



European Society for Marine Biotechnology

NEWSLETTER

04 – December 2020

President´s message

President´s welcome message



Dear members,

As the President of the European Society for Marine Biotechnology (ESMB), it is my great pleasure to welcome you to the second ESMB's newsletter of 2020.

The ESMB society was set up to promote marine biotechnology in Europe. In the 25th year of our foundation, we continue to facilitate close research collaboration between marine biotechnologists, as well as training and education of young marine biotechnologists.

The recent coronavirus COVID-19 pandemic has affected everybody, and our society is no exception. We strongly believe that during this difficult time we need to stay connected, support each other, and educate young marine biotechnology researchers. Since training young marine biotechnology researchers at international laboratories was not possible, we came with the idea of distance learning and training. The ESMB society launched a series of webinars from leading researchers in the field of marine



biotechnology. The topics of webinars ranged from wood-eating animals to plastic degrading enzymes, microbe-derived bioactive compounds, aquaculture, and biofouling. The first webinar was given by Prof. Simon Cragg, in the UK on the 11th of August 2020, titled “Marine wood borers” and the second one was given by Dr. Lucie Novoveska, the UK on the 10th of November 2020, titled the “Nagoya Protocol on Access and Benefit-sharing”. The webinars were free to attend and their recording can be found on our society’s website. We hope these webinars will act as a platform for promoting and further enhancing collaborations while offering a window to new developments and stimulate interesting scientific conversations.

This newsletter has been set-up to communicate with the ESMB members, facilitate the sharing of news, and to promote ESMB’s activities. If you have any research ideas that you would like to share with the society, please let us know, and we will try to cover these in our upcoming newsletters. In the meantime, do stay in touch with us via our website, Instagram, or LinkedIn.

In these difficult times, ESMB hopes that you and your relatives stay safe and in good health.

Yours Sincerely,
ESMB President
UNESCO Chair in Marine Biotechnology
Dr. Sergey Dobretsov

ESMB CONFERENCE

Recognising the relevance of scientific conferences as moments for discussion of results and the latest discoveries, but also for networking, the ESMB continues the efforts for the organization of an international conference on marine biotechnology.

Initially planned for this month, the impact of the COVID-19 pandemic has forced the decision to postpone the event. It is now planned to 22-24 September 2021. Stay tuned for further information.

This event aims to trigger the regular organization of a congress of the European Society for Marine Biotechnology. Proposals for the organization of next editions are welcome.

OTHER CONFERENCES AND WORKSHOPS

ESMB endorses other events organized by their associates or highly relevant for the field, upon analysis of the board. The following are highlighted.

ALL-ATLANTIC OCEAN RESEARCH FORUM

3 and 4 December 2020, on-line event

The event, hosted by the Department of Science and Innovation, South Africa in cooperation with the Directorate-General for Research and Innovation of the European Commission, will digitally bring together ocean leaders, policy-makers, youth, researchers, entrepreneurs, academics, civil society and many inspirational speakers!

The Forum will provide a platform to showcase progress of initiatives that have been initiated in efforts to support the implementation of the [Belém](#) and [Galway](#) Statements.

The conference programme, registration page and other practicalities are available at:

<https://allatlanticocean.org>

LIPIDS IN THE OCEAN. Structure, function, ecological role and applications

Has been postponed to **5-8 July 2021, Aveiro, Portugal**

This event will be a great opportunity for researchers, students and stakeholders to share their knowledge, expertise and new ideas on marine lipids and advance our knowledge on the study and potential applications of these biomolecules. Lipids play a key role when aiming to understand complex trophic-interactions in the marine realm, as they allow to shed light over the recurrent question of "who is eating what". Marine lipids can also reveal local to regional adaptations of marine organisms to shifting biotic and abiotic conditions, a feature of extreme relevance if one considers the ongoing changes on the oceans of today and tomorrow. These molecules allow researchers to work at multiple organizational levels, from unicellular marine organisms to the functioning of whole ecosystem.

More information available at:

<http://lipids2021.web.ua.pt/>

PAST EVENTS

Some events endorsed by ESMB have taken place in the past months, mostly on-line by imposition of contingency measures determined to fight COVID-19. Here you can find a short report of those events.

Marine biobased products: challenge for a sustainable innovation based on the three p's (planet, people, profit)

12 June 2020, on-line event

The workshop "Marine biobased products: challenge for a sustainable innovation based on the three p's (planet, people, profit)" held on 12 June 2020, organized under the

project BIOVOICES, the Italian society of experimental biology (SIBS) and ESMB, registered a great success.

The main topics of the workshop were sustainability and ethics associated with the production of marine biobased products, nutraceuticals, human health and the development of local and regional markets through industrial applications of biobased products.

