

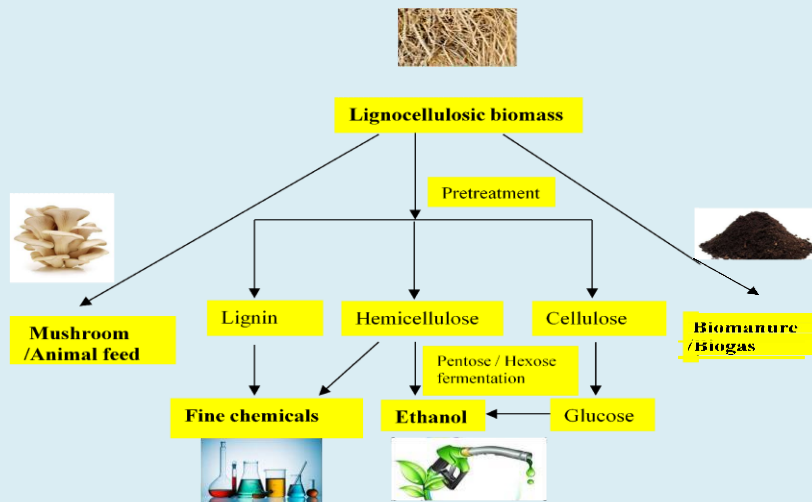


National Training Program

on

Recent advances in microbial conversion of lignocellulosic biomass into value-added products

From February 27 to March 04, 2025



Course Director

Alok K. Srivastava, Director ICAR-NBAIM

Course Coordinators

V. Mageshwaran, Senior Scientist

Kumar M, Senior Scientist

Jyoti Prakash Singh, Scientist

ICAR-National Bureau of Agriculturally Important Microorganisms

(ISO 9001:2008 Certified Institute)

Kushmaur, Maunath Bhanjan-275103

Uttar Pradesh, India

Email id: director.nbaim@icar.gov.in

Website: www.nbaim.icar.gov.in

About NBAIM

ICAR-National Bureau of Agriculturally Important Microorganisms (NBAIM) is one of the premier institutions of Indian Council of Agricultural Research (ICAR) leading research and development programs in the field of Agricultural Microbiology in India. The Bureau aims at collection, maintenance and conservation of agriculturally important microorganisms and their genomic resources for future needs. The Bureau is engaged in the cutting-edge research in Agricultural Microbiology, Microbial Biotechnology, Plant Pathology and Bioinformatics for the benefit of Indian agriculture and farmers. Human resource development is one of the important mandates of the bureau. The Bureau has organized several national training programs on molecular microbial identification and characterization, molecular taxonomy, microbial diversity, biocontrol, plant-microbe interactions and the applications of bioinformatics in gene mining for the benefit different stakeholders.



Background

Over the last few decades, the diminishing fossil resources forced us to look for alternative renewable sources to meet the increasing demand for energy and chemicals. The nature-gifted agro-biomass is renewable and available in plenty and have huge potential to cater the ever growing demands of human beings. The agro/lignocellulosic biomass is found to be a cheap and viable substrate for microbial conversion into value-added products having agricultural and industrial significance. Besides bio-fuel, the fermentation of lignocellulosic substrates has wide applications such as production of fine chemicals, animal feed, enzymes etc. The microbial conversion of agro-biomass into bio-manure and oyster mushroom cultivation brings additional income to the farmers.

Objectives:

1. To appraise students/researchers about advanced tools and techniques for microbial conversion of lignocellulosic biomass
2. To provide hands on research experience and training on application of microbial conversion of lignocellulosic biomass into value-added products

Thematic areas

- Compositional analysis of lignocellulosic biomass
- Laboratory scale Fermenter: Design and operations; Methods of pre-treatment of lignocellulosic biomass
- Characterization of lignocellulolytic enzymes (cellulase, xylanase, β -glucosidase, laccase, phenol oxidase and lignin peroxidase)
- Biorefinery approach for lignocellulosic biomass fractionation
- Saccharification and bio-ethanol production
- Platform chemicals and microcrystalline cellulose production
- Demonstration of oyster mushroom cultivation and bio-manure production

The training program includes both lectures and practical sessions on the above thematic areas. Resource experts from the Bureau and other reputed institutes will address the participants.

