICC website](#) – information about activities and resources for different audiences / languages.
- [OA-ICC bibliographic database](#) – over 9,600 references with citations, abstracts, and keywords.
- [OA-ICC data compilation and portal](#) – on the biological response to ocean acidification: access to experimental data from 1,200 scientific papers on a user-friendly portal.

*The IAEA OA-ICC promotes global collaboration and activities to advance ocean acidification science, capacity building, and communication*

Contact the OA-ICC: [oaicc@iaea.org](mailto:oaicc@iaea.org)

OA-ICC project office: Ashley Bantelman, Carolina Galdino, and Sarah Flickinger

