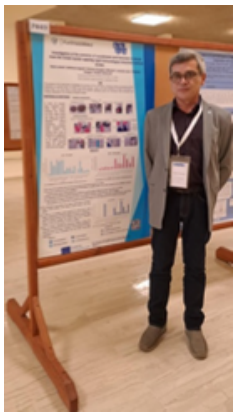
FunShield4Med
SECURING FOOD

NEWSLETTER

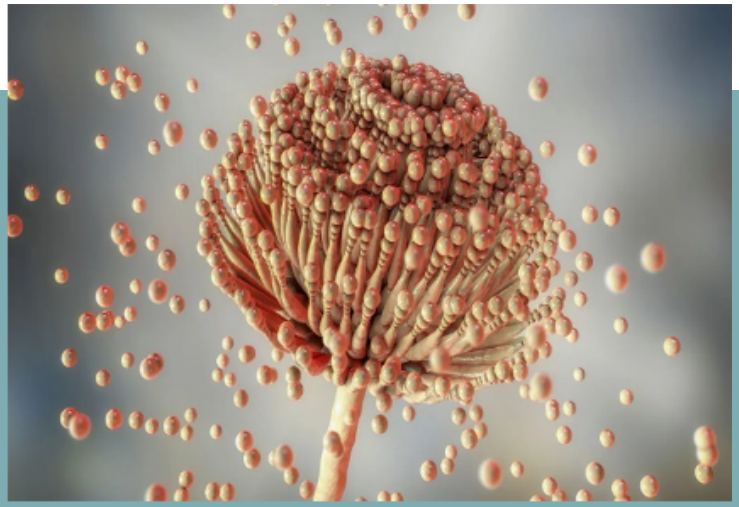
Volume 4



Short message from the Coordinator

Capability building through training and external engagement is at the heart of our mission. Together with our partners, we develop and deliver food safety training programs that raise awareness and promote best practices. By leveraging the expertise of a European network of universities and research institutions, we exchange knowledge and continuously elevate food safety standards.

DR PANTELIS NATSKOULIS, SENIOR RESEARCHER AT ELGO - DIMITRA / INSTITUTE OF TECHNOLOGY OF AGRICULTURAL PRODUCTS (ITAP)



Fungi play a major role in contaminating food due to their diverse nature and ability to grow at any stage of the food chain, while the production of mycotoxins by these fungi is influenced by various factors such as environmental conditions, crop type, and storage conditions. The objective of the FunShield4Med project is to enhance the scientific excellence and innovation capacity of the Institute of Technology of Agricultural Products (ITAP) of Hellenic Agricultural Organisation – DIMITRA (ELGO-DIMITRA) in the domain of food safety against mycotoxigenic spoilage fungi and mycotoxins in the face of climate change challenges, through a strategic collaboration with advanced partners from Italy, Spain, the UK, and Greece, thereby facilitating the transfer of knowledge and expertise.

ELGO - DIMITRA
HELLENIC AGRICULTURAL ORGANIZATION - DIMITRA

National and Kapodistrian University of Athens

UNIVERSITÀ DI PARMA

Cranfield University

Universitat de Lleida

This project has received funding from the European Union's Horizon Europe Research and Innovation Programme under Grant Agreement: 101079173 — FunShield4Med — HORIZON-WIDERA-2021-ACCESS-03

In this project Cranfield University has received funding from the UKRI Horizon Europe Guarantee Funding Programme in the UK

Secondments

4TH SECONDMENT OF ITAP PERSONNEL, NOVEMBER 4 - DECEMBER 14, 2024 CRANFIELD UNIVERSITY, UK

George Froutis (PhD student) had a more than one-month visit in the Cranfield University. During his stay there, he had the privilege of engaging in academic and laboratory-based activities that significantly contributed to his knowledge and skills in food diagnostics and fungal identification.

His research focused on the identification of fungi isolated from maize products, involving several key steps in DNA extraction, PCR amplification, and Sequencing Analysis.

Throughout his visit, he was under the experts' supervision Dr. Carol Verheecke-Vaessen and Dr. Carla Cervini. Additionally, he received invaluable assistance in the laboratory from the senior technician, Ms. Aleksandra Pastuszek. Their guidance and support were instrumental in ensuring the success of his activities and in enriching his overall experience at Cranfield University.

