

ISSUE 1

NEWSLETTER

Saturday

19 June, 2025

Welcome to the first issue of the BIOSHIELD Project newsletter.

- **BIOSHIELD** project started on October 2024 with duration of two years and will be enacted by a consortium of five Universities and one Ed-Tech Enterprise.
- The project includes educational research and content development, transnational meetings, educational workshops, video tutorials, podcasts and several public sharing activities to communicate the project results.



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About the project

BIOSHIELD is an innovative project dedicated to leveraging biotechnological solutions to mitigate the effects of climate change and natural disasters.

Partners

- Democritus University of Thrace
- Çanakkale Onsekiz Mart University
- Maribor University
- Mellis Educational Technologies
- Ionian University
- University North

Kick-off Meeting and Events

- Kick off meeting in Alexandroupolis, Greece
- Presentation at the 8th Student Congress SANITAS 2025
- Presentation at 10th Biotechnology Days event, Department of Agricultural Biotechnology



PROJECT OBJECTIVES AND RESULTS

OUR MAIN GOAL

- ➔ Our mission is to empower the next generation of biotech professionals with the expertise and capabilities to tackle global environmental challenges.
- ➔ Through collaborative research, cutting-edge educational materials, and industry partnerships, BIOSHIELD is shaping the future of biotechnology education.

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OTHER OBJECTIVES

- Develop an innovative biotechnology curriculum tailored to environmental sustainability.
- Provide students with hands-on experience through workshops, pilot projects, and video tutorials.
- Bridge the gap between academia and industry by fostering university-industry collaborations.
- Equip students with the skills necessary for career success in biotechnology and climate resilience sectors.

PROJECT RESULTS

CURRICULUM

Individual partner workshops helped to identify the key-point challenges to develop the curriculum including the following modules:

1. **Resilience through Food and Microbiome Innovations.**
2. **Sustainable Food Systems: Biotechnology and Renewable Resources for Clean Label Products**
3. **From Micro to Macro: Soil Microbiome for Climate-Smart Farming**
4. **Biotechnology for Carbon Capture and Utilization**
5. **Plant-based Solutions in Climate Change Mitigation**



VIDEO TUTORIALS

- Animated videos will be created as a tool of blended learning.
- Students will engage with the course material prior to face-to-face lessons to perceive the core issues of each module.



HANDBOOK

Partners will develop an explicit and thorough digital handbook for biotech students.

The handbook will emphasize on:

- application in climate change
- disaster mitigation
- entrepreneurship in this respect.

PROJECT PARTNERS

DEMOCRITUS UNIVERSITY OF THRACE



Democritus University of Thrace (DUTH) was established in 1973 in Thrace, Greece. Due to its strategic location, DUTH has a decisive role in promoting Education, Research and Development in the broader South Eastern Europe through a large number of regional networks it has established.

The Department of Molecular Biology & Genetics (DMBG) of DUTH was established in 2000 in Alexandroupolis with the vision to become a Leader Institution in Education & Research, currently occupying 23 permanent faculty members.

MBG is the only University Department in Greece dedicated to providing a curriculum in Molecular Biology & Genetics, two fast-growing scientific disciplines that lie in the heart of Innovation in Health, Food, Environment and Agriculture.

www.mbg.duth.gr

Contact Person: Professor Dr Yiannis Kourkoutas

MARIBOR UNIVERSITY



The University of Maribor (UM) is the second-largest and the second oldest university in Slovenia, with approximately 15,000 students study at 17 different faculties. UM, faculties offer diverse study programs ranging from physical and life sciences, applied sciences and technology, social sciences and humanities, law and medicine. Faculties provide approximately 30 vocational programs, 50 undergraduate study programs, 70 master's programs and 30 doctoral programs. There are approximately 1,000 research and teaching staff and 700 supporting staff.

The Faculty of Agriculture and Life Sciences (UM FALS), which is Slovenia's leading research, educational, and developing organization, provides study programs at all levels in most key areas of agriculture.

The International Center for Ecoremediations (ERM Center), deals with natural resource management, environmental education and green job creation.

www.um.si

Contact Person: Assoc. Prof Dr Silva Grobelnik Mlakar

IONIAN UNIVERSITY



Ionian University (IU), established in 1984, is a prominent public University located in the Ionian islands of Greece. IU is committed to delivering high-quality education, conducting research across various fields, and actively promoting academic, cultural, and research activities. Over 180 Assistant, Associate, and Full Professors specialize in a wide range of academic disciplines, offering both undergraduate and postgraduate programs. The University is organized into five faculties and eleven departments, with the Faculty of Environmental Sciences specifically focusing on environmental and food sciences.

