

ISSUE 3

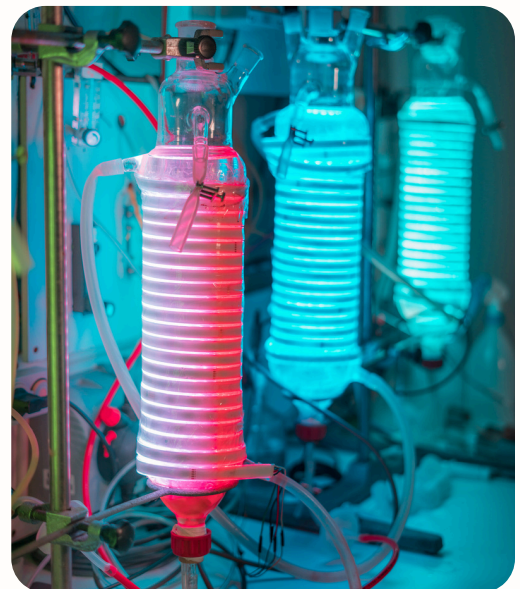
NEWSLETTER

Friday

20 March, 2026

Welcome to the third issue of the BIOSHIELD Project newsletter.

- Are you ready to meet **BIOSHIELD** video tutorials prepared for Biotech students? The videos include knowledge-pills about agrobiotechnological response to global warming and inspirational innovations to mitigate climate crisis.
- We are proud to present the **BIOSHIELD** Student Guidebook, a practical resource designed to support students in exploring innovative biotechnological solutions for climate change mitigation.



In this issue...

Video Tutorials

The video tutorials have been developed as an engaging learning resource to help students explore how biotechnology can contribute to addressing contemporary climate-related challenges.

Student Guidebook

The Guidebook introduces students to existing biotechnological solutions. By exploring real-world examples, students can gain a clearer picture of the possibilities offered by biotechnology.

Maribor Meeting

BIOSHIELD Project Partners Convene in Slovenia for 3rd Transnational Meeting on Climate Change Biotechnology Education. on March 17–18, 2026. The meeting was hosted by the University of Maribor.

“ **BIOSHIELD VIDEO TUTORIALS**

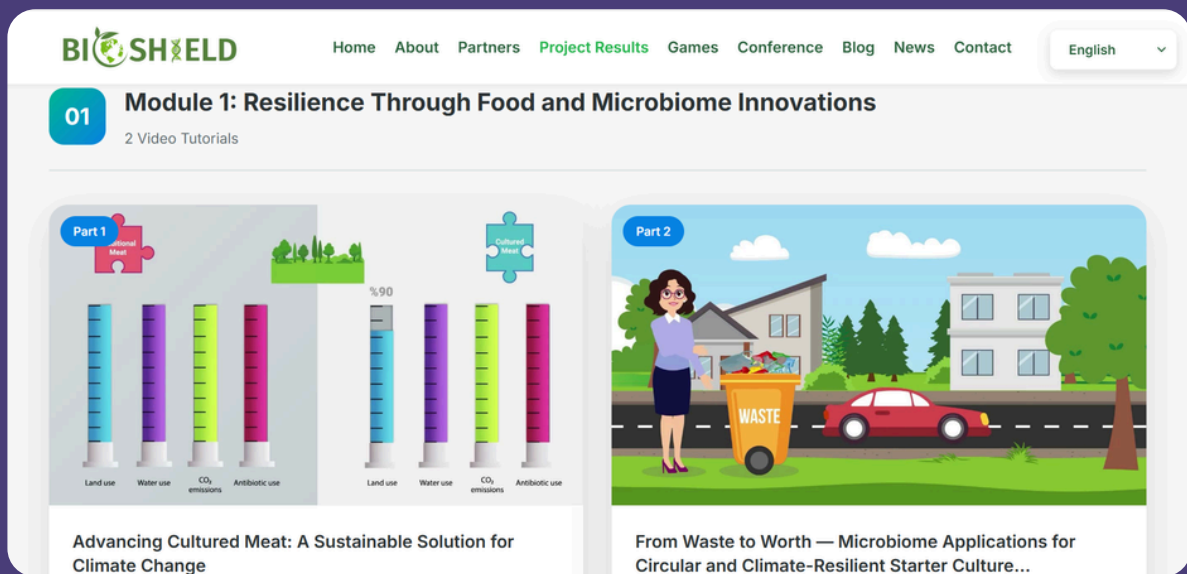
BIOSHIELD NEWSLETTER

MORE ENGAGING RESOURCES

- ➡ The video tutorials have been developed as an engaging learning resource to help students explore how biotechnology can contribute to addressing contemporary environmental and climate-related challenges.
- ➡ Through accessible explanations and practical examples, the videos introduce a range of biotechnological approaches and applications, encouraging students to look at these solutions from different perspectives.

OTHER OBJECTIVES

- ➡ More than simply providing information, the tutorials aim to inspire students in their own research and encourage them to develop new ideas. By connecting scientific knowledge with real-world applications, the videos provide students with a starting point for further exploration and creative problem-solving.
- ➡ The BIOSHIELD Video Tutorials are designed to complement the project's other educational resources and support students in developing a deeper understanding of the potential of biotechnology for a more sustainable future.