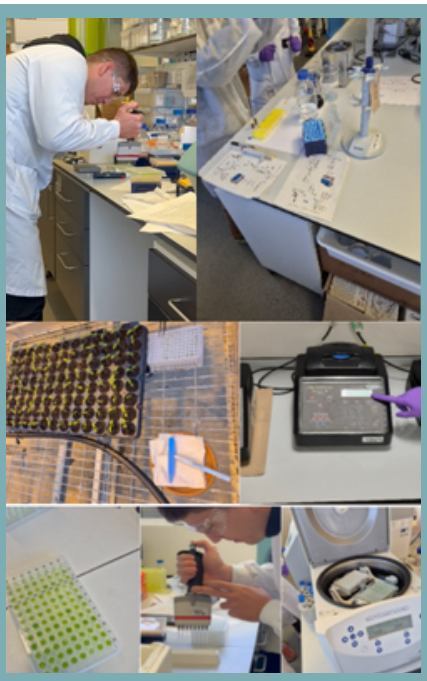


Figure 3: Mr George Froutis during his training in the Applied Mycology Laboratory at Cranfield University

5TH SECONDMENT OF ITAP PERSONNEL, FEBRUARY 6 - 19, 2025 UNIVERSITY OF PARMA, ITALY

In February 2025, Dr Anastasia Lytou visited University of Parma for 2 weeks. During her visit she had the opportunity to receive training and collaborate with experts in mycotoxin detection and quantification, expanding her knowledge in this field.
Her training focused on the extraction of mycotoxins from the food matrix, followed by sample analysis using a UHPLC Dionex Ultimate 3000 equipped with an electrospray ionization (ESI) source and coupled with a triple quadrupole MS. The aim was to detect and quantify several mycotoxins.
Throughout her visit, she was under the experts' supervision of Prof. Chiara Dall' Asta and Dr Raquel Torrijos. Their support, guidance, and advice were essential helping her gain as much as possible from this visit

Figure 4: Prof Chiara Dall' Asta and Dr Raquel Torrijos with Dr Anastasia Lytou during her visit to the University of Parma

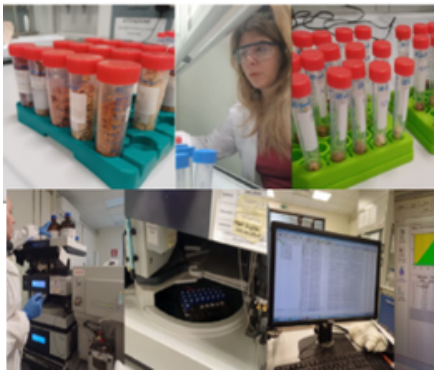


Figure 5: Dr Anastasia Lytou during her training in the laboratory

SEMINAR 5 - NOVEMBER 21, 2024, ITAP CAMPUS, ATHENS, GREECE

The fifth seminar focused on International Fundraising and Project Management, including the eligibility of costs and relevant Greek regulations. Apart ITAP personnel and students that attend in person, this seminar was also openly accessible through the Teams platform.

Ms. Evi Grekou (NKUA) discussed cost management in Horizon Europe projects based on Greek regulations, providing a detailed analysis of the various cost categories.

Prof. Chiara Dall'Asta (UNIPR) explored funding and collaboration opportunities from EFSA, with a particular focus on the "Article 36" network of competent institutions. She also highlighted the EU-FORA (European Food Risk Assessment) program, which aims to expand the pool of food safety risk assessment experts in Europe and enhance Member States' involvement in risk assessment activities—ultimately fostering a common EU culture in this field.
Additionally, she presented an overview of the MSCA (Marie Skłodowska-Curie Actions) programs and outlined key factors for their successful implementation. The seminar was attended, in person or virtually, by more than 30 participants mostly ESRs, from ELGO-DIMITRA, National and Kapodistrian University of Athens, Agricultural University of Athens, and Benaki Phytopathological Institute.

