



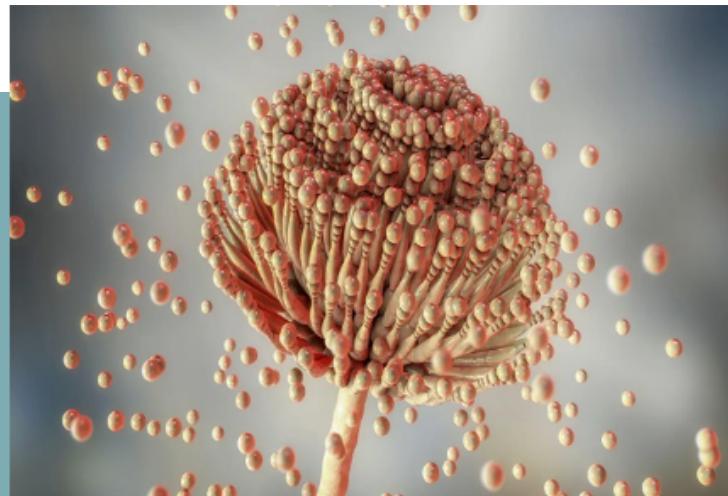
NEWSLETTER

Volume 5

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 mycotoxicogenic 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.





Secondments

6TH SECONDMENT OF ITAP PERSONNEL, JUNE 16 - 27, 2025 UNIVERSITY OF PARMA, ITALY

Mrs Georgia Charvourou and Mrs Polyxeni Chrysanthou, both members of scientific technical personnel of ELGO-ITAP visited UNIPR Food Chemistry Lab for training in analytical techniques for mycotoxin determination and the subsequent processing of the results. During their stay they received training in various mycotoxin extraction methods and analysis using UHPLC-MS/MS and GC-MS.



Figure 1: Mrs P. Chrysanthou & Mrs G. Charvourou during their training at Food Chemistry Lab, UNIPR.

7TH SECONDMENT OF ITAP PERSONNEL, APRIL 22 - MAY 6, 2025 UNIVERSITY OF LLEIDA, SPAIN

Dr Pantelis Natskoulis, Senior Researcher of ELGO-ITAP, during his visit to UdL was shown analytical method for simultaneous determination of OTA & AFs using SPE with HPLC-FLD. Moreover, he was trained on processing of Near-Infrared Hyperspectral Imaging (NIR-HSI) results using Python code, and in the use of the Quasar program for Multivariate Statistical Analysis (e.g., DA, PCA, etc.) of mycotoxin detection data.



Figure 2: Dr P. Natskoulis during his visit with members of the UdL Applied Mycology Unit.

8TH SECONDMENT OF ITAP PERSONNEL, JUNE 23 - JULY 13, 2025 UNIVERSITY OF CRANFIELD, UK

In June 2025, Dr Maria Metafa visited the Magan Centre of Applied Mycology (MCAM) of Cranfield University for 3 weeks. During her visit she receive specialized training in the extraction and purification of mycotoxins from oat samples for subsequent quantification through LC-MS/MS analysis. This training aimed to strengthen her technical competences in sample preparation, extraction, and instrumental analysis (LC-MS/MS), in line with the laboratory's certified procedures. Throughout her visit, she was under the experts' supervision of Dr Carol Carol Verheecke-Vaessen and MCAM team.



Figure 3: Dr M. Metafa working in the laboratory at CU MCAM.



Secondments

9TH SECONDMENT OF ITAP PERSONNEL, NOVEMBER 10 - 14, 2025 CRANFIELD UNIVERSITY, UK

As part of the last training mobility of ELGO-ITAP research personnel within the FunShield4Med Project, Dr Anastasia Lytou, Assoc. Researcher, Dr Patra Sourri, Assistant Researcher, and Dr Pantelis Natskoulis, Senior Researcher of ITAP, received in-silico training in fields related to molecular and LC-MS data analysis, as well as on administrative matters related to project management and the submission of research proposals. Training on software was supervised by Dr Carol Verheecke-Vaessen while managerial training was provided by Prof. Angel Medina, head of MCAM.



Figure 4: (from left) Dr D. Nadjette, Dr P. Sourri, Dr P. Natskoulis, Dr A. Lytou, and Dr C. Verheecke-Vaessen at CU MCAM.

WORKSHOP 4 & FINAL MEETING OCTOBER 9-10, 2024 NKUA LAW SCHOOL LIBRARY, ATHENS, GREECE

The 4th and latest Workshop "Mycotoxins Prevalence & Data Collection and Reporting" organized by ELGO-ITAP took place together with project's final meeting in Athens. In its framework the Joint Research Project results were presented in detail by all partners, while valuable knowledge transfer took place from invited speakers with relevant expertise. Profs Charles Brennan, Margaret Brennan (MIT University) presented latest trend in Food Science & Technology, Dr George Stavroulakis (Cyprus SGL) provided substantial introduction to FOODEX2 data-base for transfer of toxicological data to EFSA, and Prof. Anna Bajek (NCU) explained ethics requirements in the context of HE calls.



