
Registration Seminar

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| Seminar Title | : MACHINE LEARNING APPLICATIONS FOR TECHNO-FUNCTIONAL PROPERTY PREDICTIONS OF HYACINTH BEAN (LABLAB PURPUREUS) PROTEINS |
| Speaker | : Gorde Pratik Madhukar (Rollno : 523fp3003) |
| Supervisor | : Dr. Sushil Kumar Singh |
| Venue | : CH-113 |
| Date and Time | : 24 Sep 2024 (11:00 AM) |
| Abstract | : Today's major global concern is the increasing demand for sustainable and nutritionally adequate food sources to address the challenges posed by population growth, climate change, and resource limitations. The dependency on animal-based proteins has established environmental degradation in the form of greenhouse gas emissions, land, and water use, along with biodiversity loss. In response to these challenges, recent research increasingly focuses on plant-based proteins as viable sustainable alternatives to animal-based proteins, because of their reduced environmental footprint and capability to satisfy the global protein requirements. Among all plant protein sources, hyacinth bean (Lablab purpureus) has surfaced as an encouraging protein source, due to its abundant nutrient composition and versatility across various agro-ecological conditions. The full potential of diversified hyacinth bean landrace accessions has techno-functional characteristics and important roles within growing novel food systems. This study consolidates the physicochemical and techno-functional characteristics of the available accessions to identify those with superior properties for food applications. The conventional approaches to protein extraction emphasize the restricted functional characteristics of the chosen level of higher or lower. In this study, a wide set of different methods for protein extraction will be used with predictive models for predicting some basic techno-functional properties using machine learning. The prediction models will be capable of predicting the accurate pretreatment and extraction method for desired food applications in food industries. Protein extraction techniques and advanced machine-learning methodologies have been adopted in explaining the feasibility of hyacinth beans as an alternative and sustainable plant-based protein. |