

# From Wild Cultures to Cultured Foods: Biodiversity-Driven Innovation in Fermentation

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## **Food fermentation analytics**

The future of sustainable food lies in diversifying away from animal-derived products and reducing waste—challenges that microbial fermentation is uniquely positioned to address. This talk explores the development of new starter cultures to unlock novel plant-based food categories, from chicken and fish analogues to fermented dairy alternatives. By translating traditional fermentation practices to new substrates, and by exploring both ecological reservoirs and pan-genomic datasets, we reveal untapped microbial biodiversity with vast potential. Our work also emphasizes the role of food analytics in ensuring safety and quality, including mycotoxin screening, analysis of organoleptic properties and nutritional profiling. As we push the frontiers of fermentation, analytics is not just a support tool—it is a critical driver of innovation.