

HOLY CROSS COLLEGE, AGARTALA

Department of Botany

Report On

7th Student Project Programme

Organized By: Tripura State Council for Science and Technology

Date: 27th -28th June, 2024

Venue: Pragna Bhavan, Hall No. 3, Agartala, Tripura

Participants:

**Students: Neha Sinha, Sindrila Debbarma, Jagriti Dhar, Sushmita Sutradhar; Botany (Major).
Department of Botany, Holy Cross College, Agartala.**

**Guide Teacher: Dr. Somnath Kar, Assistant Professor.
Department of Botany, Holy Cross College, Agartala.**

**Title of Project Presentation: "Traditional Fermentation: Unleashing the Potential of
Organic Plant-Based Fermentation Process from Tripura."**

The 7th Student Project Programme was a prestigious academic initiative designed to foster innovation, research, and practical learning among students. The event provided a platform for students to present their research findings, interact with industry experts and gain exposure to diverse domains of knowledge. The primary objective of the programme was to enhance students' critical thinking, technical skills, and collaborative learning experience.

Event Overview

The event was jointly organized by the Tripura State Council for Science and Technology and was held on June 27-28, 2024, at Pragna Bhavan, Hall No. 3, Agartala. Participants included students from various institutions, faculty members, and industry professionals. The programme witnessed active engagement from researchers, academicians, and budding innovators who showcased their projects across multiple disciplines.

Key Highlights

The event followed a structured schedule comprising multiple sessions, including keynote addresses, project presentations, panel discussions, and an award ceremony. The highlights of the event included:

- **Inauguration Ceremony:** The event was inaugurated by Science and Technology Minister Animesh Debbarma, who emphasized the significance of research in technological advancements while preserving biodiversity.
- **Distinguished Guests:** Several notable dignitaries attended the event, including:
 - **N.C. Sharma** (Director of Higher Education)
 - **Dr. K. Sashikumar** (Secretary, State Council for Science and Technology)
 - **Prof. Ashok M. Raichur** (Secretary, Karnataka State Council for Science and Technology)
 - **Prof. Satyadeo Poddar** (Vice-Chancellor, MBB University)

Student's Participation and Presentation

The event featured 42 research presentations from various fields and institutions. Holy Cross College, Agartala, contributed three research projects to the exhibition. One of the standout projects was an interdisciplinary study emphasising sustainability.

From the **Department of Botany, Holy Cross College, Jagriti Dhar and Sushmita Sutradhar** (4th Semester) represented their department under the guidance of **Dr. Somnath Kar**. They effectively engaged with scholars, researchers, and attendees, sharing insights into the unique fermentation processes native to Tripura. Their paper, titled **"Traditional Fermentation: Unleashing the Potential of Organic Plant-Based Fermentation Processes from Tripura,"** was conducted initially by **Neha Sinha and Sindrella Debbarma**. However, due to their semester examinations, the paper was presented by **Jagriti Dhar and Sushmita Sutradhar**. The Q&A sessions further enriched the experience by providing practical insights and fostering meaningful discussions.

Event Execution and Engagement

The event was conducted seamlessly, with well-structured sessions ensuring efficient time management. Student presentations were well-coordinated, and judges provided valuable feedback to the participants. The interactive sessions allowed students to engage with experts, discuss their projects, and explore future research opportunities.

Valedictory Session

The Valedictory Session of the 7th Student Project Programme was held with great enthusiasm, marking the successful culmination of the event. The session took place in the presence of distinguished guests, esteemed judges, participants, and organizers. This session aimed to honor the contributions of students, faculty, and experts who played a pivotal role in making the event a success. The event concluded on a high note, reinforcing the importance of research, collaboration, and academic excellence.

The 7th Student Project Programme proved to be an enriching experience for all participants, fostering innovation and knowledge exchange. The contributions of Holy Cross College, Agartala, were commendable, and the event served as a valuable platform for aspiring researchers to showcase their work and interact with industry leaders.

