IAEA
International Atomic Energy Agency
Atoms for Peace and Development

Basic Training Course on Ocean Acidification

Hosted by the
Government of Liberia

through the
United Methodist University (UMU)

Monrovia, Liberia

9–13 September 2024

Ref. No.: EVT2205463

Information Sheet

Introduction

This **Basic Training Course on Ocean Acidification** will provide participants with the foundations on how to improve ocean acidification monitoring, design relevant experiments, and bring awareness to the West Africa region. This Basic Training Course on Ocean Acidification is designed to give participants from the West Africa region an overview of the topic, including the scientific background knowledge, current research, and potential solutions. By the end of the course, participants will have a better understanding of the challenges and opportunities presented by ocean acidification and the critical role we all play in addressing this issue.

The course is intended for scientists from West Africa interested in learning more about ocean acidification. The course will cover various topics, including the chemistry and biology of ocean acidification, its impacts on marine ecosystems, and potential solutions for mitigating its effects.

The course will be taught by experts in the field of ocean acidification, who will provide lectures, interactive discussions, and hands-on activities to ensure that participants gain a comprehensive understanding of the topic. The course will also provide opportunities for participants to network with peers and engage with the broader ocean acidification community.

Objectives

Ocean acidification is a critical environmental issue that threatens marine life, ecosystems, and the livelihoods of coastal communities. Ocean acidification is caused by increasing atmospheric carbon dioxide (CO_2) being absorbed by the ocean, resulting in a drop in seawater pH. The West African region, particularly coastal areas, is particularly vulnerable to ocean acidification due to its reliance on the ocean for food, income, and recreation.

This course is a cooperative effort between the Environmental Protection Agency (EPA) and the United Methodist University (UMU) as local organizers, the IAEA Ocean Acidification International Coordination Center (OA-ICC), the Global Ocean Acidification Observing Network (GOA-ON) and the Ocean Acidification Africa Network (OA-Africa). It aims to improve ocean acidification monitoring, research, and awareness in West Africa. The course will train West African scientists on ocean acidification and how it affects ecosystems, marine life, and human lives.

Target Audience

The course is open to 20 trainees from the following countries: Angola, Benin, Cabo Verde, Cameroon, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Gabon, The Gambia, Ghana, Guinea, Liberia, Mauritania, Nigeria, Senegal, Sierra Leone, Togo, Democratic Republic of São Tomé and Príncipe, Guinea-Bissau and Republic of Equatorial Guinea.

Priority will be given to early-career scientists with experience in marine sciences. Scientific publications in related fields will be valued.

Working Language(s)

English

Expected Outputs

The initiative is expected to achieve several outcomes, including:

1. Improved monitoring and research capabilities among local communities and researchers to better understand the impacts of ocean acidification on marine life, ecosystems, and human livelihoods.

2. Tools to design a local and regional strategy to identify scientific priorities to minimize and address the impact of ocean acidification.

3. Developing a network of community-based organizations and researchers equipped to monitor and address ocean acidification in West Africa.

4. Creating opportunities for local communities to develop policies and practices to minimize and address ocean acidification impacts.

Structure

The training will include lectures in plenary and hands-on experiments in smaller groups (the level will depend on the basic knowledge of the selected participants). Subjects to be covered include:

- Theoretical aspects of ocean acidification from chemistry to society;
- The characterization of the seawater carbonate chemistry including making TRIS buffer;
- Calibration of pH electrodes;
- Measurement of total alkalinity;
- Software packages used to calculate CO_2 system parameters;
- Key aspects of ocean acidification experimental design, such as manipulation of seawater chemistry, selection of relevant scenarios, etc;
- Biological perturbation approaches, including simplified methodologies;
- Lab- and field-based methods for measuring organism responses to seawater chemistry changes, including nuclear and isotopic techniques.

Participation and Registration

All persons wishing to participate in the event must be designated by an IAEA Member State or should be members of organizations that have been invited to attend.

In order to be designated by an IAEA Member State, participants are requested to send the **Participation Form (Form A)** to their competent national authority (e.g. Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority) for onward transmission to the IAEA by **8 August 2024**. Participants who are members of an organization invited to attend are requested to send the **Participation Form (Form A)** through their organization to the IAEA by the above deadline.

