VIT
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

SCHOOL OF BIO SCIENCES AND TECHNOLOGY

VIT BIO-EXPO

The School of Bio Sciences and Technology (SBST) is pleased to organize **VIT Bio-Expo**, an event showcasing **innovative products and technologies developed through cutting-edge research at VIT**. The Expo will provide an opportunity to highlight the School's research-driven innovations and their potential applications.

The details of VIT Bio-Expo are as follows:

- **Date: 16th September 2026 (Wednesday)**
- **Time: 11:00 AM – 1:00 PM**
- **Venue: SMV Portico**

We invite you to visit the expo, explore the innovative research outcomes and projects on display, and promote a culture of innovation.

1. Vishal Kaushik - 23PHD0515

Product -1 Extraction of Lignin for Industrial applications

2. Swagatika Priyadarshini L A - 23PHD0534

Product -2 Industrial enzymes production using plants based waste

3. Dashrath Sriwas - 25PHD0333
Product -3 Microbial Bioplastic Production

4. Harshita Prakash Kannan - 23BBT0042

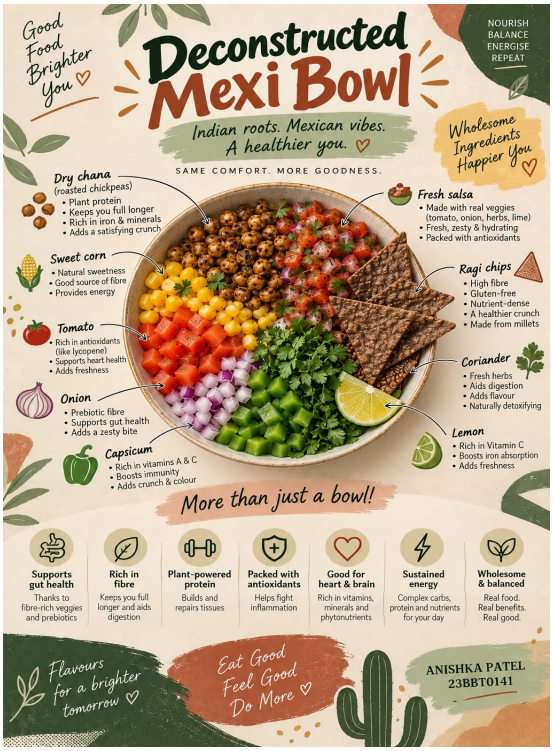
Product -4 Oatkin Delight.

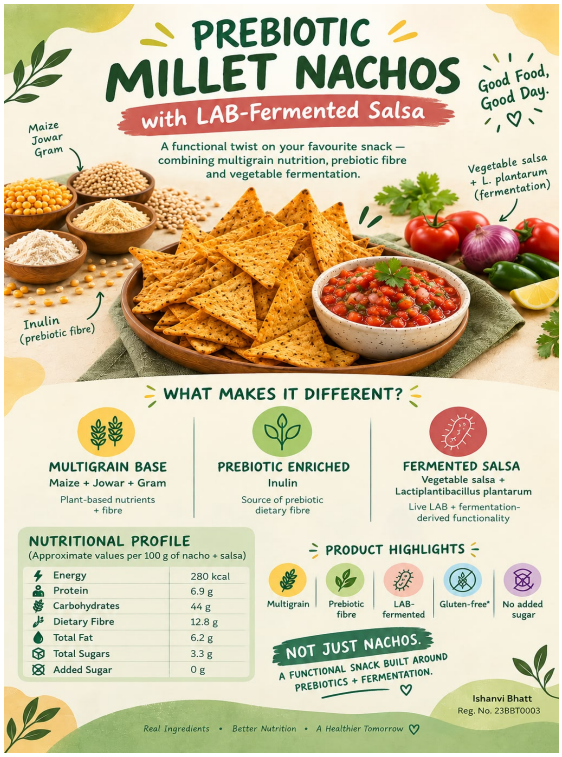
5. Anishka Patel - 23BBT0141
Product -5 Deconstructed Mexi Bowl.

