



BioAliment-TehnIA

ORGANIZATION

The BioAliment-TehnIA center is divided into the following departments:

1. Department of *Fundamental Research and Educational Programs Development - Research and Education Platform for Applied Biotechnology in Food Industry (Bioaliment)* (www.bioaliment.ugal.ro) that includes the following laboratories:

- a. Culture and fermentation
- b. Molecular separations
- c. Genetic engineering
- d. Bioprocessing
- e. Wastewaters Treatment Pilot Plant
- f. MIUG Microorganisms Collection

2. Department of *Applied Research and Technological Transfer in Food Industry (TehnIA)* (www.respia.ugal.ro) that includes the following laboratories and pilot plants:

- a. Meat processing pilot plant
- b. Milk processing pilot plant
- c. Brewing production pilot plant
- d. Emerging technologies laboratory
- e. Technological laboratory

3. Department of *Technical Expertise, Food Control and Food Safety (LAFcMA)* (www.lafcma.ugal.ro), that includes the following laboratories:

- a. Physico-chemical analysis
- b. Microbiological analysis
- c. Instrumental analysis

ABOUT

The research center was established in 2001, under the name "Biotechnologies in Food Industry and Aquaculture (BIAA), within the Faculty of Food Science and Engineering, Department of Food Science and Engineering, Biotechnology and Aquaculture. This center was accredited at a national level, in 2001, and re-accredited in 2004, based on the Certificate of recognition no. 33 / CC-B of 11V-2004 issued by C.N.C.S.I.S. Bucharest.

RDI ACTIVITIES

The research center has been operating since 2013 under the current organization, as the INTEGRATED CENTER FOR RESEARCH, EXPERTISE AND TECHNOLOGICAL TRANSFER IN FOOD INDUSTRY (BioAliment-TehnIA). The RDI activities are carried out in the fundamental field of ENGINEERING SCIENCES, correlated to the smart specialisation field of BIOECONOMY, as follows:

- 1) Promoting the concept of safe, affordable and nutritionally optimized food products;
- 2) Implementation of biotechnological processes in the food industry;
- 3) Expertise, food quality control and food safety;

In the field of INNOVATIVE SOLUTIONS FOR THE PUBLIC SECTOR, the RDI activities of the center focus on the priority areas:

- a) NEW AND EMERGENT TECHNOLOGIES
- b) HEALTH

THE TEAM



Prof. dr. eng. Nicoleta STĂNCIUC - Responsible

Scientific Coordination Council:

1. Prof.dr.eng. Petru ALEXE
2. Prof.dr.eng. Iuliana APRODU
3. Prof.dr.eng. Gabriela BHRIM
4. Prof.dr.eng. Daniela BORDA
5. Prof.dr.eng. Anca NICOLAU
6. Prof.dr.eng. Gabriela RĂPEANU
7. Prof.dr.eng. Camelia VIZIREANU
8. Assoc.prof.dr.eng. Liliana MIHALCEA

OBJECTIVES

The main focus of the BioAliment-TehnIA Center consists of fundamental and applicative scientific research to create a cluster of research, expertise and technology transfer in the field of food science, food engineering and applied biotechnology. The assumed mission of the BioAliment-TehnIA Center takes into account:

- a) Development of various fundamental and applicative research directions, with the industry and consumers as the main beneficiaries;
- b) Development of a high-level education and training programs to prepare for a competitive career in the field of food science and technology and applied biotechnology;
- c) The technology and expertise transfer to the industry partners.

EXPERTISE AREAS

1) Promoting the safe, affordable, nutritionally optimized food concept

- Optimization of process parameters;
- Obtainment of new food products;
- Innovative technological approaches to increase the shelf life of food products;
- Valorisation of biologically active compounds obtained by different extraction methods;
- Valorisation of by-products in the food industry;
- Obtainment of new products through minimal processing technologies;
- Food composition reformulation to increase the functionality and nutritional value;
- Modified atmosphere packaging technology and the use of new materials for food packaging;
- Market research on the impact of some food products on consumers.

2) Biotechnological processes implementation in the food industry

- Bioprocessing technologies with implications in food science and biotechnology;
- Starter cultures and fermentative processes (design, control, modeling and simulation);
- Tribiotics study (prebiotics, probiotics and postbiotics);
- Molecular separations, obtainment and characterization of bioactive compounds;
- The study of biomolecules' behavior through advanced molecular modeling techniques;
- Genetic engineering in biotechnology and food science;
- Bioremediation, biodecontamination and biovalorisation of wastes;
- Bioconversion processes.

3) Food expertise, food quality control and food safety

- Assessing the food quality and safety;
- Technical expertise in food industry;
- Ensuring and monitoring the food quality and safety directly at the producers;
- Consultancy regarding the implementation processes for food quality and safety management programs (SR EN ISO 22000: 2005, HACCP system) and quality management in testing laboratories (ISO 17025);
- Training the personnel in the principles of food quality and safety management, total quality management;
- Working with the national food safety and consumer's protection authorities to monitor food quality, to prevent the consumption of fake and / or contaminated food, risk analysis;
- Integration into national and international programs that monitor the food quality and food safety in accordance with the EU legislation;
- Extending the conformity assessment capability in line with the latest analytical methods for investigating, assuring and monitoring of food quality and food safety.



RELEVANT EQUIPMENT

1. High Performance Liquid Chromatography System, with UV-VIS, fluorescence and ELSD detection, AGILENT
2. Bioreactor 16L, BIOENGINEERING
3. LS-55 Fluorescence Spectrometer, PERKINELMER LIFE SCIENCES
4. Freeze-dryer, MARTIN CHRIST ALPHA 1-4
5. Gas Chromatography System coupled with Mass Spectrometry, THERMO SCIENTIFIC
6. Supercritical Fluid Extraction pilot plant
7. Äkta pure Fast Protein Liquid Chromatography System, GE HEALTHCARE LIFE SCIENCES
8. Ultra High-pressure Food Processing System, RESATO
9. Fully automated line for milk processing – Milk processing pilot plant
10. Fully automated line for meat processing – Meat processing pilot plant
11. Fully automated line for brewing processing - Brewing production pilot plant



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