

**A REPORT ON
5 DAYS
NATIONAL WORKSHOP
ON**

“Novel technologies in the production of Biofertilizers for a sustainable environment ”

15th December to 19th December, 2025



Organized by

**Dept. of Botany in association with Botanical forum
Jagannath Barooah University
Jorhat, Assam, India**

**In Collaboration with
Assam Science Technology and Environment Council
Guwahati, Assam, India**

And

**Assam Pollution Control Board
Guwahati, Assam, India**

**5 Days National Workshop
on
Novel Technologies In The Production
of Biofertilizers For A Sustainable
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About the organizers

About the University

Jagannath Barooah University (Formerly Jagannath Barooah College) is a state university under Jagannath Barooah University Act 2023 of Government of Assam and recognized by UGC under section 2(F). JBU is a premier institution of higher education located in Jorhat, a city with a rich cultural heritage and a glorious historical background in the upper part of the Brahmaputra Valley of Assam. The development of modern education in colonial Assam has a close connection with the establishment of this institution at Jorhat in 1930. After 95 years of its glorious existence, it has become the hub for educational excellence, fostering its vision and mission in tune with the objectives of Higher Education of the nation. It has contributed substantially towards nation building process, promoting global competency, emphasizing continuous up gradation of teaching learning methods and techniques. It puts its best endeavor to materialize the dreams of its stakeholders through its innovative practices, programmes and policies.

The institution has already been reaccredited by NAAC in 2011 and awarded "A" grade on the basis of its performance in the field of higher education. J.B. College has also been conferred fresh autonomous status by the UGC with effect from 2016-17. Moreover, the star status has been awarded to the college by the Department of Bio-Technology, Ministry of Science & Technology, Govt. of India.

About the Department

The Department of Botany is one of the oldest and leading departments of J.B. College (Autonomous). It was established as the Dept. of Biology in 1953. At present, 04 Associate Professors and 02 Assistant Professors with 03 supporting staff are working in the department. Since its inception the department has been able to show remarkable performance in maintaining the tradition of academic excellence. The department maintains the Botanical Garden of the College, Botanical Museum and Herbaria. Faculty members of the department have received research projects funded from UGC. The department has been identified for special assistant grant by DST under star college scheme along with department of Physics, Chemistry and Zoology.

The department has a Botanical Society for all the students and faculties of the department which facilitates the extension activities of the department besides providing a common platform to students and teachers for academic discourse. Green Plus Society, was established under the banner of department of Botany in November, 2003. Apart from studies, the students of the department are engaged with sports, cultural sector and have shown their potential by participating in various events of regional and National level. It is a matter of pride for all of us that every year most of the passed-out students of the department got admissions in M.Sc. and other professional courses in institute of repute and top-ranking institutes. Many alumni of the department today hold important positions in different fields including teaching as well as research institutions all over India.

About the Workshop

This workshop, aligned with the UG 1st Semester Skill Enhancement Course (NEP), addresses the limited availability of quality biofertilizers, promoting them as a sustainable alternative to chemical fertilizers. The training emphasizes the production, application, and advantages of biofertilizers.

Key Topics & Activities:

- **Biofertilizer Types:** Participants learn about various types, including:
 - Nitrogen-fixing bacteria (e.g., Rhizobium, Azotobacter)
 - Nitrogen-fixing cyanobacteria (blue-green algae)
 - Mycorrhizal fungi
- **Preparation Methods:** Demonstrations cover the creation of biofertilizers using organic materials, focusing on:
 - Solid Biofertilizer: Mixing and 24-hour fermentation.
 - Liquid Biofertilizer: Extracting and multiplying microorganisms in a liquid medium.
- **Application & Benefits:** The workshop covers proper application techniques (seed or soil) and highlights the benefits: enhancing soil health, increasing crop yields, and supporting sustainable agriculture through Integrated Nutrient Management (INM).

The workshop is proposed to impart practical, hands-on knowledge and address the scarcity of skilled manpower required for small biofertilizer production units, thereby popularizing eco-friendly agricultural inputs among students.

Resource Persons



Dr. Heikham Evelin
Associate Professor,
Department of Botany
Manipur University
Imphal, Manipur



Dr. Gaurav Mishra
Scientist E, Centre of
Excellence on Sustainable
Land Management, ICFRE,
Dehradun, Uttarakhand



Mr. Nilave Bhuyan
Associate professor
Dept. of zoology, J.B. U,
Jorhat, Assam, India



Dr. Prosanta Hazarika
Retd. Chief Technical Officer
Rain Forest Research Institute
Jorhat, Assam, India



Dr. P.N. Bhattacharyya
H.O.D, Dept. of Botany
N.N. Salkia College
Titabor, Jorhat, Assam, India



Dr. Bharat Chandra Nath
Assistant Professor
Assam Agricultural University,
Jorhat, Assam, India



Dr. Mausomi Madhab
Senior Technical Officer
Tocklai Tea Research Institute,
Jorhat, Assam, India



Rajarishi Bhattacharyya
Senior Technical Officer
Rain Forest Research Institute,
Jorhat, Assam, India

Organizing Committee

Chief Patron : Prof. Jyoti Prasad Saikia
Hon'ble Vice-Chancellor, Jagannath Barooah University
Jorhat, Assam, India

Patron : Dr. Utpal Jyoti Mahanta
Registrar, J.B.U.