Figure 5: Attendees, FunShield4Med leaders, and invited speakers at the 4th FunShield4Med Workshop.



CONFERENCES

2025 IAFP'S EUROPEAN SYMPOSIUM ON FOOD SAFETY MAY 6-8, 2025, MADRID, SPAIN

IAFP's European Symposium on Food Safety focused on shaping the future of food safety by providing a forum for the exchange of ideas with colleagues from across Europe working in industry, government, and academia. The FunShield4Med coordinator and team members (Prof V. Valdramidis, Dr. C. Tassou, Dr P. Natskoulis, and Dr A. Lytou) actively contributed to the event, presenting their research and findings through posters and flash talks.



1ST AGRIFOOD CONFERENCE (GEORAMA TROFIMON)

MAY 16-17, 2025, AGRICULTURAL UNIVERSITY OF ATHENS, GREECE

The conference entitled "Foodscape: New Developments in Food Science and Technology" was related to dissemination of scientific knowledge in the fields of Food and Nutrition and promotion of the Department of Food Science and Human Nutrition, AUA. In its context, Funshield4Med project organized a round table entitled "Climate Change & Food" with participation to the panel of our Coordinator Dr P. Natskoulis, while team members of the project participated through poster presentations and oral talks.



Figure 7: Dr P. Natskoulis (2nd from the left) in the panel of Round Table "Climate Change and Foods".

46TH ISM MYCOTOXIN WORKSHOP MAY 25-28, 2025, MARTINA FRANKA, ITALY

FunShield4Med at 46th Mycotoxins Workshop at Martina Franca, Italy, organized a Satellite Session entitled "Mycotoxins menace in the Mediterranean under Climate Change crisis" dedicated to our project's aim & objectives and relevant results from our Joint Research Project. Contributors to the event our partners Ms I. Piccici, Dr O. Mihalache (UNIPR) and Ms A. Mastrotheodoraki (NKUA).



Figure 8: (from upper left) Dr O. Mihalache, Dr I. Piccici, Mrs A. Mastrotheodoraki, and Dr P. Natskoulis during their talks in Satellite Session.



CONFERENCES

13TH INTERNATIONAL CONFERENCE IN PMF SEPTEMBER 1-3, 2025, ATHENS, GREECE

FunShield4Med with the International Committee of Predictive Modelling in Foods (ICPMF), co-organized the 13th International Conference in PMF at Athens Technopolis, 1-3 September 2025. Our project undertook major organisational actions by being involved with the presence of the invited speakers, chairing sessions, and by being part of the Organising and Scientific Committees of the Conference. Furthermore, participated with an oral presentation of the project to a special session dedicated to EU funded projects that supported the conference, and presented 3 posters on project's results.



Figure 9: Dr P. Natskoulis (ELGO-ITAP) and Prof. G. Boziaris (UTH) chairing the EU funded projects session.



Figure 11: (from upper right) Prof. V. Valdramidis (NKUA), Dr G. Katsaros (ELGO-ITAP), Prof. S. Marin and Prof. J. Correia Costa (UdL) presenting in 13th ICPMF



Figure 10: Dr O. Papadopoulou and Mr G. Froutis (ELGO-ITAP) in front of their posters.

11TH MBK CONFERENCE SEPTEMBER 22-24, 2025, THESSALONIKI, GREECE

FunShield4Med participated to the Joint International Conference of MikroBioKosmos & CEESME at Thessaloniki 22-24 September 2025. Our project contributed with two excellent speeches from our PhD candidate George Froutis (ELGO-ITAP) and from Dr E. Kollia (NKUA), and 3 posters on our research results.

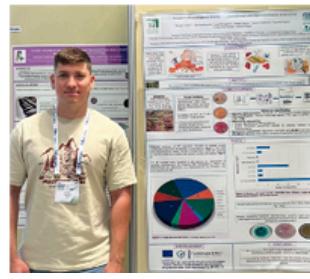
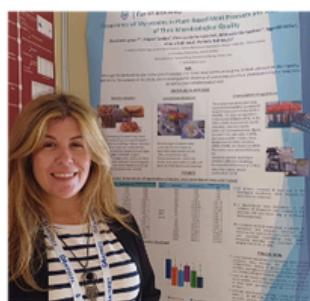
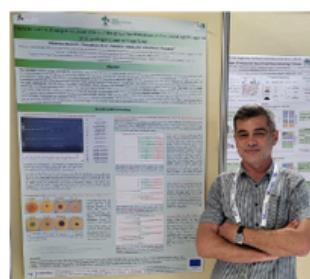


Figure 12: (from up) Dr P. Natskoulis, Dr A. Lytou, and Mr G. Froutis (ELGO-ITAP), presenting their posters in 11th MBK 2025.