Observations & Takeaways

- The event successfully encouraged students to think critically and apply theoretical knowledge to practical problems.
- Faculty and experts provided insightful feedback, enhancing students' understanding of research methodologies.
- Participants appreciated the networking opportunities with professionals and fellow researchers.
- The diversity of projects highlighted the innovation potential among students.

Conclusion

The 7th Student Project Programme was a grand success, fostering research and innovation among students. The event provided an excellent learning experience and set the stage for future advancements. With improved strategies and wider participation, future editions of the programme can have an even greater impact.



Pictures taken during the 7th Student Project Programme (27th -28th June, 2024)



Pictures taken during the 7th Student Project Programme (27th -28th June, 2024)

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Traditional Fermentation: Unleashing the Potential of Organic Plant-Based Fermentation Process from Tripura

Neha Sinha & Sindrila Debbarma

Guide Teacher: Dr.Somnath Kar, Assistant Professor Department of Botany,
Holy Cross College, Jubatara, Lembucherra, Tripura

ABSTRACT

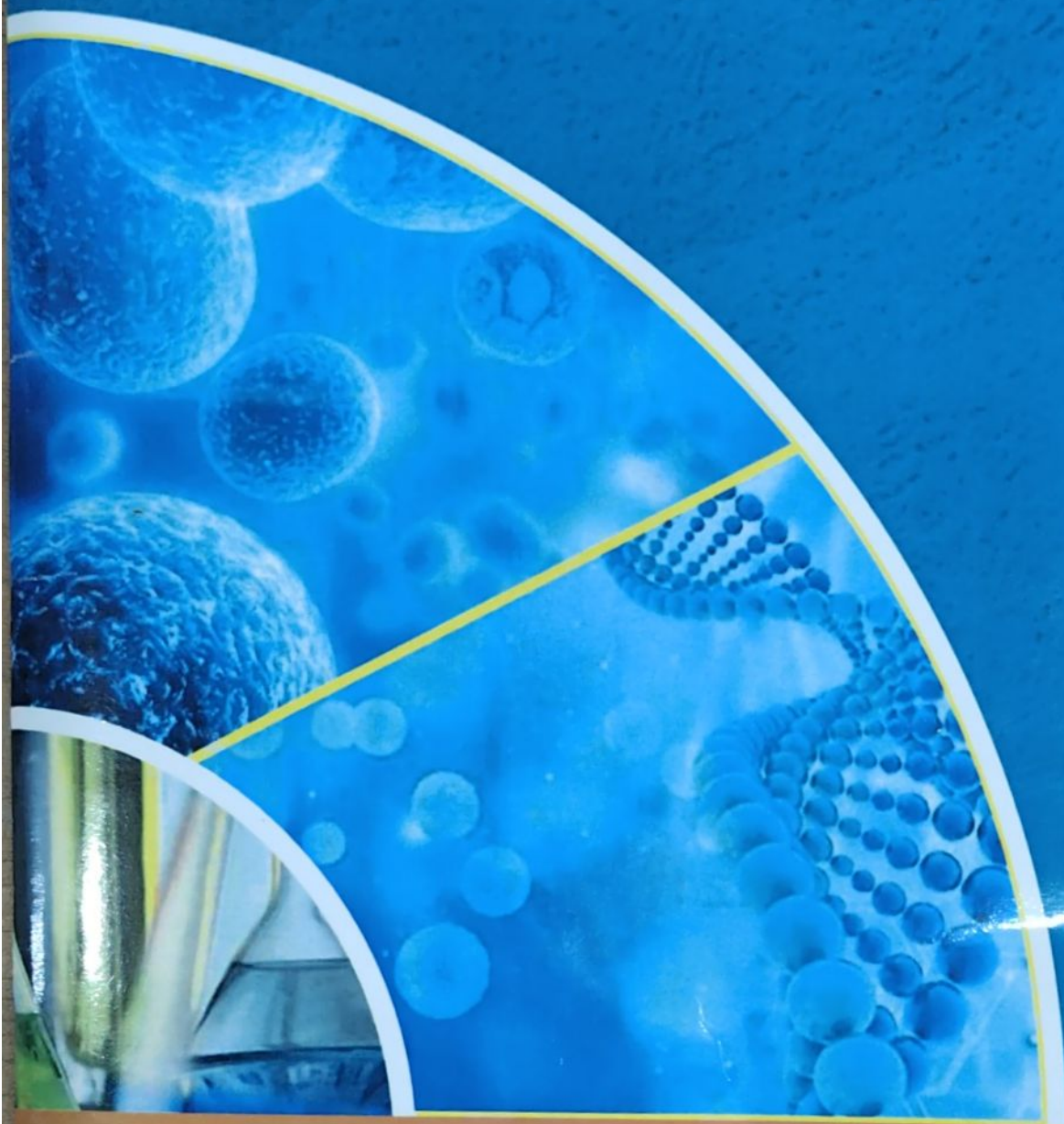
The indigenous fermentation, used by the indigenous population of Tripura, is well-suited for baking applications. However, its taste may not be sufficient since it is mostly optimised for traditional winemaking. This study aims to determine the effectiveness of this fermentation procedure in baking. The main goal was to oversee the yeast production process from the first day of manufacture to the fourth day of sun drying. Traditional fermented wine or drinks are less harmful than commercially accessible beverages due to the low concentration of organic yeast by-products. The growing demand for plant-based traditional fermentation yeast is driven by the expanding need for organic materials and the increasing consumption of organic foods and beverages. This initiative can provide employment opportunities for the inhabitants of Tripura and contribute positively to the growth of the Indian economy.

