ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

INDUSTRIAL BIOTECHNOLOGY

From the characterization of the feedstocks to the development of the biotech process for the production of biobased base and fine chemicals, ingredients, building blocks, biopolymers for food, feed, nutraceutical, cosmetic and pharmaceutical applications.

Biomass characterization & treatment

- Pre-treatment of agri-food wastes, by-products and biomasses using biocatalysts for the extraction of added value bioactive molecules and/or of substrates for fermentation/ bioconversion processes
- Characterization of biological activities of the extracted added value molecules

Fermentation & bioconversion processes

- Isolation from extreme and conventional environments of prokaryotic and eukaryotic microorganisms able to produce the target molecules
- Development and optimization, via conventional or statistical approaches, of the process conditions (media formulation, process parameters) and operating conditions (batch, fed-batch, continuous) for the production of target compound

Downstream

- Development of downstream processing for the selective recovery of the target biobased molecules

HIGHLIGHTS

The University of Bologna is part of BIOCIRCE: the first European Master in Bioeconomy in the Circular economy providing a rich combination of theoretical perspectives on life science innovation with a practical focus on the dynamics of the bioeconomy and its value chains.

The University of Bologna contributes to the international research progress developing innovative solutions:

- **PHENBIOX** spinoff develops and produces plant-derived high performance active ingredients for cosmetics, food and food supplements finished products. It provides customers with high-quality products with proven efficacy. They use their technology in order to both increase the speed of effect of the active ingredients and boost the effectiveness of their products.
- **WELLMICRO** spinoff offers a quick characterization of the intestinal microbiota in the service of nutrionist doctors, dieticians, gastroenterologists. The final output of the characterization is the Microbiopassport® that is a medical report easily interpreted thanks to graphic components; the Microbiopassport® describes the intestinal ecosystem in detail. Wellmicro staff adds indications and suggestions about eventual modulation of microbiota components using a therapeutical and nutritional approach.