### TRAINING IN ENZYMOLOGY

#### Ist Week - Basics of Enzyme Production

Day 1: Lab safety and Procedures , Chemical & Reagent Preparation

Day 2: Microbial Selection & Preparation for Enzyme Production

Day 3: Medium Optimization by Plackett and Burman Design

Day 4: Effect of pH on enzyme activity

Day 5: Effect of temperature on enzyme activity



## IInd Week - Enzyme Assay For Optimisation

Day 1: Enzyme Kinetics Assay

Day 2: Batch Growth Kinetics of Microbe

Day 3: Determination of KLa by Sulphite Oxidation Method

Day 4: Enzyme Immobilization

Day 5: Cell Disruption & Estimation of Enzyme



#### IIIrd Week - Downstream Processing of Enzyme

Day 1: Recovery by ammonium sulphate precipitation

Day 2: Two phase extraction for partition coefficient.

Day 3: Dialysis or Desalting of Enzyme Sample

Day 4: SDS-PAGE of Crude Enzyme

Day 5: Preparation for Protein Purification Strategies ( DEAE Sepharose / SP Sepharose / CM Sepharose )



# IVth Week - Enzyme Purification

Day 1: Purification of Enzyme by Size Exclusion Chromatography (FPLC)

Day 2: Quantification & Purification of Enzyme by HPLC

Day 3: SDS-PAGE of Purified Enzyme & Molecular Weight Determination

Day 4: Separation & Detection of Enzyme by RP-HPLC

Day 5: Data Analysis



#### Vth Week - Project Work

We will share our ideas and decide for small piece of research in limited time frame.

Cost of Training: Training Only -INR 10,000 / Training + Project - INR 12,000/-

Duration: 80 to 100 Hrs or 4 to 6 Weeks



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