

CIESM Congress Session : Blue Biotech (marine invertebrates and extremophile microbes)

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Moderator's Synthesis

Marine biotechnology explores and uses marine bioresources as the target for or origin of technological applications, which are used for the production of products and services. As such, the field is very broad with respect to resources, basic research needed to describe and protect the biodiversity but also in terms of developing sustainable processes for the broad variety of application fields, spanning from drug production, industrial process development to ecosystem management and many more. Marine invertebrates and the microbes of extreme marine environments have been very much in the discovery and development focus, leading to a number of success stories but also illustrating the bottlenecks in the development. This was reflected in the flash presentations of the session and was actively discussed along these questions:

- How to increase diversity for discovery?
- Any forerunners and best practices for sustainable blue biotech?
- Hottest technologies to be taken up by the field?
- Most difficult obstacle for blue biotech?
- What will the next generation of blue biotech scientists need?

The main directions of the discussions were along the multidisciplinary of the topic, which often leads to “language” problems, even between different subcategories of one field. As an example, it was highlighted that a systems biologist could provide the insights into substrate binding properties enzymes, which a marine biotechnologist is desperately looking for. However, in their normal community they do not necessary meet and talk to each other. It was stated that so many disciplines could contribute to the development of the promising potential of marine biological resources. In terms of approaches, it was recommended to especially use geographical differences as an advantage, as environmental conditions strongly influence the product spectra of (marine) organisms. Last but not least, the role of integrated training for the next generation of blue biotechnologists was emphasized.