Keywords- *Indigenous fermentation, yeast, plants, Tripura*

Abstract

7th Student Project Programme

June 27-28, 2024



Organized by:
**TRIPURA STATE COUNCIL
FOR SCIENCE & TECHNOLOGY**

Index

Sl. No.	Name of Participants	Institute	Name of the Project	Page No.
1.	Swastik Chakraborty & Prerna Gaidhani	National Institute of Technology Agartala, Tripura	From Bytes to Brain: Navigating the Complexities of Paraben Neurotoxicity in Zebrafish Embryos through the Lens of Computational Toxicology	7
2.	Arup Das & Debankit Majumder	College of Fisheries, Lembucherra, Tripura	"Utilization of Derelict Water Bodies through Lotus-Fish Farming as a Sustainable climate resilient practice in Tripura"	8
3.	Hriday Das & Udvass Sen	Agartala Government Medical College & G.B.Pant Hospital, Agartala	Demographic and Clinico-Pathological Profile of Gallbladder Carcinoma Patients in a Tertiary Care Hospital of Tripura: A Cross Sectional Study	9
4.	Chayan Debnath & Priya Malakar	College of Agriculture, Lembucherra, Tripura	From Feathers to Data: Exploration of Bird diversity near College of Agriculture, Tripura using eBird	10
5.	Suchismita Saha & Debjani Bhattacharjee	Holy Cross College, Jubatara, Lembucherra, Tripura	Setting up of vermicompost production unit within campus of Holy Cross College, Agartala	11
6.	Sanjana Sen and Supratim Debnath	Holy Cross College, Jubatara, Lembucherra, Tripura	A clinical study on chronic hyperglycemia associating with physiological alterations and metabolic disorders	12
7.	Neha Sinha & Sindrila Debbarma	Holy Cross College, Jubatara, Lembucherra, Tripura	Traditional Fermentation: Unleashing the Potential of Organic Plant-Based Fermentation Process from Tripura	13
8.	Agnik Deb & Reshmi Dasgupta	Rabindranath Thakur Mahavidyalaya, Bishalgarh, Sepahijala, Tripura	Identification of insects present in mango tree and its interaction with the tree	14
9.	Tulshi Debnath & Nargis Akthar	Rabindranath Thakur Mahavidyalay, Bishalgarh, Sepahijala, Tripura	Efficacy of Tea Leaf on Germination Indices and Growth Parameters of Tomato	15
10.	Visma Das Baishnab & Biplab Chowdhury	Rabindranath Thakur Mahavidyalaya, Bishalgarh, Sepahijala	Cultivation of Pleurotus florida on Different Leaf Substrates	16
11.	Van Nayanasila & Jayanta Jamatia	Michael Madhusudhan Dutta College, Sabroom, South Tripura	Food practices of Tribal People and in search of their therapeutic value in Sabroom, South Tripura	17
12.	Manideepa Ghosh & Ishita Banik	Gomati District Polytechnic, Udaipur, Gomati Tripura	Robust base isolation system design for RC buildings considering state of the art performance metrics	18
13.	Shyamal Paul & Deeptanu Saha	Gomati District Polytechnic, Udaipur, Gomati Tripura	A smart-secure home automation technology based on Internet of Things (IoT)	19
14.	A. Roy & S. Biswas	Women's Polytechnic, Hapania, West Tripura	"Reducing the cost of Antibiotic Therapy for Female Patients of UTI in Tripura: Socio Economic impact of the Clinical Lab Research"	20

