



UNIUNEA EUROPEANĂ



Instrumente Structurale
2014-2020

METRO FOOD • RO



Proiect cofinanțat din Fondul European de Dezvoltare Regională prin Programul Operațional Competitivitate 2014-2020





Dezvoltarea și consolidarea Nodului național METROFOOD-RI -METROFOOD-RO
Cod SMIS 136213

Development and consolidation of the National Node METROFOOD-RI (METROFOOD-RO)



METROFOOD-RO final Conference

November 14–15, 2023 Bucharest

Project co-financed from the European Regional Development Fund through the Competitiveness Operational Program

Proiect cofinanțat din Fondul European de Dezvoltare Regională prin Programul Operațional Competitivitate





**An overview of the research facilities and recent activities
in food science and engineering at „Dunarea de Jos” University of Galati**

Maria TURTOI
Prof. Dr. Eng.





Faculty of Food Technology and Chemistry, and Fish Technique

Faculty of Food Industries, Aquaculture and Fishing

Faculty of Food Science and Engineering



- **The oldest Faculty in Food Science and Engineering in Romania**
- **One of the top research facilities in Food Science, Food Technology, and Food Engineering**
- **Modern infrastructure**
- **National, international, and interdisciplinary collaborations**





"Dunarea de Jos" University of Galati

Tradition in performance since 1948
 University with "HIGH DEGREE OF CONFIDENCE" awarded by the Romanian Agency for Quality Assurance in Higher Education in 2008, 2013 and 2018



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Strategy

Research and Result

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Units of scientific research/artistic creation organized at institutional level

Nr. crt.	Fundamental field	Research units
1	Engineering science	19
2	Mathematics and natural sciences	2
3	Humanities and arts	5
4	Social sciences	4
5	Sport science and physical education	1

The screenshot shows the top navigation bar of the university's website. On the left is the university logo with the text 'UNIVERSITAS GALATIENSIS'. To its right is the university name and a brief history: 'Tradition in performance since 1948' and 'University with "HIGH DEGREE OF CONFIDENCE" awarded by the Romanian Agency for Quality Assurance in Higher Education in 2008, 2013 and 2018'. On the far right is a search bar and a row of international flags. Below this is a dark blue navigation menu with a home icon and links for 'About DJUG', 'Education', 'International', 'Faculties', 'Campus and student life', 'Research', 'Admission', 'Announcements', 'Alumni', and 'Info Covid-19'.

Bioaliment – TehnIA
Integrated center for
research, expertise and
technological transfer in
food industry

EERTIS Platform

.....
(33)

MoRAS
Romanian center for
modelling recirculating
aquaculture systems

EERTIS Platform

Also on:

<https://erris.gov.ro/Food-Biotechnology>



EERTIS Public Profile

ACTIVE RI

SINGLE SITED RI

ERIC

**INTEGRATED CENTER FOR
RESEARCH, EXPERTISE
AND TECHNOLOGICAL
TRANSFER IN FOOD
INDUSTRY (Bioaliment-
Tehnia)**



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

The following departments are organized and operate within the BioAliment-Tehnia Center:



I

Department for Fundamental Research and Development of Educational Programs - Integrated Research and Training Center for Biotechnology Applied in the Food Industry (**BioAliment Platform**) (www.bioaliment.ugal.ro)

II

Department of Applied Research and Technological Transfer in Food Industry (**TehnIA**, <http://www.sia.ugal.ro/respia/>)

III

Department for Technical Expertise, Food Control and Food Safety (**LAFCMA**, <http://lafcma.ugal.ro/>)

