

POGO-SPONSORED TRAINING INITIATIVE Report

1. Name of grant recipient (Proposal Coordinator)

Annette Jaya Ram

2. Title of training

Global Ocean Oxygen Decade (GOOD) & Ocean Acidification Research for Sustainability (OARS) Summer School 2025: Advancing Multidisciplinary Ocean Science in Tropical Ecosystems

3. Dates of training (e.g., 01 Jan 1999)

Start date: 4 Nov 2025

End date: 11 Nov 2025

4. Location of training (e.g. institute, city, country) Please indicate if online/in person/hybrid.

Centre for Marine and Coastal Studies, Universiti Sains Malaysia (in-person)

5. Number of trainees: 5 [trainees sponsored by POGO], total of 51 participants

6. Other partners/funding sources

List available: <https://penangsummerschool2025.usm.my/>

7. Provide an outline of the training course/initiative (objectives, format, topics)

Full programme can be included as an Appendix.

Objectives: The summer school aims to teach the skills and knowledge of the many disciplines needed to understand the ocean and atmospheric processes involved in ocean deoxygenation and acidification with a focus on tropical marine systems. It will engage graduate, doctoral students and early career scientists to recent developments and methodologies in the study of biogeochemical and physical feedbacks between the ocean and atmosphere in a changing environment and how these affect marine ecosystems.

Format: The school was conducted in-person where the participants lived within the Centre for Marine and Coastal Studies' lodging facilities. They had lectures, hands-on lab demonstrations and field visit for on-site sample collection and observation.

Topics:

Introductions to ocean deoxygenation and acidification
Coastal and open ocean deoxygenation
Biological responses to deoxygenation and acidification
Observing systems for deoxygenation and acidification
Physical and biological settings of the local marine environment of Penang
Prediction and modelling of future deoxygenation and acidification
Perspectives from paleoenvironments
Data management of biogeochemical data
Ecosystem modelling
International coordination and frameworks

Scientific communication with stakeholders
Ethics in science

8. Provide a summary of the students' performance and any informal feedback received

Please note that an evaluation questionnaire will be sent to the participants by the Secretariat and therefore we ask that you provide a list of trainees and their e-mail addresses. The questionnaire results will be shared with you in due course.

Trainees generally gave very positive feedback towards the school. We sent a survey form for them to provide responses, this is shared as a separate sheet.

Based on 4 responses from the POGO sponsored trainees:

Most participants were very satisfied or satisfied with the summer school, indicating that the programme met their expectations and successfully delivered the content that was announced. The learning activities were seen as effective in helping participants achieve the intended outcomes and instructors were consistently viewed as supportive and clear in their guidance. Pre-event communication and logistics also received positive feedback, suggesting smooth organization and participant experience throughout.

Respondents highlighted the most valuable elements of the programme as its engaging content, interactive sessions and opportunities for knowledge exchange. Suggestions for improvement mainly centred around further enhancing interactivity, refining sessions structure and incorporating more hands-on or applied components. Participants expressed intentions to apply what they learned in their research, studies and future professional work, reflective of strong relevance and knowledge transfer. Overall, feedback shows the summer school was well received, impactful and appreciated with constructive suggestions to guide an improved event in the future.

9. Do you have any plans for future collaboration with the students, the host institute (if applicable) or for future editions of the training course?

Yes, networks were built and possible collaborations are forming amongst the participants.

10. List of trainees

Please fill in the attached Excel spreadsheet with the list of trainees.