The workshop registered the participation of 103 users connected both through the BIOVOICES platform and on social networks.

The participants were connected from all over Europe and beyond, including non-European countries such as Afghanistan, Tunisia, Aruba and Angola.

Through the platform www.menti.com participants were able to interact with the organizers and speakers, from this interaction it emerged that 43% of the participants belonged to the academic and research world.

To the participants and the speakers, it was also asked what could be the next steps in the marine bioeconomy. Responses were mainly related to the need to increase the transfer of information from research to industry and the need to expand collaboration between researchers through networking and inter-collaboration consortium.

Marine by-products and fishery by-catch valorization in the era of zerowaste

Webinar within the 2020 edition of "Blue Sea Land – Expo of Mediterranean, African and the Middle Eastern Clusters

23rd of October, on-line event

Blue Sea Land Expo of Mediterranean, African and Middle Eastern Clusters is one of the most important international events taking place in Mediterranean, organized by the District of Fisheries and Blue Growth, in close collaboration with the Sicilian Region, the Ministry of Foreign Affairs and International Cooperation and the MIPAAF of Italy (<https://www.bluesealand.org/en/home-nuova-english/>).



This event has had, since its first edition, the objective of developing diplomatic, scientific and economic cooperation among countries.

This year, at the 23th of October, under the patronage of ESMB, the online webinar "*Marine by-products and fishery by-catch valorization in the era of zerowaste: Implementation of triple bottom line approach for sustainable management of marine resources*", was hold, thanks to the participation of researchers, stakeholders and industrial representatives from all around Europe.

The themes of the workshop acquired, in the COVID emergency and its repercussions on value-chains, economy and consumers, an even greater importance, focusing on the absolute need to recover all marine raw materials of high biological value otherwise destined for disposal, avoid waste, direct policies towards the adoption of concrete actions based in scientific evidence, for the benefit of resources and sustainable economy.

With the organization of this session, the ESMB wants once again to promote the interaction among European countries to exchange good practices and find innovative and concrete solutions for the benefit of the environment, a common resource. Among others, members of the ESMB board gave their contribution to the workshop, as Concetta Messina from University of Palermo (chair), Claire Hellio and Valentin Foulon, from University of Brest, and Tiago H. Silva, from University of Minho.

The workshop registered more than 450 participants from all around Europe, Africa and IORA countries. The complete agenda and the full youtube session is available at the following link

<https://social.bluesealand.org/it/community/join/open-join?id=94>

Webinars

ESMB WEBINARS

With the goal of expanding the activities of the society and consequently its impact on marine biotechnology in Europe, ESMB wants to contribute to the discussion and knowledge exchange among scientists and stakeholders in general, by organizing several webinars. The ESMB Webinar Series will be inviting guest speakers from around the globe, to present their work linked with the exciting field of Marine Biotechnology.

Topics may range from wood-eating animals and their biotechnological potential, to plastic degrading enzymes, microbe-deriving bioactive compounds, aquaculture and biofouling, new materials, drugs and many, many more.

The first webinar was given by Prof. Simon Cragg, at 11th of August 2020, on "Marine wood borers".

Prof. Simon Cragg is professor of Marine Zoology in the School of Biological Sciences, University of Portsmouth, UK, with research interest on the mechanisms for digesting woody plant detritus in the marine environment.

The next one was given by Dr Lucie Novoveska, at 10th of November 2020, on the "Nagoya Protocol on Access and Benefit-sharing".

Dr. Lucie Novoveska is senior researcher in Algal Biotechnology in the Scottish Association for Marine Science, UK, with research interest on the development of innovative products from algae with potential for commercial application.

Next coming soon!

The webinars are free, but require registration [here](#).

If you haven't had the opportunity to attend or want to recall something, you can check the recorded version [here](#).

Training of Young Researchers

TRAINING AND PLACEMENT OPPORTUNITIES

One of the most relevant aims of ESMB is the contribution to the training of young researchers on this exciting field of marine biotechnology, with a training and exchange platform embedded at the ESMB website, with two main vectors:

- post-graduation and advanced courses on marine biotechnology and associated specific fields;
- opportunities for training periods, internships and fellowships at international labs, under the scope of research projects in which marine biotechnology plays a pivotal role.

Besides, there is also an opportunity to place a request for training not available among the listed proposals.

The COVID-19 pandemic has been very deleterious for mobility, and the physical displacement activities are mostly suspended until it is safe and allowed by national authorities. This and other information can be obtained in:

[available placements](#)

Nevertheless, news ways are being pursued and two placements, under ESMB patronage, were successfully concluded during the past academic year.