Programme Schedule

7th Student Project Programme

Venue: Pragna Bhawan, Agartala, Tripura

Date: June 27-28, 2024

Date & Time	Programme Details	Guests/Dignitaries
June, 27, 2024 (1 st day)		
Inaugural Session		
10:00-11:00	Registration of participants	
11:00-11:05	Felicitation of guests on dais	
11:05-11:10	Watering the plant	
11:10-11:15	Welcome Address	Shri S. Choudhury Member Deputy Secretary Tripura State Council for Science & Technology
11:15-11:25	Address by Special Guest	Shri N. C. Sharma Director, Higher Education, Govt. of Tripura
11:25-11:35	Address by Special Guest	Dr. K. Sasikumar, IFS Secretary, Science, Technology & Environment Govt. of Tripura
11:35-11:45	Address by Guest of Honour	Prof. Ashok M Raichur, Secretary Karnataka State Council for Science and Technology, Bengaluru - Karnataka
11:45-11:55	Address by Guest of Honour	Prof. Satyadeo Poddar Vice Chancellor, Maharaja Bir Bikram University, Agartala, Tripura
11:55-12:15	Address by Inaugurator & Chief Guest	Shri Animesh Debbarma Hon'ble Minister for Science, Technology & Environment, Govt. of Tripura
12:15-12:20	Presidential address	Shri S. Banik Director (I/c), Department of Science, Technology & Environment, Govt. of Tripura
12:20-12:22	Vote of thanks	Dr. Rita Roy, Scientist/Engineer-B Tripura State Council for Science & Technology
12:22-12:30	High Tea/Coffee	
12:30-1:30	Technical Session I	
Presentation by Key Note Speaker - Prof. Ashok M Raichur, Secretary Karnataka State Council for Science and Technology, Bengaluru - Karnataka & Professor, Materials Engineering, Indian Institute of Science, Bengaluru		

Contd..P/2

1:30-2:00

Lunch Break

Technical Session II: (Presentation by Students of Institutes of Higher & Technical Education of Tripura)