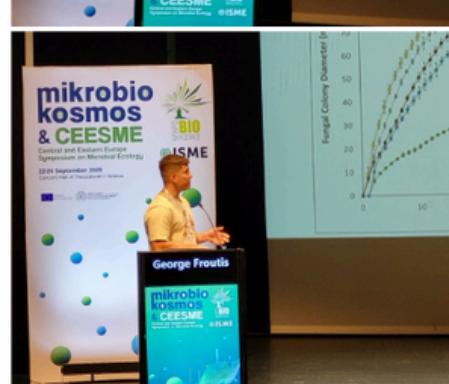


Figure 13: (from up) Dr E. Kollia (NKUA) and Dr G. Froutis (ELGO-ITAP), giving their oral presentations in 11th MBK 2025.



SCHOOL AMBASSADORS

2ND SCHOOL VISIT

FEBRUARY 12, 2025

1ST PAPAGOUPH PRIMARY SCHOOL, ATHENS

On February 12th, 2025, in celebration of the "International Women & Girls In Science Day", FunShield4Med visited the 1st Primary School of Papagou giving an inspiring session on gender equity in sciences and FunShield4Med aim and objectives. Dr O. Papadopoulou together with colleagues, and several scientist mothers from the school community, passed the message:

"Everyone has the right to dream and pursue their passion, no matter their gender"!!!



Figure 14: Dr O. Papadopoulou (right) and Dr K. Papastavropoulou (NKUA) with students during their visit to 1st Papagou Primary School.

PROJECT'S SCIENTIFIC PUBLICATIONS

FunShield4Med have already published 7 research articles in peer-reviewed international journals, all under Golden Open Access, as presented below:

- Assessing deoxynivalenol concentration reduction and mass loss in wheat batches using near infrared hyperspectral imaging. Marin et al. 2024 in Food Research International. <https://doi.org/10.1016/j.ijfoodmicro.2025.111078>
- Near infrared hyperspectral imaging as a sorting tool for deoxynivalenol reduction in wheat batches. Vicens-Sans et al. 2024 in Food Research International. <https://doi.org/10.1016/j.foodres.2024.113984>
- Aflatoxin B1 production: A time-water activity-temperature model. Marín et al. 2024 in Fungal Biology. <https://doi.org/10.1016/j.funbio.2024.03.003>
- Revisiting secondary model features for describing the shoulder and lag parameters of microbial inactivation and growth models. Garre et al. 2025 in International Journal of Food Microbiology <https://doi.org/10.1016/j.ijfoodmicro.2025.111078>
- Mapping Variability of Mycotoxins in Individual Oat Kernels from Batch Samples: Implications for Sampling and Food Safety. Teixido-Orries et al. 2025 in Toxins. <https://doi.org/10.3390/toxins17010034>
- Impact of processing parameters and formulation on deoxynivalenol content and transfer in oat-based beverage manufacturing. Teixido-Orries et al. 2025 in LWT. <https://doi.org/10.1016/j.lwt.2025.117368>
- Review on the Occurrence of Mycotoxicogenic Fungi in Dried Fruits and the Role of Stored-Product Insects. Milliordos et al. 2025 in Toxins. <https://doi.org/10.3390/toxins17070313>

...and more are on the way (> 5 submissions).



MyMedHub

The Mycotoxins Mediterranean Hub (MyMedHub) is a multidisciplinary centre dedicated to advancing mycological and computational toxicology across the Mediterranean agrifood sector. As a core initiative of the FunShield4Med consortium and inspired by similar infrastructures of advanced partners (MCAM of CU & AMU of UdL), MyMedHub integrates scientific research, technological innovation, and education to strengthen regional resilience against mycotoxin contamination and climate change-related challenges. Hosted at ELGO-ITAP, and supported by all partners, the Hub will act as a reference centre for the detection and characterization of fungal contaminants while providing specialized training for early-stage researchers and early-career scientists. Through close cooperation with universities, industry, and public authorities, MyMedHub promotes innovation, capacity building, and the transfer of expertise throughout the Mediterranean region.

STAY TUNED

During implementation period of FunShield4Med project, partners have created a considerable number of educational and scientific material, which in line with Open Research Europe platform launched by the European Commission and FAIR pathway as proposed by Go-FAIR organization, is provided freely by our project to the scientific and overall community. This material includes all published scientific articles, training material created through the numerous training actions, data-sets from our Joint Research Project, e-tutorials and many more. Everything is openly accessible from FunShield4Med website (www.FunShield4Med.eu), and project's profiles/communities in Zenodo (<https://doi.org/>), GitHub (<https://github.com/FunShield4Med>), and OpenAIRE (<https://explore.openaire.eu/>).

- Over 45 presentations from lectures
- e-tutorials on computational toxicology and molecular identification
- Over 10 data-sets for mycotoxins presence in Mediterranean food commodities
- Project's deliverables
- Released scientific articles
- Past and current newsletters and actions

... many more!!!



HELLENIC REPUBLIC
National and Kapodistrian
University of Athens



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



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CONTACT US :



info@funshield4med.eu



Sof. Venizelou 1,
Likovrisi 14123, GR



National
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University of Athens



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