Both students came from Aristotle University of Thessaloniki (Greece) and both have their traineeship at the laboratory of Marine Biochemistry and Ecotoxicology, University of Palermo (Italy), under the supervision of the board member Concetta Messina.

Theodora Ioannou gave her second traineeship in the same lab and, following this experience, she gained the Msc in Bioanalysis and-Pharmaceutical Analysis.

Angeliki Kostoglou, completed her traineeship (both in presence and virtual mode) also in the field of marine biochemistry and this experience will let her to obtain the bachelor degree.

Follow the stories, also on Facebook and Instagram.

ANGELIKI KOSTOGLOU

Profile

"My name is Angeliki Kostoglou, I am 21 years old and I come from Serres, Greece. I am an undergraduate student in Department of Chemistry of Aristotle University of Thessaloniki. I was grateful for finding out the ESMB network; and for being an Erasmus+ student in University of Palermo, doing my traineeship in Laboratory of marine Biochemistry in Trapani!"



Traineeship project for Bachelor degree at the Laboratory of Marine Biochemistry and Ecotoxicology

"My project in ESMB placement was the extraction of bioactive compounds from marine organisms and the evaluation of the effects in cell culture for pharmaceuticals and cosmetics application. During almost the one month that I stayed in Trapani, I was getting accustomed with the laboratory techniques, such as isolation; principally of antioxidants, carotenoids, lipids from microalgae, chemical and supercritical extraction, biochemical tests, and instrumental analytical techniques. The most interesting addition in my background is that.

My supervisor in laboratory, Prof. Concetta Maria Messina, let me continue my traineeship with teleworking when the COVID-19 was in peak in Italy, and actually helped me significantly to travel back to Greece to be safely with my family! Now, two months after completed my traineeship, richer of experience and knowledge, I owe many thanks to my professors, to PhD and Master students from laboratory in Trapani, and of course to ESMB network for giving me the opportunity to practice in a top marine biochemistry laboratory and inflaming my aspiration to specialize in biochemistry!"

THEODORA IOANNOU

Profile

"I studied Chemistry at the Aristotle University of Thessaloniki and during the final year of my studies I had chosen the field of Analytical-Environmental Chemistry with my undergraduate thesis focused on automated analytical techniques in water samples. In Greece I had a two-month traineeship at the Veterinary Hospital of Greek Army in which I worked with HPLC, SPE and ICP-MS instrumentations, water analysis in routine level and before my work there is completed, I started searching other organizations in order to gain more experience in laboratory work.



I found ESMB through internet and directly contact prof. Hellio to get a permission for a traineeship. I chose the laboratory of Marine Biochemistry and Ecotoxicology in Trapani with prof. Messina as supervisor. My first Erasmus project was about the isolation and evaluation of bioactive compounds from marine, extremophiles and halophyles species, with focus on halophyles species of Calendula, by extraction with different solvents from chemical to supercritical solvents. Since joining the lab, I worked with state-of-the art equipment and gained experience in biochemical/chemical assays like, DPPH, total phenol content, reducing power. This traineeship gave the chance to be a co-author of a research paper.

- *Finishing my placement through ESMB I returned in Greece to continue my studies on Master level [MSc in Bioanalysis-Pharmaceutical Analysis, Dep. of Chemistry, Aristotle University of Thessaloniki] and decided to return at the laboratory of Marine Biochemistry to do my dissertation again through Erasmus+ program."*

Research project for MSc Thesis at the Laboratory of Marine Biochemistry and Ecotoxicology

"The project of my Msc thesis was focused on the evaluation of lipid profile, antioxidant productivity and biochemical markers in marine microalgae strains under different nutritional strategies.

During my stay in the lab, for six months, I worked on:

1) the maintenance and cultivation of microalgae, 2) extraction of bioactive compounds from microalgae and evaluation of bioactive properties in vitro, 3) quantification of fatty acid profile, 4) evaluation of molecular switches of key-enzymes of central metabolic pathways associated with lipid metabolism and photosynthesis.

At the laboratory of prof. Messina I had the chance to work with state-of-the-art instrumental and molecular techniques and among these I delve deeply into microalgal metabolism and biochemistry. Through this work I will also be a co-author of a research paper and posters. Furthermore, I had the chance to participate in seminars, virtual workshops and learn even more about marine sciences.

I am grateful that I've met and worked with professor Messina. She is the one that always gives me purpose, motivation to continue further in research, by assigning so interesting research projects. I really enjoyed both times my stay in Sicily and the chance I had to make so many friends from worldwide. Be much obliged to ESMB board and specifically to professor Claire Hellio, who firstly allowed me to do a traineeship through ESMB and gave me the chance to gain more experience and research activities in diverse areas of bioscience."