I. BioAliment Platform

Molecular Separations Laboratory

Cultures and Fermentation Laboratory

Waste Biotreatment Pilot Plant

Bioprocessing Laboratory



Bioaliment
TehnIA



II. TehnIA structure

Meat Processing Pilot Plant

Dairy Pilot Plant

Brewing Pilot Plant

Minimal Processing Laboratory

Technological Research Laboratory



III. LAFCMA

Physico-Chemical Analysis Laboratory

Microbiological Analysis Laboratory

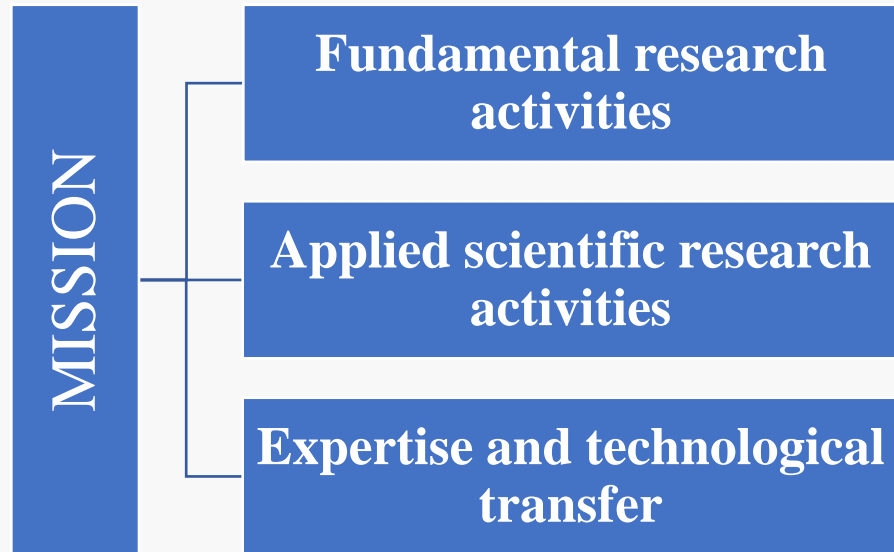
Instrumental Analysis Laboratory



Bioaliment
TehnIA



Mission...



... and Vision



1 To develop high-level education and training programs for a competitive career in applied science, food technology and biotechnology

2 To develop fundamental and applied research activities for industry and consumers

3 To provide technical expertise to industry

- Raw materials and food analysis and characterisation
 - Physical and chemical properties
 - Proximate composition
 - Rheology
 - Antioxidant activity
 - Sensory analysis
- Food safety, hygiene, adulteration, etc.
- Microbiological analysis
- Developing new food
- Separation – PCR, classical extraction, SFE
- Minimal processing – HPP, OH, PL, UV
- Analyses for stakeholders (LAFCMA)
- Expertise to industry (pilot plants)
- Etc.



Summary:

- **PhD Thesis**
- **MSc Thesis**
- **Participation in national and international conferences**
- **National and international research projects (e.g., METROFOOD-RO, SINOVEG, Biopowder, FoodSafe, SafeConsume, etc.)**
- **Articles published in ISI and BDI journals**
- **Book chapters in Elsevier, Taylor & Francis/CRC Press, Springer, Intech Open, etc.**
- **Patents**
- **ECOTROPHELIA Romania and Europe**
- **Products/solutions implemented in food industry**
- **Products/solutions waiting for producers**

Spreadable food product
Based on wholemeal lentil and broad bean flours
Clean label
Short ingredient list



