

PhD programme in FOOD ENGINEERING AND BIOTECHNOLOGY

Research projects and supervisors	
Title	Supervisor
1. Extraction and isolation of natural antioxidants for food applications	Prof. Matteo Mario Scampicchio
2. Identification of Biomarkers for Determining Varietal Authenticity and Functional Quality of Wheat (co-funded by Laimburg Research Centre) The project aims to identify the varietal composition and functional quality of wheat through advanced analytical chemistry technique. Metabolomic profiling using nuclear magnetic resonance (NMR) spectroscopy and high-performance liquid chromatography coupled with mass spectrometry (HPLC-MS) will be applied to characterize and quantify bioactive compounds in wheat samples. These markers will support the authentication of wheat varieties and the assessment of their influence on flour performance. Sampling will be carried out in collaboration with an industrial partner, and experimental work will be conducted at the laboratories of the University of Bolzano and Laimburg Research Centre at NOI Techpark.	Prof. Matteo Mario Scampicchio
3. Emerging product innovation demands in winemaking and ensuring quality: a bridge between precision enology and sustainability practices	Prof. Emanuele Boselli
4. Investigation of the role of novel pollutants as a vector of microbial genetic resistances under the One-Health vision	Dr. Lorenzo Brusetti
5. Application of multi-omic approaches to investigate the relationships between synthetic microbial communities and crop plants to improve their resilience and yield traits	Prof. Youry Pii/Prof. Stefano Cesco
6. Forefront solutions for integrated food waste biorefinery	Prof. Francesco Patuzzi
7. Innovative Technologies for the extracting of bioactive compounds from Plant By-Products and Their Use in Food Products	Prof. Giovanna Ferrentino
8. Nutritional aspects of the sourdough fermentation for making baked goods	Prof. Marco Gobbetti
9. Diet, probiotics and prebiotics to improve the composition and functionality of the human gut microbiome: invitro and in vivo challenges	Prof. Raffaella Di Cagno/ Prof. Marco Gobbetti
10. Cheese fermentation to improve the sensory and nutritional attributes and to decrease the time of ripening	Prof. Raffaella Di Cagno/ Prof. Marco Gobbetti
11. Metabolism of phenolic compounds and fatty acids during plant-based food fermentation	Prof. Raffaella Di Cagno