2:00-2:10	NIT, Agartala	From Bytes to Brain: Navigating the complexities of paraben neurotoxicity in Zebrafish embryos through the lens of computational toxicology (Swastik Chakraborty & Prerna Gaidhani)
2:10-2:20	College of Fisheries, Lembucherra, Tripura	Utilization of derelict water bodies through lotus-fish farming as a sustainable climate resilient practice in Tripura (Arup Das & Debankit Majumder)
2:20-2:30	Agartala Government Medical College, Agartala	Demographic and clinico-pathological profile of gall bladder carcinoma patients in a tertiary care hospital of Tripura: A cross sectional study (Hriday Das & Udvas Sen)
2:30-2:40	College of Agriculture, Lembucherra, Tripura	From feathers to data: Exploration of bird diversity near College of Agriculture, Tripura using eBird (Chayan Debnath & Priya Malakar)
2:40-2:50	Holy Cross College, Agartala	Setting up of vermicomposting production unit within campus of Holy Cross College, Agartala (Debjani Bhattacharjee and Anjel Debbarma)
2:50-3:00	Holy Cross College, Agartala	A clinical study on chronic hyperglycemia associating with physiological alterations and metabolic disorders (Sanjana Sen & Supratim Debnath)
3:00-3:10	Rabindranath Thakur Mahavidyalaya, Bishalgarh, Sipahijala Tripura	Identification of insects present in mango tree and its interaction with the tree (Agnik Deb & Reshmi Dasgupta)
3:10-3:20	Rabindranath Thakur Mahavidyalaya, Bishalgarh, Sipahijala Tripura	Efficacy of tea leaf on germination indices and growth parameters of tomato (Tulsi Debnath & Nargis Akthar)
3:20-3:30	Rabindranath Thakur Mahavidyalaya, Bishalgarh, Sipahijala Tripura	Cultivation of <i>Pleurotus florida</i> on different leaf substrates (Visma Das Baishnab & Biplab Chowdhury)
3:30-3:40	Michael Madhusudhan Dutta College, Sabroom, South Tripura	Food practices of tribal people and in search of their therapeutic value in Sabroom, South Tripura (Van Nayanasila & Jayanta Jamatia)
3:40-3:50	Gomati District Polytechnic, Udaipur, Gomati Tripura	Robust base isolation system design for RC buildings considering state of the art performance metrics (Manideepa Ghosh & Ishita Banik)

Contd..P/3

3:50-4:00**Tea break**

4:00-4:10	Gomati District Polytechnic, Udaipur, Gomati Tripura	A smart-secured home automation technology based on Internet of Things (IoT) (Shyamal Paul & Deeptanu Saha)
4:10-4:20	Women's Polytechnic, Hapania	Reducing the cost of antibiotic therapy for female patients of UTI in Tripura: Socio economic impact of the Clinical Lab Research (A.Roy & S. Biswas)
4:20-4:30	Rajarshi College of Education and skill, Bagbari, Lembucherra	Recycling cardboard wastes as a growth substrate for edible mushroom production in Tripura, Northeast India (Snigdha Dey & Saurav Chakraborty)
4:30-4:40	ICFAI University, Kamalghat, Tripura	Salt water battery (Sagar Miah & Mayuri Chowdhury)
4:40-4:50	ICFAI University, Kamalghat, Tripura	Voice-controlled safety-helmet for navigation of a motorized vehicle (Rupan Das & Abinash Debbarma)
4:50-5:00	M.B.B.College, Agartala	Alcohol detected engine locking system (ADELS) (Ajoy Debnath & Soumyajyoti Roy)
5:00-5:10	Ramakrishna Mission ITI, Viveknagar	Simplified smart irrigation system with 7805 voltage regulator (Rajdeep Roy & Subhrajyoti Sarkar)
5:10-5:20	Ramakrishna Mission ITI, Viveknagar	The eco chill (Deep Debnath & Alok Kumar Roy)
5:20-5:30	Techno-College of Engineering, Maheshkala	Automation in Agriculture (Arkit Roy & Disha chakraborty)

June 28, 2024 (2nd Day)**Technical Session II (Presentation by Students of Institutes of Higher & Technical Education of Tripura)**

10:00-10:10	NIT, Agartala	Removal of Caffeine from the aqueous matrix using Sulfate radicals driven advance oxidation process: Zebrafish embryo-based toxicity analysis (Akash Rathinam)
10:10-10:20	College of Agriculture, Lembucherra	Isolation and characterization of rhizobial isolates for selecting potential nitrogenous biofertilizer for crop legumes in Tripura (Sourav Biswas & Bobilan Debbarma)
10:20-10:30	MBB University, Agartala	A socio-mathematical study on the endangered languages (Sristy Roy & Rima Saha)