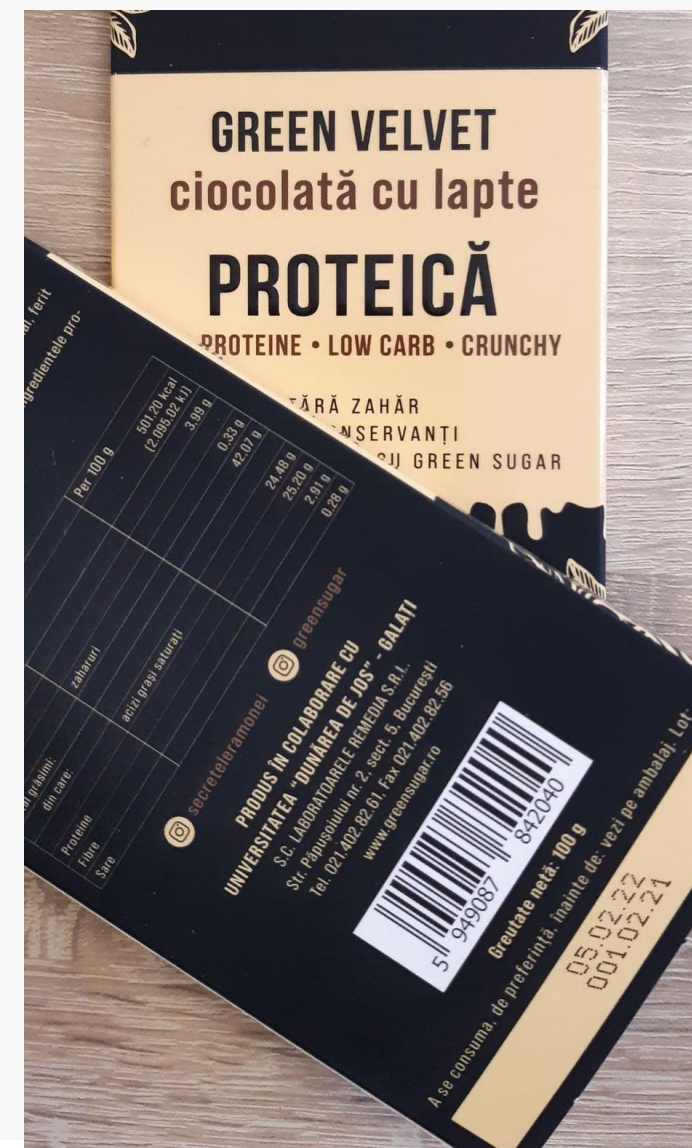
HiProBar

- Protein quality and taste
- Soy and whey protein mix with equilibrated aminoacid content
- High fiber content
- Savory taste with only natural components



Green Velvet

- Milk chocolate rich in protein
- High protein food formulations
- Clean label solutions



Whoopie Ice cream – lactose free-whey, plums and quinces

Clean label

Short ingredient list



ECOTROPHELIA Europe



Hemp Mini-Meal



Hemp Mini-Meal



Beer with aubergine peels extract



Bread with rosehip powder addition

- Solution to replace the synthetic ascorbic acid



Bread with Jerusalem artichokes addition

- Solution to reduce carbohydrates content



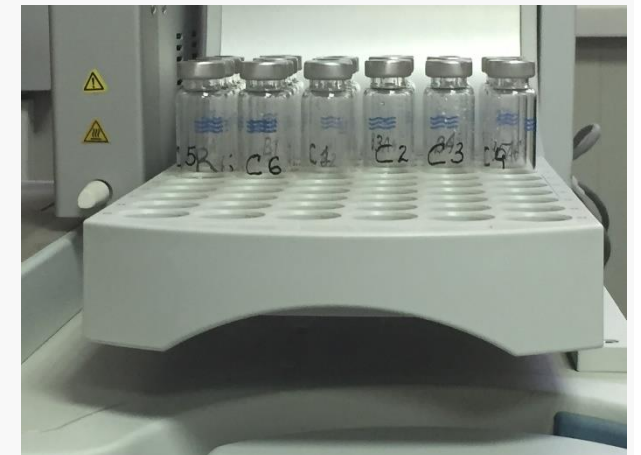
Bread with hawthorn flour addition



... and other ingredients
or food byproduct (valorisation)

High pressure processing of white wine

- Solution to reduce the SO₂ addition



Food decontamination with light pulses and continuous ultraviolet light

Wheat grain surface decontamination

- Solution to reduce the incidence of ropiness



- Solution to increase the germination capacity

Bread from nontreated wheat



24



48



72

Bread from treated wheat



24



48



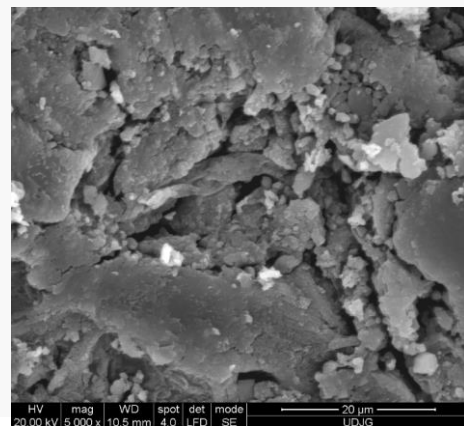
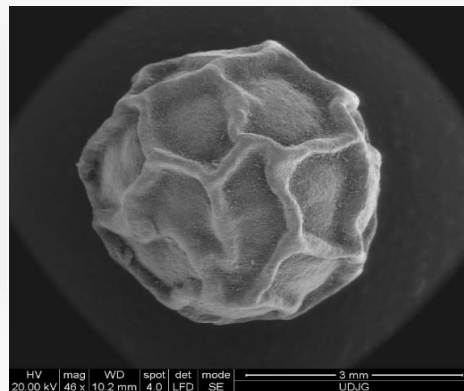
72



Food decontamination with light pulses and continuous ultraviolet light

Black pepper decontamination

- Solution to reduce microbiological burden



Fresh-cut fruit surface decontamination

- Solution to enhance the shelf life and preserve sensorial attributes



Thank you!