Institute for Research in Agrifood Resources (INURA)
UNIVERSITY OF EXTREMADURA (UEX)
SPAIN

PROMOTIONAL PROFILE

RESEARCH GROUP:

Food Quality and Microbiology (CAMIALI AGA 015)

María José Benito Bernáldez (mjbenito@unex.es)
Full Professor and Deputy Director of Research at INURA

Supported by the European Project Office OPE-SECTI

THE GENERAL OBJETIVE OF INURA

Uex (Spain)

The **Institute for Research in Agrifood Resources (INURA)** at the **University of Extremadura** (Spain) brings together over 80 researchers across 15 groups.

Mission: boost the quality, safety and sustainability of agricultural and **food products**.

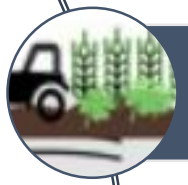
Focus: production, processing, preservation and shelf-life to deliver high-quality, **safe and eco-friendly foods**.

Impact: close collaboration with regional industry to generate knowledge that adds value along the entire food chain, **from field to table**.

Supported by the European Project Office OPE-SECTI

Expertise of INURA-UEx

Valorization of waste and by-products for the development of new ingredients



Efficient and sustainable production of agri-food raw materials

Production of differentiated quality foods. New technologies applied to the agri-food production and processing chain

Circular economy and sustainability

Healthy and sustainable diet. Artificial stomach–intestine model to assess diet Healthy. Effects on gut microbiota. Microbiome and genetic profiles.

Supported by the European Project Office OPE-SECTI

Partners search

Project Idea

- **HORIZON-JU-CBE-2026-IA-01**

Biotech routes for valorisation of residual biomass

Integrated project: Advanced valorization of agri-food by-products for bio-based ingredients

- **Central concept**
  Conversion of agri-food by-products into high-value bio-based ingredients through sustainable biotechnological pathways.
- **Two complementary lines**
  - Functional proteins and bio-peptides
  - Functional fiber and bioactive lignans
- **Fit within CBE JU**
  - Valorisation of residual biomass (IA)
  - Nutritional ingredient diversification (Flagship – optional)
- **Strategic objective**
  To strengthen the circular economy, European strategic autonomy, and the substitution of fossil-based or imported ingredients.

Supported by the European Project Office OPE-SECTI

Topic of our interest

HORIZON-JU-CBE-2026-IA-01: Biotech routes for valorisation of residual biomass

Expected Outcome/Scope/Other	Our contribution
– Increased added value of residual biomass for biorefinery applications.	– Valorization of waste and by-products for the development of new ingredients. We use flexible approaches based on green and sustainable technologies, selected according to the nature of the by-product and the target ingredient. These include: Supercritical fluids (supercritical CO_2) for the selective extraction of bioactive compounds. Microwave-assisted technologies to improve extraction efficiency and reduce time and energy consumption. Simpler and more scalable processes, such as ultrasound-assisted extraction with food-grade organic solvents, particularly suitable for industrial transfer.

Supported by the European Project Office OPE-SECTI

Topic of our interest

HORIZON-JU-CBE-2026-IA-01: Biotech routes for valorisation of residual biomass

Expected Outcome/Scope/Other	Our contribution
– Availability of a wider portfolio of sustainable bio-based products via industrial biotech.	– Development and market availability of a broader, more diverse portfolio of high-value, sustainable bio-based products. We can contribute with research and experience in high added-value functional ingredients, including: Encapsulated and/or freeze-dried preparations, formulated from proteins, dietary fibres (bioactive compounds) We have developed these in collaboration with companies in the sector (Nutrisens and Natac), which facilitates their market orientation and industrial validation.

Supported by the European Project Office OPE-SECTI

Topic of our interest

HORIZON-JU-CBE-2026-IA-01: Biotech routes for valorisation of residual biomass

Expected Outcome/Scope/Other	Our contribution
– Availability of a wider portfolio of sustainable bio-based products via industrial biotech.	Our main focus is functional foods, although we also consider specific applications in: Nutrition for older people or Products with special or medicalised nutritional purposes.

Supported by the European Project Office OPE-SECTI

Topic of our interest

HORIZON-JU-CBE-2026-IA-01: Biotech routes for valorisation of residual biomass

Expected Outcome/Scope/Other	Our contribution
– Robust, scalable and efficient biotech process(es) applicable to residual biomass	– By developing and optimising biotechnological pathways specifically adapted to heterogeneous agri-food residues

Supported by the European Project Office OPE-SECTI

[End users]

- Agri-industrial operators focused on by-product valorization.
- Food ingredient manufacturers.
- Food industry players interested in sustainable reformulation.
- Manufacturers of bio-based ingredients for food, cosmetics, and personal care.
- Nutraceutical, dietary supplement, and health-related companies.
- Cosmetic and personal care industry.
- Regulatory authorities, providing scientific evidence to support safety assessments.
- Public and institutional stakeholders involved in circular economy and bioeconomy initiatives.

[Networks & Main Partners]

- European research and innovation networks: EU GREEN Alliance
- Academic and research partners: 9 European Universities from Eugreen parthers, a public research organisations: CICYTEX
- Industrial and value-chain partners: Agro-industrial companies and cooperatives (Asociación de Cooperativas Extremeñas)
- Industrial partners involved in process optimisation, ingredient formulation and Bio-based product developers: NUTRISENS and NATAC
- Regional and national innovation agencies: Junta de Extremadura

Supported by the European Project Office OPE-SECTI

Thank you

FOR YOUR ATTENTION

+34 924289300 Ext.86270

mjbenito@unex.es

https://www.iuinura.es/

https://www.linkedin.com/in/maria-jose-benito-63786a8

Supported by the European Project Office OPE-SECTI

Contact details

María José Benito Bernáldez

INURA

mjbenito@unex.es

OPE-SECTI CONTACT

Concha Civantos

OPE-SECTI

concha.civantos@fundecyt-pctex.es

Supported by the European Project Office OPE-SECTI