The Department of Food Science and Technology was established in 2018. Permanent staff members, including chemists, agronomists, and biologists among others, possess extensive experience in teaching and executing national and international research projects. The research interests of the team involved in BIOSHIELD focus on fostering sustainable food systems through natural resource management, biodiversity preservation, food waste valorization, industrial biotechnology and the development of innovative biorefinery concepts for the production of high-value materials within the bioeconomy.

www.ionio.gr

Contact: Assoc Prof Dr Nikolaos Kopsahelis

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ÇANAKKALE ONSEKİZ MART UNIVERSITY



Çanakkale Onsekiz Mart University (COMU) founded in 1992, with its new status and intake from Turkey's large youth population. The university has over 48,000 students participating in a wide variety of programs taught by 2100 academic staff in 1 Graduate Education Institute, 21 Faculties, 2 Colleges, 13 Vocational Schools, 45 Research and Application Centers. COMU is one of the most competitive universities in Turkey, and always looking for more talented people plays a part in its future.

The Department of Molecular Biology and Genetics (MBG-COMU) was established in 2013 occupying today, 7 faculty members and 3 research assistants working on various research themes including Biotechnology, Genetic engineering, Genetics, Microbiology, and Cellular Biology.

global.comu.edu.tr

Contact Person: Prof Dr Kemal Melih Taşkın

MELLIS EDUCATIONAL TECHNOLOGIES



Mellis Ed-Tech is a newly founded enterprise, comprising 5 staff members, but this number increases according to the workload situation. The area of expertise of Mellis Ed-Tech is to develop education and training programs and courses according to the needs of organisations and target groups, generally focusing on required skills, besides giving courses for programming (mostly C++, Python, Java, and HTML).

Mellis Ed-Tech develops interactive education courses that include participants in the learning process and carries out analysis studies, such as gap, process, equipment and vocational analysis, together with analysing occupational standards.

These studies are conducted with several methods.

<https://www.mellis.com.tr>

Contact Person: Caner Anda

UNIVERSITY NORTH



University North (UNIN) is one of the youngest (established in 2015) and integrated public university situated in the northwestern Croatian macro-region, with two campuses in Koprivnica and Varaždin. This dual structure enables the seamless implementation of the university's common mission, vision, goals and development strategy throughout northwestern Croatia. The institution is divided into departments and other organizational units and offers higher educational and professional study programs in its two centers. UNIN is active in the field of higher education, scientific and artistic activities and professional work, having over 5,000 students, 250 staff and 300 associates.

The Department of Food Technology will be involved, as it specializes in training students in the field of food technology, incorporating modern approaches and the latest knowledge from food technology and biotechnology into its program.

www.unin.hr

Contact: Assist Prof Dr Dunja Šamec

KICK-OFF MEETING & DISSEMINATION

KICK-OFF MEETING

The kick off meeting of BIOSHIELD was organized by [Democritus University of Thrace](#) in Alexandroupoli on 28th-29th of January 2025. Partners from [Çanakkale Onsekiz Mart University](#), [Maribor University](#), [Mellis Educational Technologies](#), [Ionian University](#) and [University North](#) convened to inaugurate this ambitious collaboration.



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In this two day meeting, partners shared the outcomes of their individuals workshops that will help develop a forward-thinking curriculum focusing on novel biotechnological solutions in climate change mitigation.



PROJECT DISSEMINATION IN CROATIA

From March 13-15, 2025, students from the University of North showcased the BIOSHIELD project at SANITAS 2025 – The 8th Student Health Protection Congress!

During their poster presentation, they introduced the project's main goals to fellow students and attendees, distributing flyers with key information.

The project captured major interest, with many people anticipating the upcoming educational materials.



10. BİYOTEKNOLOJİ GÜNLERİ

Konuşmacı 13.30-14.30
Prof. Dr. Ercan ARICAN
İstanbul Üniversitesi
"Moleküler Antropoloji"

Konuşmacı 14.30-15.30
Prof. Dr. Kemal Melih TAŞKIN
Çanakkale Onsekiz Mart Üniversitesi
Biyoteknoloji Eğitimi
Türkiye Birleşik Akademisi (TUBİTAK)

8 Mayıs 2025
13.30 - 15.30

GOOGLE MEETS - ZİRAAT FAKÜLTESİ B BLOK AKTİF-4

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PROJECT DISSEMINATION IN TÜRKİYE

Professor [Kemal Melih TASKIN](#) from [Çanakkale Onsekiz Mart University](#) introduced the BIOSHIELD project during the 10th Biotechnology Days event, organized by the Biotechnology Club of the Department of Agricultural Biotechnology (Tekirdağ Namık Kemal University).

The event brought together students and academics to explore current topics and innovations in the field.

The presentation included the project integration of design thinking, blended learning, and industry partnerships to modernize higher education in biotechnology.