10:30-10:40	MBB University, Agartala	Impacts of social awareness and Governmental restrictions to control plastic pollution: A mathematical analysis (Sourav Das & Priya Saha)
10:40-10:50	Tripura Institute of Technology, Narsingarh	A novel MTCMOS based NVSRAM design for low power application and high temperature endurance (Udayan Chakraborty & Subhabrata Datta)
10:50-11:00	Institute of Advance Studies in Education, Agartala	Enhancing educational transparency: A school - data access app for improved and improved and proactive approach in education (Amitabha Dey & Chandrajita Chakraborty)
11:00-11:10	Tripura Institute of Technology, Narsingarh	IoT Home Automation System (Samrat Sarkar)
11:10-11:20	Tripura Institute of Technology, Narsingarh	IoT finger print attendance system (Rakesh Sarkar & Samrat Sarkar)
11:20-11:30	Tripura Institute of Technology, Narsingarh	Safety for lower transmission lines (Rana Das & Sangita Rabi Das)
11:30-11:40	Tea break	
11:40-11:50	North Tripura District Polytechnic, Bagbassa, Dharmanagar, North Tripura	An eco plastic pavement: A way to recycle waste plastic for national development (Sukanta Dey & Subham Ghosh)
11:50-12:00	Women's College, Agartala	Positive and negative impact of technological skills on education to create employment (Pragya Sutradhar & Sangita Paul)
12:00-12:10	Women's College, Agartala	Introduction to a new idea to reduce the unbeatable traffic jams on busy road by using technology (Nikita Sarkar & Debalina Biswas)
12:10-12:20	Women's College, Agartala	Discussion on how gamified learning made endless mathematics exciting (Chayanika Paul & Priyanjana Saha)
12:20-12:30	North Tripura District Polytechnic, Bagbassa, Dharmanagar, North Tripura	Analysis of hydroelectric generation using waterwheel (Akash Das & Prandip Malakar)
12:30-12:40	North Tripura District Polytechnic, Bagbassa, Dharmanagar, North Tripura	An eco plastic brick: A way forward to reuse waste plastic for sustainable construction (Anweasha Sinha & Rupali Das)

12:40-12:50	Bhavan's Tripura College of Science & Technology, Anandanagar	An efficient waste managing technique using smart garbage monitoring system (Rudrajit Dey & Pranamesh Roy)
12:50-1:00	Netaji Subhash Mahavidyalaya, Udaipur, Gomati Tripura	Can whistle sound be predict respiratory capacity: Fighting against COVID-19 infection (Bani Debnath & Bipasha Rudra Paul)
1:00-1:10	Netaji Subhash Mahavidyalaya, Udaipur, Gomati Tripura	Milletts - A super food or a diet fad (Nabanita Patowary & Mousumi Das)
1:10-1:20	Netaji Subhash Mahavidyalaya, Udaipur, Gomati Tripura	Integrated smart system for road safety enhancement (Utsav Neogi and Shibam Paul)
1:20-1:30	Bhavan's Tripura College of Science & Technology, Anandanagar	Evaluation and awareness of nutritional status of female college students in terms of BMI and hemoglobin label (Puja Saha & Susmita Banik)
1:30-1:40	Bhavan's Tripura College of Science & Technology, Anandanagar	A cross sectional study on high blood pressure and obesity among undergraduate paramedical college students of Tripura (Abhijit Roy & Rituparna Paul)
1:40-1:50	Holy Cross College, Agartala	Traditional fermentation: Unleashing the potential of organic plant based fermentation process from Tripura (Jagriti Dhar and Sushmita Sutradhar)
1:50-3:30 Lunch Break		
Valedictory Session		
3:30 - 3:35	Felicitation of guests on dais	
3:35 - 3:40	Welcome Address	Shri S. Choudhury Member Deputy Secretary Tripura State Council for Science & Technology
3:40- 3:50	Address by Guest of Honour	Prof. Arun Bhai Patel, Dean College of Fisheries, Tripura
3:50 - 4:00	Address by Chief Guest	Dr. K. Sasikumar, IFS Secretary, Department of Science, Technology & Environment, Govt. of Tripura
4:00- 4:05	Felicitation of Judges	
4:05- 4:30	Prize Distribution	
4:30 - 4:40	Presidential Address	Shri S.Banik Director (I/c), Department of Science, Technology & Environment, Govt. of Tripura
4:40 - 4:45	Vote of thanks	Dr. Rita Roy, Scientist/Engineer-B Tripura State Council for Science & Technology