

INSTRUMENTAL ANALYSIS LABORATORY

OBJECTIVES:

By its highly performing logistics, highly qualified staff, as well as its management, the laboratory contributes to observance and compliance with European standards in the food field. As part of the laboratory, covering all problems of food analysis, university and post university training activities, research activities as well as services to the economical environment are carried out.

The laboratory main goal resides in its contribution to implement the quality assurance, control and management system into the food production- distribution- consumption chain, aiming mainly to provide population's food safety.



ACTIVITIES

- contribution to increase university and post university training quality according to European standards, to acquire fundamental knowledge in the food field
- contribution regarding the quality increase of advanced research within the Food Engineering Faculty in order to establish performing partnerships in internal and international scientific projects,
 - research on environment impact as a result of food production and consumption as well as of food waste, establishing specific measures on environment protection
 - contribution and research on the study of packaging-food-environment interaction
 - research on synthetic sweeteners
 - research on aflatoxins
 - research on Bio-fuels
 - research on the performance increase in instrumental analysis of heavy metal traces in food products
- approaching of Food Engineering Faculty to the economical environment by carrying on an ample activity of training, specializing, counselling, technical expertise and dissemination of the results obtained by the laboratory transfer of research results within the food products field to the economical and social environment.

MAIN EQUIPMENT:

Highly Performing Liquid Chromatograph (HPLC)- LC-10ADVP – Shimadzu. Highly performing modular apparatus equipped with quaternary pump, diode-array, fluorescence, refractometer, polarimeter, electrochemical, autosampler detectors and data acquisition and processing soft. The chromatograph has an ISO 90001 certificate and model approval from the Romanian Office of Legal Metrology.



Atomic Absorption Spectroscopy (AAS)- AA- 6300 – Shimadzu. Double beam apparatus, very good ratio signal/noise. The optical system is tightened in such a way that it is protected against dust and corrosion. It has a flame atomization system, electrochemical atomization, hydride generator, autosampler, data acquisition and processing soft. The spectroscopy has an ISO 9001 certificate and model approval from the Romanian Office of Legal Metrology.



Gaschromatograph with atomic mass spectroscope (GC-MS) QP 2010 - Shimadzu. Highly performing mass detector QP 2010 -equipped apparatus with classical ionization standard with electronic impact (EI). The chromatograph allows applications both in classical chromatography (I.D. = 0.25 mm and 0.32 mm), wide-bore columns chromatography (I.D. = 0.53 mm) and fast chromatography (very narrow columns chromatography I.D.=0.1 mm).



LABORATORY PERMANENT STAFF:

Head of the research team:

Professor PhD Georg GUTT

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Members :

Professor PhD Sonia GUTT

Assistant eng. Amelia BUCULEI

Assistant eng. Silviu-Gabriel STROE

Scientific production 2005-2007: 3 books published, 12 papers published, 4 research grants, participation in 4 scientific sessions, organization of a scientific session, carrying out of an invention proposal

Main collaborations: Laboratory of Enzymes et Derivates Romania, Institute of Food Bioresources Romania, University of Hohenheim(Germany), “Gh.Asachi” University of Iasi, Yurii Fedkovici University, Chernivtsy - Ukraine, Technische Universitate Aalen-Germany, Hohenheim University – Germany, Genencor- Danisco – Netherlands, Platform for biofuels, BIOCARO - Romania

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