Recent publications

MARINE BIOTECHNOLOGY

Marine biotechnology (ISSN: 1436-2228 Print, 1436-2236 Online), edited by Springer (Editor-in-Chief: Zhanjiang Liu), is the official journal of The European Society for Marine Biotechnology, where high quality papers covering different aspects of the field can be explored. It is indexed in many different systems and currently has an impact factor of 2.798 (Clarivate Analytics 2018).

The latest issues of *Marine Biotechnology* can be browsed in the following links:

- [Volume 22, Issue 6 \(December 2020\)](#)
- [Volume 22, Issue 5 \(October 2020\)](#)
- [Volume 22, Issue 4 \(August 2020\)](#)

As ESMB member, you have full access to the contents of the journal. To experience it, go through the website of the Society and, within the tab "Membership", you will find the option "journal". Alternatively, you can go through the link: <https://www.esmb.org/journal.html>

Your membership login details will be needed.

OTHERS

Recently, two texts on marine biotechnology relevance on research and economy have been disclosed, addressing the role that this discipline can have on the design of R&D policies and strategies.

A New Network for the Advancement of Marine Biotechnology in Europe and Beyond

<https://doi.org/10.3389/fmars.2020.00278>



The potential of marine origin compounds and materials for different fields of industry and for the Society as a whole is today widely recognized. However, collaborative efforts are needed to realize this potential. This perspective article advocates such collaborative frameworks and presents on initiative: [Ocean4Biotech](#). This is a European Cooperation in Science and Technology (COST) Action bringing together stakeholders in marine biotechnology, counting with the participation Michèle Barbier, a ESMB board member.

Fifty Shades of Blue: How Blue Biotechnology is Shaping the Bioeconomy

<https://doi.org/10.1016/j.tibtech.2020.03.011>

This manuscript addresses the momentum that novel uses of marine resources and biotechnological tools have been establishing, namely regarding new approaches with impact in economy, being new business models or pivotal examples of successful entrepreneurship. It points out current bottlenecks, shedding light on the routes that can be explored to capitalize these efforts as impact on bioeconomy.

Key documents

A new Research and Innovation Framework Programme is being established at the European Union for the period 2021-2027, called Horizon Europe. As this will set the basis for research in Europe in the coming years, you may know more about it in: https://ec.europa.eu/info/horizon-europe_en

Horizon Europe will incorporate Missions as umbrellas of research and innovation to pursue well-established goals and increase the impact of funding. Five main areas were identified as Missions, being one devoted to "[Healthy oceans, seas, coastal and inland waters](#)". After several high-level discussions and contacts with different stakeholders, the Mission Board has come up with a proposal of Mission Starfish 2030. You can access the report [here](#).

**Collaborative
Projects
And
Calls for
Funding**

OPEN AND FORTHCOMING CALLS

HORIZON EUROPE

The texts of the work programmes on the different themes are being prepared. Contact your national contact point (NCP) for further details.

European Green Deal

Call was launched at mid-September 2020, with 9 topics open for funding. Details can be found [here](#).

Cost Actions

<https://www.cost.eu/funding/how-to-get-funding/open-call/>

(deadline: 13 November 2020, 12:00 CET; others will follow)

ERA-NET BlueBio COFUND

- Cofund call and 1st Additional Call closed. A 2nd Additional Call is expected for 2021. General Information is available [here](#).

The Society

The European Society for Marine Biotechnology (ESMB) was established in France on 26th of April 1995, aiming to promote marine biotechnology in Europe and closer research collaboration between marine biotechnologists.

The ESMB is the European body for promoting marine biotechnology in Europe and functions as a marine biotech hub for dissemination of marine biotech activities and policies in Europe.

A particular vector of ESMB is the training platform, illustrating the educational oriented focus of the society, aiming to contribute to the formation of young researchers for this multidisciplinary demanding field. Besides, ESMB organizes and endorses conferences and workshops of relevant topics.

ESMB's official journal is [Marine Biotechnology](#), edited by Springer.

To learn more about us, visit the [website](#) and follows us in [LinkedIn](#).

The current board (2020-2021) is:

President **Sergey Dobretsov**

Vice-President **Concetta Messina**

Secretary **Michèle Barbier**

Treasurer **Jean-Pascal Berge**

Elected board member **Jeanette Hammer Andersen**

Elected board member **Maria Salta**

Elected board member **Roberto T. Abdala Diaz**

Elected board member **Tiago H. Silva**

Elected board member **Torger Børresen**

Industry representative **Jean-Paul Cadoret**

University of Brest representative **Claire Hellio**

Elected Student representative **Eleonora Curcuraci**

Honorary member of the board **Yves Le Gal**

Honorary member of the board **Grant Burgess**

Publisher's representative **Victoria Ferrara**