6. Saranya Kapoor -23BBT0009
Product -6 Beetroot and Carrot Hummus.

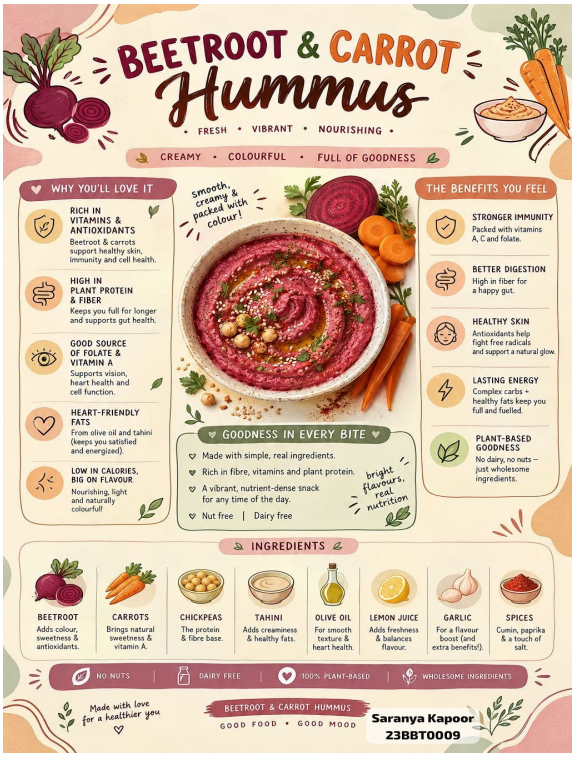
7. Ishanvi Bhatt - 23BBT0003
Product -7 Prebiotic Millet Nachos.

8. Priyanshi Jain - 24BBT0019
Product -8 NutriSeed Laddoos


Good Food Brighter You
Deconstructed Mexi Bowl
NOURISH BALANCE ENERGISE REPEAT
Indian roots. Mexican vibes. A healthier you.
Wholesome Ingredients Happier You
SAME COMFORT. MORE GOODNESS.
Dry chana (roasted chickpeas)
• Plant protein
• Keeps you full longer
• Rich in iron & minerals
• Adds a satisfying crunch
Fresh salsa
• Made with real veggies (tomato, onion, herbs, lime)
• Fresh, zesty & hydrating
• Packed with antioxidants
Sweet corn
• Natural sweetness
• Good source of fibre
• Provides energy
Ragi chips
• High fibre
• Gluten-free
• Nutrient-dense
• A healthier crunch
• Made from millets
Tomato
• Rich in antioxidants (like lycopene)
• Supports heart health
• Adds freshness
Coriander
• Fresh herbs
• Aids digestion
• Adds flavour
• Naturally detoxifying
Onion
• Prebiotic fibre
• Supports gut health
• Adds a zesty bite
Lemon
• Rich in Vitamin C
• Boosts iron absorption
• Adds freshness
Capsicum
• Rich in vitamins A & C
• Boosts immunity
• Adds crunch & colour
More than just a bowl!
Supports gut health
Thanks to fibre-rich veggies and prebiotics
Rich in fibre
Keeps you full longer and aids digestion
Plant-powered protein
Builds and repairs tissues
Packed with antioxidants
Helps fight inflammation
Good for heart & brain
Rich in vitamins, minerals and phytonutrients
Sustained energy
Complex carbs, protein and nutrients for your day
Wholesome & balanced
Real food. Real benefits. Real good.
Flavours for a brighter tomorrow
Eat Good Feel Good Do More
ANISHKA PATEL
23BBT0141


PREBIOTIC MILLET NACHOS
with LAB-Fermented Salsa
Good Food, Good Day.
A functional twist on your favourite snack — combining multigrain nutrition, prebiotic fibre and vegetable fermentation.
Maize
Jowar
Gram
Vegetable salsa + L. plantarum (fermentation)
Inulin (prebiotic fibre)
WHAT MAKES IT DIFFERENT?
MULTIGRAIN BASE
Maize + Jowar + Gram
Plant-based nutrients + fibre
PREBIOTIC ENRICHED
Inulin
Source of prebiotic dietary fibre
FERMENTED SALSA
Vegetable salsa + Lactiplantibacillus plantarum
Live LAB + fermentation-derived functionality
NUTRITIONAL PROFILE
(Approximate values per 100 g of nacho + salsa)
Energy 280 kcal
Protein 6.9 g
Carbohydrates 44 g
Dietary Fibre 12.8 g
Total Fat 6.2 g
Total Sugars 3.3 g
Added Sugar 0 g
PRODUCT HIGHLIGHTS
Multigrain
Prebiotic fibre
LAB-fermented
Gluten-free*
No added sugar
NOT JUST NACHOS.
A FUNCTIONAL SNACK BUILT AROUND PREBIOTICS + FERMENTATION.
Ishanvi Bhatt
Reg. No. 23BBT0003
Real Ingredients • Better Nutrition • A Healthier Tomorrow