Expected benefits to the participants

The participants will get hands-on experience in the biorefinery approach of lignocellulosic biomass fractionation for the production of lignocellulolytic enzymes, bio-ethanol, single-cell protein, microcrystalline cellulose etc. The hands-on experience on operations of laboratory scale fermenter. The scientific aspects of oyster mushroom cultivation and bio-manure production will also be covered.

The participants will get structured training on “practical and applied aspects on “microbial conversion of lignocellulosic biomass into value-added products” which enable them to initiate independent research in this theme area.

Eligible participants

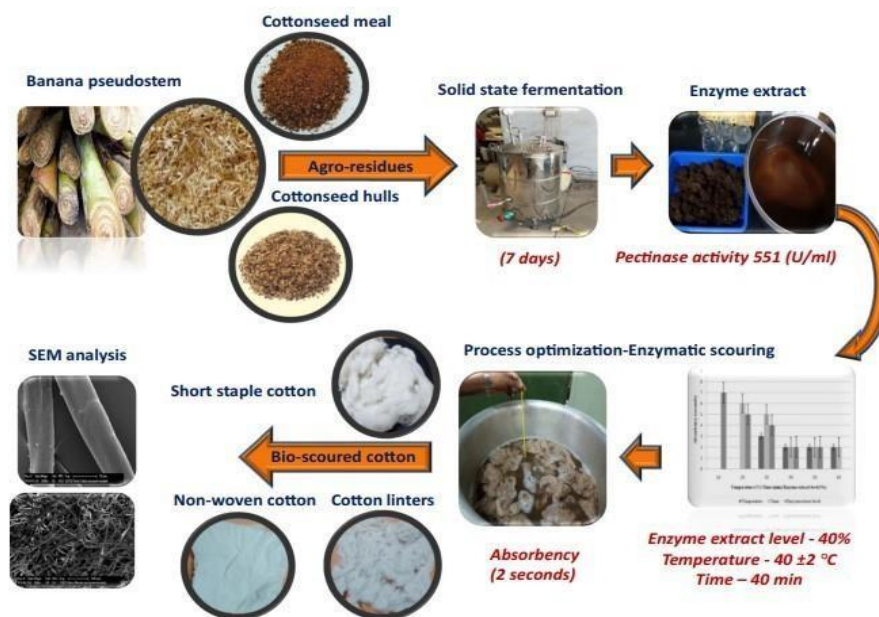
- M.Sc. /Ph.D. Students and Research Scholars, Post-Doctoral Students, Technical Officers, Scientists/Assistant Professors or above, from any university/institute/organization working in the area of biological sciences.

Fees for the training

- Rs. 5000 per trainee for students/ research scholars and Rs. 8000/- for Technical officers, Scientists/Assistant Professors or above from Public/Private Universities or Govt. Institutions. Rs. 12000/- per trainee for researchers from private or Non-Government Organizations/ Companies/ Firms.

How to apply?

- Eligible participants should send the dully filled application form forwarded by the Head of Institution to the Director, ICAR-NBAIM on/or before **07 February, 2025** to the email id: director.nbaim@icar.gov.in and mageshbioiari@gmail.com
- The selected candidates will be notified on **12 Feb 2025** by email.
- For any queries please contact: 9769941511; 6382698665





National Training Program on

Recent advances in microbial conversion of lignocellulosic biomass into value-added products

From February 27 to March 04, 2025



ICAR-National Bureau of Agriculturally Important Microorganisms

APPLICATION FORM

Personal Details	
Name	
Gender (M/F)	
Designation/Occupation	
E-mail	
Mobile No. (with WhatsApp)	
Contact Details	
Full Address	
City	
State	
Academic Details	
Degree (M.Sc./Ph.D./any other)	
Subject Specialization	
College/Department	
University/Institute	
Registration fees (tick <input type="checkbox"/> as applicable)	
Students/Research scholars	5000/-
Technical officers/Scientists / Assistant Professors or above from Public/ Private Universities or Govt. Institutions.	8000/-
Researchers from private or Non-Government Organizations/ Companies/ Firms	12000/-
Forwarding from Competent Authority Seal	Signature of the Applicant

Kindly send all the filled in forms to director.nbaim@icar.gov.in with cc to mageshbioiari@gmail.com