Selected participants will be informed in due course on the procedures to be followed with regards to administrative and financial matters.

Participants are hereby informed that the personal data they submit will be processed in line with the Agency's Personal Data and Privacy Policy and is collected solely for the purpose(s) of reviewing and

assessing the application and to complete logistical arrangements where required. The IAEA may also use the contact details of Applicants to inform them of the IAEA's scientific and technical publications, or the latest employment opportunities and current open vacancies at the IAEA. These secondary purposes are consistent with the IAEA's mandate.

Expenditures and Grants

No registration fee is charged to participants.

The IAEA is generally not in a position to bear the travel and other costs of participants in the event. The IAEA has, however, limited funds at its disposal to help meet the cost of attendance of certain participants. Upon specific request, such assistance may be offered to normally one participant per country, provided that, in the IAEA's view, the participant will make an important contribution to the event.

The application for financial support should be made using the **Grant Application Form (Form C),** which has to be stamped, signed and submitted by the competent national authority to the IAEA together with the **Participation Form (Form A)** by **8 August 2024**.

Venue

The event will be held at the Bella Casa Hotel and Suites, in Monrovia, Liberia.

Additional Information

Those participants who have been designated by the relevant authorities of an IAEA Member State and have been selected by the IAEA will be informed by **9 August 2024**.

The course is funded through the IAEA and co-sponsored by the International Alliance to Combat Ocean Acidification (OA Alliance).

Participants should also make their own arrangements for transportation, passports, visas, and vaccinations (including COVID, if required). The closest airport is Roberts International Airport (ROB) in Harbel, Liberia.

Additional Requirements

The participants should have a university degree in marine chemistry, biology, oceanography or a related scientific field, and should be currently involved in or planning to study ocean acidification.

Selection will be based on merit and interest. Your applications should include:

* A motivation letter with a short description of your research interest, why you would like to participate, and your plans regarding present and future ocean acidification research (max one A4 page).

* CV with publication list.

IAEA Contacts

Scientific Secretary:

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PRINCIPALITY OF MONACO

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Subsequent correspondence on scientific matters should be sent to the Scientific Secretary and correspondence on other matters related to the event to the Administrative Secretary.

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Form A
EVT2205463

Participation Form

Basic Training Course on Ocean Acidification

Monrovia, Liberia

9–13 September 2024

To be completed by the participant and sent to the competent national authority (e.g. Ministry of Foreign Affairs, Permanent Mission to the IAEA, or National Atomic Energy Authority) of his/her country for subsequent transmission to the International Atomic Energy Agency (IAEA) either by email to: Official.Mail@iaea.org or by fax to: +43 1 26007 (no hard copies needed). Please also send a copy by email to the Scientific Secretary L.Hansson@iaea.org and to the Administrative Secretary C.Galdino@iaea.org.

Deadline for receipt by IAEA through official channels: 2 August 2024

Family name(s): (same as in passport)	First name(s): (same as in passport)	Mr/Ms
Institution:		
Full address:		
Tel. (Fax):		
Email:		
Nationality:	Representing following Member State/non-Member State/entity or invited organization:	

Participants are hereby informed that the personal data they submit will be processed in line with the Agency's Personal Data and Privacy Policy and is collected solely for the purpose(s) of reviewing and assessing the application and to complete logistical arrangements where required. The IAEA may also use the contact details of Applicants to inform them of the IAEA's scientific and technical publications, or the latest employment opportunities and current open vacancies at the IAEA. These secondary purposes are consistent with the IAEA's mandate.

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Form C
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Grant Application Form

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Family name(s): (same as in passport)	First name(s): (same as in passport)	Mr/Ms:
Mailing address:	Tel.:	
	Fax:	
	Email:	
Date of birth (yy/mm/dd):	Nationality:	

1. Education (post-secondary):

Name and place of institution	Field of study	Diploma or Degree	Years attended from	to

2. Recent employment record (starting with your present post):

Name and place of employer/ organization	Title of your position	Type of work	Years worked from	to

3. Description of work performed over the last three years:

4. Institute's/Member State's programme in field of event:

Date: **Signature of applicant: _____**

Date: **Name, signature and stamp of Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority _____**