VIT
Harshita Prakash Kannan
23BBT0042
Wholesome Ingredients, Heartwarming Flavours
Oatkin Delight
Pumpkin Oats Cake
The perfect blend of health and happiness
Goodness of pumpkin + oats = pure joy!
Ingredients
Oats (rolled)
Pumpkin puree
All-purpose flour
Brown sugar (or jaggery)
Butter (or oil)
Eggs (or flax eggs)
Milk (or plant milk)
Baking powder
Baking soda
Cinnamon powder
Nutmeg powder
Vanilla extract
Salt
Nuts (optional)
Rich in fibre
Good source of vitamins
Keeps you full for longer
Naturally sweet & flavourful
Made with love, for a healthier you


BEETROOT & CARROT Hummus
• FRESH • VIBRANT • NOURISHING •
CREAMY • COLOURFUL • FULL OF GOODNESS
WHY YOU'LL LOVE IT
RICH IN VITAMINS & ANTIOXIDANTS
Beetroot & carrots support healthy skin, immunity and cell health.
HIGH IN PLANT PROTEIN & FIBER
Keeps you full for longer and supports gut health.
GOOD SOURCE OF FOLATE & VITAMIN A
Supports vision, heart health and cell function.
HEART-FRIENDLY FATS
From olive oil and tahini (keeps you satisfied and energized).
LOW IN CALORIES, BIG ON FLAVOUR
Nourishing, light and naturally colourful!
Smooth, creamy & packed with colour!
GOODNESS IN EVERY BITE
Made with simple, real ingredients.
Rich in fibre, vitamins and plant protein.
A vibrant, nutrient-dense snack for any time of the day.
Nut free | Dairy free
Bright flavours, real nutrition
THE BENEFITS YOU FEEL
STRONGER IMMUNITY
Packed with vitamins A, C and folate.
BETTER DIGESTION
High in fiber for a happy gut.
HEALTHY SKIN
Antioxidants help fight free radicals and support a natural glow.
LASTING ENERGY
Complex carbs + healthy fats keep you full and fuelled.
PLANT-BASED GOODNESS
No dairy, no nuts – just wholesome ingredients.
INGREDIENTS
BEETROOT
Adds colour, sweetness & antioxidants.
CARROTS
Brings natural sweetness & vitamin A.
CHICKPEAS
The protein & fibre base.
TAHINI
Adds creaminess & healthy fats.
OLIVE OIL
For smooth texture & heart health.
LEMON JUICE
Adds freshness & balances flavour.
GARLIC
For a flavour boost (and extra benefits!).
SPICES
Cumin, paprika & a touch of salt.
NO NUTS | DAIRY FREE | 100% PLANT-BASED | WHOLESOME INGREDIENTS
Made with love for a healthier you
BEETROOT & CARROT HUMMUS
GOOD FOOD • GOOD MOOD
Saranya Kapoor
23BBT0009


VIT
VIT-SBST
Nutri Seed Laddoos
Small Bites. Big Nutrition.
Wholesome Seeds. Nourishing Bites.
Goodness in Every Bite!
Nutri Seed Laddoos are made from a perfect blend of nutrient-rich seeds, grinded and mixed into wheat and besan flour. These wholesome laddoos bring together the natural goodness of seeds, the richness of grains and the traditional taste of homemade energy bites.
Rich in Healthy Fats & Protein
Natural Energy Booster
High in Fibre & Minerals
No Preservatives No Maida
Sweet, Crunchy & Satisfying
Made with Nature's Best
Tradition Meets Nutrition
INGREDIENTS
Sesame Seeds (ground)
Rich in calcium & healthy fats
Pumpkin Seeds (ground)
Good for heart & immunity
Sunflower Seeds (ground)
Supports skin, hair & energy
Flax Seeds (ground)
High in omega-3 & fibre
Wheat Flour
Adds natural carbs & fibre
Besan (Gram Flour)
Boosts protein & minerals
Traditional Ingredients • Modern Nutrition • Naturally Delicious


