International Conference
ScienceDIVER in the Blue Economy Era
Educational Approaches - Operational Challenges - Occupational Modes
20 & 21 April 2023 Valletta, Malta (hybrid)

SESSION TOPICS

SESSION 1. Education and training for the next generation of scientific divers

The session aims to present the currently existing panorama regarding the training and education offer in the field of scientific diving at European and worldwide level. The session has the goal to analyze both the current context with the training offers available and the future development perspectives with a broad approach linked to the continuous evolution of new digital technologies used in scientific diving, also considering the ever-increasing attention paid to the study and conservation of the marine environment as well as the ocean protection. Furthermore, in this environmental-change epoch, the need to follow a holistic approach to the diversified studies and research on the climate change and ocean acidification is greater. The scientific diving training programmes can play a crucial role in supporting the field research providing new approaches and skills to explore the marine environment.

Questions to be answered:

- Which is the current training and education offer in Europe and worldwide?
- Are there any gaps in the existing training programmes?
- How could the training of scientific divers support the evolving needs of marine research?
- How new technologies should be taught in the scientific diving training courses?

SPECIFIC TOPICS

1. Describing training courses experiences performed in the field of scientific diving in Europe and worldwide.
2. Analyzing the state of the art of training courses currently adopted and/or implemented in Europe and worldwide, at both academic and non-academic level, and assessing the effectiveness of the training methodologies and programmes adopted.
3. Discussing the training gaps (topics to be covered in the future, also considering the ever-increasing use of new technologies and digital skills).
4. Discussing the possible scientific diving training courses paths to be differentiated for different students' backgrounds.

SESSION 2. Challenges and Implications of Scientific Diving

Facing the challenges of UN's "Decade of Ocean Science for Sustainable Development" and the needs of the Blue Economy Market, scientists and stakeholders around the world develop new tools and new methodologies in order to promote innovative and effective research projects. In

this framework Scientific Diving has to adapt to a wider and more complex environment of interaction that brings together scientists, supporting crew, stakeholders, administrators, policy makers, entrepreneurs and of course the public. Moreover, the advancement of digital technologies, the endorsement of sustainability and "greener" policies, the promotion of Ocean Literacy and the publicization of underwater knowledge form the milieu, on which new multidisciplinary approaches and consensual practices are being currently developed and new channels of interdisciplinary collaborations are being structured. All the above highlight the need for the adoption of common Guidelines, Regulations and Standards in Scientific Diving, in order to facilitate international mobility, to effectively incorporate state-of-the-art technologies or follow new trends in research methodology, to emerge discussions on ethics and the interaction between science and the community and finally, to deliver a stable educational and occupational framework for Scientific Divers. This session will address these matters focusing on their challenges and their implications, either through the study of already established structures or through the proposal of new ideas on how to provide a modern Scientific Diving framework.

SPECIFIC TOPICS

1. The advancement of Scientific Diving through Digital Technologies
2. Green Scientific Diving and sustainability in the Blue Economy era
3. Adoption of Guidelines, Regulations and Standards in Scientific Diving (at various scales)
4. Ocean Literacy and the Politicization of the Underwater Knowledge
5. Multidisciplinary approaches and Consensual practices
6. Regional implementations and local frameworks

SESSION 3. Operational Challenges

This session aims to discuss the challenges of scientific diving as well as presenting relevant practical examples. The session focuses on different aspects of underwater scientific field work, in particular: a) biological work involving the sampling of organisms or behavioral studies underwater, b) scientific work on archaeological and/or underwater cultural heritage sites, and c) geological work underwater.

SPECIFIC TOPICS

1. Discussing the challenges of biological work involving the sampling of organisms or behavioral studies underwater with various practical examples.
2. Discussing the challenges of scientific work on archaeological and/or underwater cultural heritage sites with various practical examples.
3. Discussing of the challenges of geological work underwater with various practical examples.

SESSION 4. Towards a common Occupational Framework for Scientific Diving

Considering there is not yet a common legal framework for scientific diving in Europe and globally, will introducing ISO standards for scientific diving help solve this problem? Following the establishment of new ISO standards, will the introduction of an EU Directive contribute to bridge the gaps? What is the way for the creation of a common occupational framework for scientific diving in Europe and what are the challenges for scientific divers? When working in scientific diving projects, still today all participant divers are not recognised as scientific divers but rather as recreational, commercial, or professional divers. What should change and how can we achieve that divers working in such projects are recognised as scientific divers? What are the open issues regarding the recognition of the professional rights of scientific divers in Europe, including safety, health insurance, salary etc.? Are there currently career opportunities for young scientific divers and which factors define any career paths? How can we connect academia and scientific diving to enhance this possibility? How can young scientific divers and students acquire skills, and how could they be supported to have the necessary equipment, given the high cost involved in scientific diving training and gaining experience?

SPECIFIC TOPICS

1. A legal framework for Scientific Diving in EU and globally. Identifying challenges & bridging the gaps.
2. Recognizing scientific divers among recreational, commercial, and professional divers when working together.
3. Connecting academia and marine industry. Career paths for young scientific divers.
4. How to support young scientific divers and academic students to gain skills and experience in scientific diving.