Figure 6: Attendees, Ms. Evi Grekou, and Prof. Chiara Dall'Asta, delivering their lectures at the 5th FunShield4Med

CONFERENCES

4TH ATHENS CONFERENCE ON ADVANCES ON CHEMISTRY - ACAC 2024 NOVEMBER 6-8, 2024, NKUA, ATHENS

The FunShield4Med project participated in organizing the 4th ACAC 2024 conference, which took place in November 2024 in Athens. The Conference, initially created to enhance the organisational and managerial experience of early-stage researchers (ESRs), surpassed our expectations attracting 145 participants from more than 10 countries, of whom more than half (82 MSc or PhD candidates) were ESRs! Apart the responsibilities undertaken by the ITAP personnel, many undergraduate and postgraduate students of our project partner NKUA, Dept of Chemistry, had crucial hands on regarding the organisation and realisation of the event.
Additionally, a special session dedicated to the project was held within the framework of the conference. During this session, the coordinator of the project Dr Pantelis Natskoulis with the contribution of Prof. Chiara Dall' Asta presented the project's objectives, along with key research findings. A comprehensive overview of the educational activities carried out so far — including workshops, seminars, and summer schools — was also provided.

Figure 7: Prof. K. Biliaderis (AUTh) on podium with Prof. C. Proestos and Prof. V. Valdramidis (NKUA) chairing the Food Chemistry session (right); Prof. C. Dall' Asta (UNIPR) at FunShield4Med session during her introduction to the audience by Prof. C. Proestos.

Figure 8: Audience overview at the ACAC conference 2024

Furthermore, two research papers (posters) were presented. The first focused on investigating the presence of mycotoxins Zearalenone and Fumonisins in cereals from the Greek market using rapid immunological detection methods (ELISA). The second explored analytical approaches to optimizing Retsina wine, examining the effects of resin, yeast strain, and oak type on its chemical composition and sensory attributes.

Figure 9: (left) Dr P. Natskoulis and Dr. Maria Metafa presenting the FS4Med posters at the conference

CONFERENCES

12TH INTERNATIONAL MYCOLOGICAL CONGRESS (IMC12)

MAASTRICHT, NETHERLANDS, 11-15 AUGUST 2024

Prof. Angel Medina participated the IMC12 held in Maastricht. This four-day meeting included keynote lectures by scientific leaders, bridging sessions and workshops in seven themes: Cell biology, biochemistry and physiology; Environment, ecology and interactions; Evolution, biodiversity and systematics; Fungal pathogenesis and disease control; Genomics, genetics and molecular biology; Applied Mycology and Nomenclature.
Prof. Angel Medina represented the FunShield4Med project giving a lecture on climate change, food safety, and mycotoxins.

Figure 10: Prof. Angel Medina delivering a lecture on the impact of climate change on mycotoxin occurrence.

ON GOING WORK: FUNSHIELD4MED JOINT RESEARCH PROJECT

During the current and upcoming periods, the investigation of mycotoxin presence in various foods will continue using modern analytical methods. The focus will be on bulk wines, beers, hops, while the investigation of the present of toxigenic fungi in mills and wineries are among the plans of FunShield4Med Project for the coming months.
Additionally, staff training will continue with secondments of ITAP personnel to advanced partners, where specific analyses for the project are conducted.

COMING SOON - STAY TUNED!

Short-Term Staff Exchanges – In **May 2025** Dr Pantelis Natskoulis will be seconded to UdL to deepen his knowledge on ecophysiological studies on mycotoxigenic fungi and non-destructive methods for mycotoxins determination, while in **June 2025** Dr Maria Metafa will visit Cranfield University for training in LC-MS analysis for the identification of several mycotoxins.

FunShield4Med will participate in 46th Mycotoxins Workshop at Martina Franca, **25-28 May 2025**. FunShield4Med project will be actively involved in the conference, organising a Satellite Session on the 3rd day dedicated to the project, showcasing its aim and objectives and the latest research results from Joint Research Project.

FunShield4Med is participating in IAFP European Symposium 2025, **6-8 May** in Madrid to present ITAP's results from project's Joint Research Project.

FunShield4Med is also under communication to participate actively in the organisation of 2 more international conferences, the 13th ICPFM conference in Athens, **1-3 September 2025**, and the 11th MBK conference in Thessaloniki, **22-24 September 2025.**

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