AGRILIG™
Turning Agricultural Waste into Valuable Lignin
From Farm Waste to Future Materials
Agricultural Waste
Lignin (AGRILIG™)
THE IDEA
Every year, huge quantities of agricultural residues such as rice straw, wheat straw, sugarcane bagasse, corn stalks and coconut residues are generated. Much of this biomass is burned or discarded, contributing to air pollution and greenhouse-gas emissions.
AGRILIG™ converts this underutilized agricultural waste into lignin, a renewable and versatile bio-based material.
Waste today. Sustainable material tomorrow.
WHAT IS LIGNIN?
Lignin is a naturally occurring aromatic biopolymer found in plant cell walls. It binds cellulose and hemicellulose together and provides plants with strength and resistance.
Agricultural biomass is primarily composed of:
Cellulose (40–50%)
Hemicellulose (20–30%)
Lignin (15–25%)
By separating these components, lignin can be recovered and converted into useful products while the remaining biomass can be utilized for other applications.
OUR PROCESS
1 AGRICULTURAL WASTE COLLECTION
Collect suitable residues such as rice straw, wheat straw, sugarcane bagasse, corn stover and coconut biomass. Clean to remove soil and impurities.
2 SIZE REDUCTION
Chop, crush and mill the biomass to increase surface area and improve contact with the extraction medium.
4 HOT PLATE BOILING (WITH SOLVENT)
Heat for desired time at specific temperature.
5 SOLID-LIQUID SEPARATION
Filter the mixture to separate the solid residue. The liquid phase contains lignin.
6 LIGNIN PRECIPITATION
Add antisolvent for lignin precipitation.
7 DRYING & PURIFICATION
Dry the precipitated lignin at 60–70°C. Further purification and characterization ensure high quality AGRILIG™ lignin.
THE AGRILIG™ ADVANTAGE
AGRICULTURAL WASTE
Uses an abundant renewable biomass resource.
CIRCULAR ECONOMY
Transforms waste into a useful material rather than burning or discarding.
BIO-BASED
Provides an alternative feedstock to some fossil-derived materials.
VALUE CREATION
Creates additional value from agricultural residues.
LOWER WASTE
Reduces open-field residue burning and supports better biomass utilization.
OUR CIRCULAR MODEL
AGRICULTURAL WASTE
PRETREATMENT
HOT PLATE EXTRACTION
LIGNIN RECOVERY & PURIFICATION
VALUE-ADDED PRODUCTS
AGRILIG™
ADHESIVES
COMPOSITES
DISPERSANTS
CARBON MATERIALS
CHEMICALS
A HIGH-VALUE FUTURE FOR AGRICULTURAL WASTE
AGRILIG™
Sustainable biomass. Valuable chemistry. Circular future.
AGRILIG™ Lignin
OUR PRODUCT
AGRILIG™
Waste to Value. Biomass to Innovation.
AGRILIG™ is our proposed bio-based lignin product obtained from agricultural residues through an integrated extraction and purification process.
Our goal is to transform locally available crop residues into a versatile, renewable industrial raw material.
APPLICATIONS
Bio-based adhesives
Asphalt & bitumen modification
Dispersants (concrete, dyes, agrochemicals)
Agricultural formulations
Phenolic & chemical products
Composite materials
Energy storage (carbon materials)
Activated carbon (adsorption & environment)
Industrial Microbiology Lab (CBMR 404)
School of Biosciences and Technology (SBST)
Scholar: Vishal Kaushik (23PHD0315)
Supervisor: Dr. Rashmi Kataria


