
Registration Seminar

Seminar Title	: DEVELOPMENT AND CHARACTERIZATION OF READY-TO-EAT GERMINATED MILLET-BASED SYNBIOTIC THROUGH PARALLEL FERMENTATION FOR ADVANCED BIOFUNCTIONAL FOOD
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Venue	: CH-113 Department of Food Process Engineering
Date and Time	: 19 Sep 2025 (05.00 PM)
Abstract	: The emergence of functional foods, which provide health benefits beyond basic nutrition by enhancing physiological functions or reducing the risk of chronic diseases, has attracted growing attention worldwide. In this context, Bati Mandia, an underutilized indigenous finger millet variety from Koraput, Odisha, is a promising substrate due to its nutrient-dense composition, sustainability, and adaptability. A detailed compositional analysis of Bati Mandia will establish its suitability for developing synbiotic beverages, instant powders, and ready-to-eat tablets with enhanced health benefits. Currently, synbiotic beverages are mostly prepared using single-strain fermentation with lactic acid bacteria such as <i>Lactobacillus</i> or <i>Bifidobacterium</i> , which limits flavor, bioactive compound synthesis, and nutrient bioavailability. In this study, parallel fermentation will be employed to produce beverages using germinated Bati Mandia flour with <i>Leuconostoc mesenteroides</i> and the probiotic yeast <i>Saccharomyces boulardii</i> . <i>L. mesenteroides</i> was selected for its ability to produce exopolysaccharides (EPS), bacteriocins, and aroma compounds that enhance texture, stability, and gut health, while <i>S. boulardii</i> was chosen for its recognized safety, gastrointestinal resilience, low alcohol production, and role in supporting gut microbiota balance. This fermentation approach improves nutrient bioavailability, functional compounds, and sensory properties more effectively than single-strain fermentation. As modern lifestyles demand convenience and time-saving solutions, consumers increasingly prefer synbiotic products in easily consumable forms. In addressing this issue, the synbiotic beverage will be developed into instant powder and ready-to-eat tablets, offering extended shelf life, greater portability, and improved storage stability. These product forms also help preserve bioactive compounds and maintain probiotic viability. Overall, the study aims to establish non dairy, millet-based synbiotic products as an advanced biofunctional food strategy with improved functional and commercial potential.