VIDEO TUTORIALS CONTENT

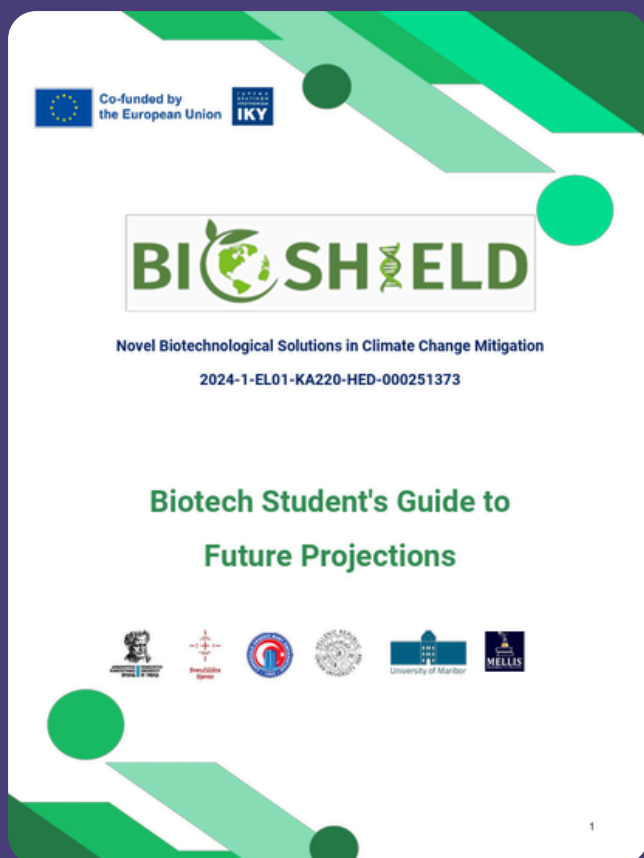
- Module 1: Resilience Through Food and Microbiome Innovations
 - Advancing Cultured Meat: A Sustainable Solution for Climate Change
 - From Waste to Worth: Microbiome Applications for Circular and Climate-Resilient Starter Culture Manufacturing
- Module 2: Sustainable Food Systems: Biotechnology and Renewable Resources for Clean Label Products
 - Re-thinking Waste: Biotechnology as a Lever in Biorefinery Design
 - Food Sustainability: Emerging Approaches to Mitigate Protein Shortages
- Module 3: From Micro to Macro: Soil Microbiome for Climate-Smart Farming
 - Harnessing Microbiome for Sustainable Plant Production
 - Invisible Allies: Exploring Environmental Factors of Soil Microbiomes with GIS
- Module 4: Biotechnology for Carbon Capture and Utilisation
 - Enhancing Photosynthetic Efficiency in Crops for Increasing Carbon Sequestration
 - Engineering Enhanced Root Architecture for Optimized Carbon Sequestration in Woody Plants
- Module 5: Plant-Based Solutions in Climate Change Mitigation
 - Phytoremediation: Plants as Environmental Cleaners
 - Plant in-Vitro Cultures: Biotechnological Approaches for Sustainability



STUDENT GUIDEBOOK

BIOSHIELD NEWSLETTER

- ➔ The Guidebook introduces students to existing biotechnological applications and solutions, helping them understand how biotechnology is already being used to address environmental and climate-related challenges. By exploring real-world examples, students can gain a clearer picture of the possibilities offered by biotechnology and its role in building a more sustainable future.
- ➔ But the Guidebook is designed to go beyond simply providing information. It encourages students to take notes, reflect on the solutions they encounter, identify challenges and opportunities, and develop their own ideas about how biotechnology could contribute to tackling the climate crisis.
- ➔ Through this approach, the BIOSHIELD Student Guidebook aims to turn learning into an active and creative process. Students are encouraged not only to understand what is already being done, but also to ask “What else could we do?” and explore their own potential solutions.
- ➔ The Guidebook complements the other educational resources developed within the BIOSHIELD project and supports students in developing research skills, creative thinking and an innovation-oriented mindset. We invite students and educators to explore the BIOSHIELD Student Guidebook and discover how existing biotechnological solutions can become a starting point for new ideas.



GUIDEBOOK CONTENT

- Chapter 1: Bio-based Food and Microbiome Innovations for Climate Resilience
- Chapter 2: Advancing Sustainable Development through Circular Bioeconomy and Resource Efficiency
- Chapter 3: Harnessing Soil Microbiome for Climate-Smart Crop Production and Landscape Management
- Chapter 4: Biotechnology for Carbon Capture and Utilisation
- Chapter 5: Biotechnology for Ecosystem Restoration and Climate Crisis Mitigation
- Chapter 6: Innovation, Entrepreneurship, and Career Pathways in Climate-Oriented Biotechnology

MARIBOR MEETING & LTTA

BIOSHIELD NEWSLETTER

- ➔ Hosted by the University of Maribor (UM) in collaboration with the International Center for Ecoremediations, the meeting marked a critical step forward as the project advances its final phases of digital resource creation, student training, and regional dissemination.
- ➔ The meeting kicked off with a thorough evaluation of the project's digital deliverables. Under Work Package 3 (WP3), the partners reviewed the completed Video Tutorials, which are available in both written and animated MP4 formats .
- ➔ Meeting attendees participated in targeted case study visits throughout Slovenia. On the first day, partners toured the Botanical Garden of the University of Maribor.
- ➔ This was followed on the second day by site visits to Algen (specializing in algal technologies), MikroNatura, and Pr' Tonejovc, giving partners first-hand exposure to innovative local biotechnological applications in eco-remediation, sustainable farming, and environmental preservation



BIOSHIELD ONLINE TRAINING ACTIVITY AND HACKATHON



Biotechnology students from five European countries recently joined forces for the BIOSHIELD Pre-Piloting Online Training and Hackathon. This five-day international event, coordinated by the Democritus University of Thrace (DUTH), aimed to equip the next generation of bioscientists with the tools to address environmental crises through cutting-edge innovation. The activity saw successful participation from 90 unique students, with many individuals achieving full attendance across all sessions and the final Hackathon.