From Today's Waste to Tomorrow's Valuable Products
LiCMicPol™
Lignocellulosic Microbial Polymer
Sustainable Materials for a Cleaner Tomorrow
Biodegradable Packaging from Lignocellulosic Biomass
Renewable Feedstock
Microbial Bioconversion
Biodegradable Product
Towards a Cleaner Planet
About LiCMicPol
LiCMicPol is a biodegradable polymer (Polyhydroxyalkanoate, PHA) produced by microbial fermentation using lignocellulosic biomass. It converts agricultural and forestry residues into a value-added, eco-friendly packaging material.
From Biomass to Bioplastics
Our Process
Converting biomass into a biodegradable polymer
1. Lignocellulosic Biomass
Agricultural and forestry residues
2. Pretreatment & Hydrolysis
Breaks down complex structure
3. Fermentable Sugars
Sugars for microbial growth
4. Microbial Fermentation
Conversion of sugars to PHA
5. PHA Recovery
Purification and drying
6. Biodegradable Packaging
Films, sheets and containers
Our Product
LiCMicPol™
A bio-based, biodegradable polymer for sustainable packaging
Bio-based
Biodegradable
Derived from renewable biomass
Eco-friendly alternative to conventional plastics
Application
Biodegradable Packaging
LiCMicPol can be processed into films, sheets and packaging materials for everyday use.
Food Packaging
Carry Bags
Product Wrapping
General Packaging
Why LiCMicPol?
Utilizes agricultural and forestry residues
Microbial and environmentally friendly process
Biodegradable end product
Supports a circular economy
Reduces reliance on fossil-based plastics
Simple Materials. Meaningful Impact.
Dashrath Shriwas 25PHD0333
Industrial Microbiology Lab (CBMR 404)
Guided by: Dr. Rashmi Kataria
Date: 16/09/2026
BIO-BASED SOLUTIONS FOR A HEALTHIER PLANET


"Waste Feeds Wonder"
EcoZyme™
NATURE'S WASTE, POWERFUL ENZYMES
ENZYMATIC SOLUTIONS FOR A SUSTAINABLE TOMORROW
SUSTAINABLE BIOPROCESS
VALORIZE AGRI-WASTE
CLEANER INDUSTRIES
GREENER TOMORROW
AGRICULTURAL WASTE TODAY
FROM RESIDUES TO RESOURCES
POWERFUL ENZYMES TOMORROW
Rethink Waste Rethink Possibilities
ABOUT EcoZyme™
EcoZyme™ is a range of value-added enzymes produced through a sustainable bioprocess using lignocellulosic agricultural waste as the substrate. It offers an eco-friendly and cost-effective alternative to conventional enzyme production using synthetic carbon sources, contributing to waste valorization and a circular bioeconomy.
Natural Substrate
Low-Cost Production
Waste Valorization
Sustainable Future
PROCESS OVERVIEW
SIMPLE STEPS. BIG IMPACT.
1 LIGNOCELLULOSIC BIOMASS PRETREATMENT
Cleaning, drying, milling and size reduction
2 SOLID STATE FERMENTATION
Growth and enzyme production
3 ENZYME EXTRACTION
Crude enzyme extract
4 ENZYME ASSAYS
Amylase activity
CMCase activity
Protein estimation
ENZYMES PRODUCED
Amylase
Hydrolyzes starch
Produces reducing sugars
Useful in food, textile, paper and biofuel industries
CMCase
Hydrolyzes cellulose
Breaks down complex lignocellulose
Useful in biofuel, textile, animal feed and paper industries
APPLICATIONS
BIOFUEL INDUSTRY
Conversion of biomass to fermentable sugars
FOOD INDUSTRY
Starch modification and functional ingredients
TEXTILE INDUSTRY
Eco-friendly fabric processing
PAPER & PULP INDUSTRY
Biobleaching and fiber modification
ANIMAL FEED
Improves digestibility
OTHER BIOTECHNOLOGICAL USES
Supports a sustainable bioeconomy
REDUCE AGRI-WASTE
COST EFFECTIVE
ECO FRIENDLY
SCALABLE BIOPROCESS
OUR IMPACT
Reduces agricultural waste
Lower carbon footprint
Promotes circular economy
Contributes to a cleaner and greener planet
Agricultural Residues Today A Cleaner Planet Tomorrow
Enzymes Today A Sustainable Tomorrow
SCIENCE SUSTAINABILITY INNOVATION A BRIGHTER TOMORROW
Lab Industrial Microbiology Lab (CBMR 404)
School School of Biosciences and Technology (SBST)
Scholar L A Swagatika Priyadarshini 23PHD0534
Supervisor Dr. Rashmi Kataria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16 September 2026 11:27:38
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632014, India
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Extraordinary people are ordinary people who do everything in life with extraordinary passion.
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Extraordinary people are ordinary people who do everything in life with extraordinary passion.
Before you embark dig two graves.
Contact Us
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Before you embark on a journey of revenge, dig two graves.
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