


METROFOOD-PP Status on the National Nodes – Apr. 2020 GREECE




Involved Institutes

Node Representative


AUTH	Aristotelio Panepistimio Thessalonikis	
Website: https://www.auth.gr/en		

AUTH is the Greek node of METROFOOD-RI. The Research units Laboratory of Food Chemistry & Technology (LFCT) and of Analytical Chemistry belong to the School of Chemistry that serves all disciplines of Chemistry. The LFCT has long experience in various aspects of food chemistry & technology (e.g. olive oil and saffron quality & authenticity), new sources of targeted bioactive compounds (squalene, carotenoids, phenols), and analytical methods for their determination and measurement of their properties (e.g. antioxidant activity), biotechnology and oenology whereas the Laboratory of Analytical Chemistry in the development and evaluation of analytical methods for the determination of various classes of compounds using spectroscopic, chromatographic and electroanalytical techniques. The Laboratory of Organic Chemistry (School of Engineering) has a long experience in chemistry and technological exploitation of natural products, isolation, identification and use of bioactive molecules. The Pesticide Science Laboratory (School of Agriculture) has long experience in the chemistry, formulation, mode of action, toxicology and environmental fate of pesticides, the development of analytical methods for pesticide residue analysis and isolation, identification and study of biological activity of natural products as Biopesticides.

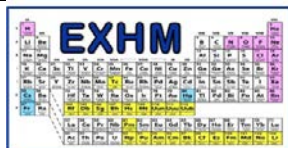
Other partner Institutes

AUA	Agricultural University of Athens	
Website: https://www2.aua.gr/en		


AUA is the third oldest university in Greece. The following units are involved from the Department of Food Science and Human Nutrition: **Laboratory of Chemistry, Laboratory of Dairy Research, Laboratory of Food Chemistry and Analysis, Laboratory of Food Process Engineering and Laboratory of Enology**. Research concerns the development of innovative processes and analytical techniques for the control of food safety and quality (e.g. vegetable oils, saffron, dairy products, wine, beer), geographic origin of foods, isolation, identification and use of natural products (e.g. Kenaf, Saffron, aromatic plants), determination of toxic substances in foods (e.g. urethane, biogenic amines in wines, trace elements in foodstuffs), bioavailability and nutritional assessment of iron. It includes a pilot cheese making plant along with cheeses ripening and cheese storage rooms.

HHF	Hellenic Health Foundation	
Website: http://www.hhf-greece.gr		

HHF is a non-profit non-governmental organization based in Athens (Greece). It provides expertise in the area of health-related research by generating, conducting and advancing scientific research and disseminating sound knowledge in order to promote health and prevent disease. To fulfill its mission, HHF collaborates with Greek and international institutions, organizations and individuals. Through the coordination of large scale projects, such as the Greek cohort of the European Prospective Investigation into Cancer and Nutrition (EPIC) and the recently concluded national nutrition and health survey (HYDRIA), the research team of HHF has gained considerable experience in the collection and harmonization of dietary data as well as the evaluation of nutrition-related health risks.


IAPR	Independent Authority for Public Revenue	
Website: http://www.gcsl.gr/		

The Chemical Metrology Service (EXHM/ΓΧΚ-EIM) has been designated by the Hellenic Institute of Metrology as the official body representing Greece at both national & international level in the field of chemical metrology. It is part of the biggest state laboratory facility under the jurisdiction of IAPR & provides analytical services for all types of goods.

MAICH- CIHEAM	Mediterranean Agronomic Institute of Chania	
Website: http://www.iamc.ciheam.org/		

MAICH is the 4th constituent institute of CIHEAM, the International Centre for Advanced Mediterranean Agronomic Studies, an Intergovernmental Organisation. Today, CIHEAM includes 13 Mediterranean member countries and is made up of four Mediterranean Agronomic Institutes (MAIs), located in Bari (Italy), Chania (Greece), Montpellier (France) and Zaragoza (Spain), and a General Secretariat based in Paris. The departments involved in the Greek node of METROFOOD-RI

are: 'Food Quality and Chemistry of Natural Products' and 'Sustainable Agriculture' with their laboratories, supported by the Conference Centre and the Information & Technology dept.

UOI	University of Ioannina	
Website: https://www.uoi.gr/		

UOI is involved in the Greek node with the Nuclear Magnetic Resonance Center (NMR), which has an interdisciplinary and technological character and covers basic and applied research in Chemistry, Physics, Medicine, Biological Applications and Technology & Material Science of the University of Ioannina as well as of the University Regional General Hospital of Ioannina. It is also related to the Institute of Biomedical Research of Ioannina and the Technological Park of Epirus. It contributes significantly to the control of wine age, to the identification of fatty ingredients, natural products and to the Design of Food Alteration Mechanisms without the need to destroy the indicators required by conventional and usually time-consuming analytical methods. It also contributes significantly to the study of metabolic processes, to the localization and characterization of metabolic biological fluids in vivo, in vitro and ex vivo. NMR spectroscopy also measures both air and subsoil environmental pollutants (eg, retention of organic toxic compounds from humic acids).

Involvement in the infrastructure and main facilities

Main research areas:

Food safety (e.g. allergens, trace elements, microbiological analyzes, etc.); food quality (e.g. bioactive ingredients, organoleptic properties, etc.); geographic origin of foods; traceability (e.g. elemental analysis, metabolic analysis, etc.); identification and use of natural products, nutrition, bioavailability studies, environmental studies (e.g. pesticide residues, biopesticides), etc

Physical Infrastructure

“METRO” SIDE

- **RM plants:** Facilities for RM preparation and stability & homogeneity studies – Lab. for RM production equipped with various milling and mixing apparatus, pre drying and a lyophilisation unit as well as a clean room available for the production of reference materials.
- **Analytical Labs:** UHPLC-DAD-FL, UHPLC-DAD-ELSD, UPLC-MS-MS, LC-QTOF MS/MS, LC-MS-MS, preparative HPLC, GC-MS-MS-TQ, GC-IT-MS, GC-MS, GC-FID-Olfactometry, FT-MIR, FTIR-Microscope, FT Raman-Microscope, NMR, UV-vis spectrophotometers, SEM, ICP-OES, IC-ICP-AES, XRD, DSC, TGA, Nano-Spray-Dryer, Laboratory of sensory analysis

“FOOD” SIDE: Facilities for Food Preparation, Packaging and Storage

Electronic infrastructure

Array of analytical software from different manufactures and third parties is available. This allows advanced post-analytical data processing and building of dedicated in-house libraries – like FTIR database of Saffron, olive oil and honey, GC-MS database of olive oil and honey aroma component, NMR database of oils, LC and MS database for quinone based natural pigments and isolated constituents, LC, GC and MS database for mastic gum (*Pistacia lentiscus*) and isolated constituents and database: “Composition Tables of Foods and Greek Dishes”

Ministerial support

Ministry: Ministry of Development & Investments

Political support at the time of the ESFRI Roadmap 2018

Eventual updates: The Ministry participates to the EU-InterMinisterial Group

National Contact

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