



**INTERNATIONAL PERMANENT SECRETARIAT
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- PRESS RELEASE -

**Prof. John van der Oost opened the Series
of
BSUN Master Courses on Blue Growth**

On April 8th, 2021, it took place the Course of Prof. John Van der Oost, entitled "*CRISPR-Cas Systems - history, biology and applications*".

Prof. Van der Oost is a Microbiologist, Ph.D. and Professor at Wageningen University & Research, with a broad experience in scientific research at Helsinki University, European Molecular Biology Laboratory (Heidelberg, Germany), Free University of Amsterdam and in many other Universities. Prof. Van der Oost is considered the pioneer of the "CRISPR revolution" for his fundamental work on unravelling the mechanism of CRISPR-based immunity in bacteria, paving the way for developing CRISPR mediated genome editing. The team led by Prof. Van der Oost demonstrated the first example of programmable gene editing, subsequently developed for the CRISPR-Cas 9 system that has been further used by many research groups for applications ranging from fundamental protein research to revolutionary treatments for diseases. The CRISPR-Cas research is considered one the most significant breakthroughs in the history of biology.

During his presentation, Prof. Van der Oost introduced the history of the CRISPR-Cas Technology, the main contributions of different research groups and the alternative approaches that are used in different cases.

After the presentation of the methodology of Prof. Van der Oost, Mr. Mihris Naduthodi presented the "*CRISPR-Cas based genome editing in microalgae *Nannochloropsis oceanica**".

Mr. Mihris Naduthodi is a Biologist and PhD Student. He graduated his bachelor studies in Biotechnology and Biochemical Engineering from Sree Chitra Thirunal College of Engineering, Kerala University, India and MSc degree in Cellular and Molecular Biotechnology at Wageningen University. He worked on Metabolic engineering of thermophilic bacteria *Bacillus smithii*. At present, he is a PhD student under the supervision of Prof. John van der Oost and Dr. Maria Barbosa.

His present research focus on developing CRISPR-Cas based genome editing tools for microalgae.

At the end of the Course, Prof. Van der Oost replied to the questions formulated by the participants and presented his opinion regarding the future trends and possible developments of the CRISPR-Cas Technology. The session was moderated by Prof. Carmen Chifiriuc, Vice-Rector of the University of Bucharest.

The series of BSUN Master Courses on Blue Growth has been initiated as an activity under the frame of Black Sea CONNECT Project, Task 4.2 - Black Sea Awareness & Outreach, aiming to contribute to the establishment of regional cooperation between the universities from the Black Sea region for implementing a Regional Master Programme on Blue Growth in the format of a MOOC – Massive Open Online Course.

The event started on 7th of April 2021, with an introduction of the Strategic Research and Innovation Agenda on Blue Growth in the Black Sea region, the main pillars, the Common Maritime Agenda in the Black Sea region and the process of developing, implementing and updating these documents.

Prof. Marius Skolka, Dean of the Faculty of Natural Sciences of “Ovidius” University of Constanta, presented the existing experience at the university on the education dedicated to the promotion of Blue Growth at the level of Bachelor, Master and PhD programs with an emphasis on the UN 2030 Sustainable Development Goals.

Taking into consideration that one of the most important activities for promoting Blue Growth in the Black Sea region is education, capacity development and Blue Growth literacy, it has been presented the partnership between BSUN and the Network of European Blue Schools.

Mrs. Evy Copejans, from EMSEA, the Project Manager of the Network of European Blue Schools, presented the initiative, the current status and the steps that have to be followed for obtaining the certification for a certain school.

Prof. Mamut presented also the approach that has been developed in Romania by the BSUN Team as a model for promoting this Network in the Black Sea region. A special partnership has been initiated with the Constanta County School Inspectorate, there were conducted evaluations regarding the existing experience on teaching and extracurricular activities related to Blue Growth and there were identified the gaps and needs.

Based on this analysis, there were defined pilot projects that are in the process of implementation under the project Black Sea CONNECT and the special partnership that was established with the Network of European Blue Schools.

The Course Module for the first day was dedicated to the Marine Biology and was presented by Dr. Elena Stoica, from the National Institute for Marine Research and Development "Grigore Antipa". There were presented the aspects related to Microbiology applied to the Black Sea waters, evaluation of the microbial strains in different regions of the Black Sea, investigation methods, results and lessons learned.

There were also synthesised the methodology and the organization of the activities on monitoring the microbial safety and security in the Romanian bathing waters based on a report prepared by Dr. Luiza Căruceru, from the Constanta County Public Health Directorate.

The last part of the first day was dedicated to an open discussion regarding the availability and reliability of data regarding measurements on the Marine Microbiology in the Black Sea. There were mentioned that even if in the Black Sea riparian countries there are implemented systematic data collection and monitoring on different parameters including aspects of Microbiology, there are many aspects regarding the fundamental knowledge on the existing distribution and evolution of microbial strains, the interactions between microorganisms and the other factors in estuaries of different rivers and particularly in the abyssal waters where there is signified scarcity of data and where most of the results have been obtained by the implementation of several projects.

In this context, Prof. Mamut presented the partnership that was established between BSUN and EGI Foundation for developing a Black Sea Observatory on Blue Growth.

This initiative is part of the activities that will be developed under the frame of Black Sea CONNECT Project – Task 4.2, under the responsibility of Black Sea Universities Network.

The participants have underlined the importance of such initiative and expressed their support. It was proposed that the pilot phase of the Observatory shall be initiated with the contribution of the “Ovidius” University of Constanta and the National Institute for Marine Research and Development "Grigore Antipa", dedicated to the topic of Marine Biology, but also with the contributions of the institutions that are members of the Black Sea CONNECT Consortium, BSUN member universities and many other similar organizations.

The launching course of the Series of BSUN Master Courses on Blue Growth was organized in the format of an online event and there were 239 registrations of

participants from the following countries: Romania, Turkey, Azerbaijan, Bulgaria, Greece and Georgia.

The record of the courses is available at the BSUN Website: <http://bsun.org/>.

Recording LIVE on YouTube Prof. John van der Oost is talking...

CRISPR-Cas systems

history, biology & applications



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