



Co-funded by
the European Union



INNO-SAFE-LIFE

REPORT

STUDENTS TRAINING

Organized by

CO of the ERASMUS KA220-HED - Cooperation partnerships in higher education, project no. 2023-1-RO01-KA220-HED-000164767, Partnership for innovation on the exchange of best practices and the design of joint collaborative initiatives at European level related to the awareness of the effects contamination on human health

The specific objectives of Work Package n°2 – Teaching, Training and Learning are to ensure continuous professional development for specialists by addressing international and interdisciplinary themes related to soil, food, and health contamination. The program also aims to educate and guide students in designing and applying innovative techniques and protocols at institutional, national, and international levels. By integrating expertise from agriculture, horticulture, health, and industry, it promotes knowledge transfer, sustainable practices, and responses to pressing global challenges such as climate change and antimicrobial resistance. Furthermore, it seeks to enhance professional growth, civic responsibility, and entrepreneurial skills through a combination of theoretical and practical activities that encourage active involvement and innovation.

The expected results of Work Package n°2 – Teaching, Training and Learning include the development of a highly qualified group of experts with strong interdisciplinary and complementary skills, as well as a significant number of students prepared to create innovative solutions in agriculture, horticulture, health, and industry. The activities will produce training reports and digital support materials to facilitate knowledge transfer and the exchange of best practices. Direct beneficiaries—such as academic staff, researchers, industry professionals, and students—will acquire both theoretical insights and practical competencies, while indirect beneficiaries, including the broader population, will gain from improved access to skilled professionals and comprehensive educational resources. Overall, these outcomes will reinforce international cooperation, foster professional advancement, and strengthen the connections between higher education, research, industry, and society.

Students training period: 24 - 28 March 2025

Between 24–28 March 2025, “Victor Babeș” University of Medicine and Pharmacy from Timișoara (UMFVBT) hosted a five-day student training activity under the INNO-SAFE-LIFE project. The training combined theoretical lectures and practical sessions, focusing on soil contamination, toxicological risks in natural products, and the application of innovative methods such as green chemistry, nanotechnology, and AI-driven toxicological simulations.



**Co-funded by
the European Union**



The activity was designed to provide young participants with interdisciplinary knowledge and applied skills, preparing them to understand, evaluate, and propose solutions to environmental and toxicological challenges related to food supplements, nutraceuticals, pharmaceuticals, and cosmetics.

1. Theoretical Part (24–26 March 2025)

Day 1 – 24.03.2025

Welcome and institutional presentation.

Project overview: INNO-SAFE-LIFE – Partnership for innovation and joint collaborative initiatives.

Lecture on soil pollution and its effects on plants used in food supplements and nutraceuticals.

Day 2 – 25.03.2025

Presentation on the importance of testing natural compounds for toxic effects before use in supplements or cosmetics.

Lecture on sustainable sourcing of medicinal plants and bioactive compounds.

Session on green chemistry as a tool to reduce toxicological risks in the pharmaceutical and cosmetic industries.

Working group discussions on safe and sustainable practices.

Day 3 – 26.03.2025

Lecture on the impact of soil contamination on medicinal plants and dietary supplements.

Session on environmental pollutants and their influence on natural ingredients in personal care products.

Presentation on AI and digital simulations for predicting toxicological effects of bioactive compounds.

Group work on digital approaches for risk assessment and future applications.

Theoretical Outcomes

Increased awareness of contamination pathways from soil to plants and their impact on food and health products.

Strengthened knowledge of sustainable sourcing, green chemistry, and toxicological assessment.

Enhanced understanding of digital and AI-based tools in toxicology.



**Co-funded by
the European Union**



Improved collaboration through working groups that stimulated debate and exchange of innovative ideas.

2. Practical Part (27–28 March 2025)

Day 4 – 27.03.2025

Laboratory sessions on preclinical safety testing of plant-derived compounds grown in polluted environments (in vitro and in vivo approaches).

Training on the use of in silico and in vitro models for pharmacokinetic and toxicological evaluation prior to human trials.

Day 5 – 28.03.2025

Workshop on nanotechnology and AI-driven research to improve formulation and safety of cosmetic products.

Final evaluation of knowledge through tests, reflections, and discussions.

Closing session with conclusions and feedback from participants.

Practical Outcomes

Hands-on experience in preclinical toxicology testing methods.

Application of in silico and in vitro models for risk assessment.

Introduction to nanotechnology and AI-based tools in supplement and cosmetic development.

Strengthened problem-solving and analytical skills through simulations and laboratory work.

Contribution to WP Objectives

The training in Timișoara contributed directly to the objectives of Work Package n°2 – Teaching, Training and Learning by:

Offering continuous interdisciplinary education for students in toxicology, sustainability, and biotechnology.

Providing opportunities to develop and apply innovative techniques and protocols with direct institutional, national, and international relevance.

Promoting sustainability, digitalization, inclusion, and diversity through content and participant engagement.

Strengthening the link between higher education, research, and industry by addressing real-world contamination and toxicological challenges.



Co-funded by
the European Union



The March 2025 training program at UMFVBT successfully combined theory and practice, equipping students with both scientific knowledge and applied competencies. By addressing soil contamination, sustainable sourcing, green chemistry, nanotechnology, and AI tools, the training prepared young participants to act as agents of change in food safety, toxicology, and health-related innovation.

The outcomes support the wider goals of the INNO-SAFE-LIFE project by fostering professional development, advancing interdisciplinary cooperation, and promoting sustainable, safe practices across education, research, and industry.





Co-funded by
the European Union