Dr. Jaideep Baruah
Director
Assam Science & Technology and Environment Council
Guwahati, Assam, India

Dr. Anup Kumar Misra
Chairman,
Assam Pollution Control Board
Guwahati, Assam, India

Convener/Organizing secretary: Dr. Liza Handique,
Asst. Professor, Dept. of Botany, J.B.U.

Advisory Members:

1. Dr. Anita M. Buragohain, Associate professor, Dept. of Botany, J.B.U.
2. Dr. Runjun G. Rajkumar, Associate professor, Dept. of Botany, J.B.U.
3. Mr. Bubul Ch. Neog, Associate Professor, Dept. of Botany, J.B.U.

4. Dr. Kalyan Das, Associate professor, Dept. of Botany, J.B.U.

5. Mrityika Das, Asst. professor, Dept. of Botany, J.B.U.

6. Dr. Tashmi Konwar, Asst. professor, Dept. of Botany, J.B.U.

Technical Adviser

1. **Dr. Anirbaan Garg,** Assistant Professor, Dept. of Chemistry, J.B.U.
2. **Biswa Jyoti Sharma**

Registration details

Academicians /Professional/ faculty : Rs. 1,000
Research scholar : Rs. 500
Students : Rs. 300

Bank details for registration fee deposition:
 Account No.: 321043010002336
 Account Holders name: Registrar, Jagannath Barooah University
 IFSC: HDFC00ACABL
 Bank Name: The Assam cooperative Apex bank Limited.

For any query, contact :
Dr. Liza Handique- 8876044626

Registration Form link:
<https://forms.gle/DuQMKGEdwkRxx8t58>

Scan the code below for registration



**Program Schedule of 5-Days Workshop cum Skill Development Training Programme on
“Novel technologies in the production of biofertilizers for a sustainable environment”**

Organised by Dept. of Botany and Botanical forum, Jagannath Barooah University in collaboration with Assam Science Technology and Environment council, Guwahati, Assam, India and Assam Pollution Control Board, Guwahati, Assam, India.
15/12/2025- 19/12/2025

A. Inauguration Schedule of 5-Days Workshop cum Skill Development Training Programme

Date: 15/12/2025

Time: 10.A.M – 1.00 P.M

Venue: Conference Hall

10:00-10:05 am: Introduction by the organisers.

10:05-10:10 am: Lighting of the lamp.

10.10 -10:25 am: Felicitation and introduction of Resource Persons.

10:25-10:45 am: Welcome Address by the Registrar, J.B.U.

10:45-11: 10 am: Speech by the V.C., J.B.U

11:10-11:30 am: Speech by the Academic registrar, J.B.U

11:30- 12:00 pm: Speech by Dr. Gaurav Mishra, Scientist E, ICFRE, Dehradun.

12:00 -12.30 pm: Speech by Dr. Jayanta Dutta, Assam Pollution Control Board on Plastic waste management rules in India, Policies and Regulations

12:30-12:40 pm: Vote of thanks.

12:40-01:00 pm: Tea break.

B. Technical schedule

Date	Time	Agenda of the training	Resource person	Venue
15/12/2025	9.30 A.M-10 A.M.	Registration of candidates		
15/12/2025	10.A.M – 1.00 P.M	Inaugural session	All invited guest	Conference Hall
	Lunch Break			
	2.00 P.M- 4.00 P.M	Introductory session	Nilave Bhuyan (Associate professor, Dept. of Zoology, Jagannath Barooah University, Jorhat, Assam, India)	Conference Hall
16/12/2025	10.A.M – 12.00 P.M	Demonstration of isolation and inoculums production of AMF biofertilizer and hands on training on the subject.	Dr. Prosanta Hazarika (Retd. Chief Technical Officer, Rain Forest Research Institute, Jorhat, Assam, India)	Seminar Hall
	Lunch Break			

	1.00 P.M -4.00 P.M	Harnessing microbial biocontrol agents: Standardized processes for biopesticide production and commercialization.	Dr. Bharat Chandra Nath Assistant Professor, Assam Agricultural University, Jorhat, Assam, India	Seminar Hall
17/12/2025	10.A.M – 12.00 P.M	Mycorrhizae as biofertilizers	Dr. Heikham Evelin, Dept. of Botany, Manipur University, Manipur, India	Seminar Hall
	Lunch Break			
	1.00 P.M -4.00 P.M	PGPR as biofertilizer (Theory) and Hands on training on isolation and mass multiplication of PGPRs	Dr. P.N. Bhattacharyya (H.O.D, Dept. of Botany, N.N. Saikia College, Titabor, Jorhat, Assam, India	Seminar Hall
18/12/25	11.00 A.M-2.00 P.M	Practical demonstration of Azolla cultivation and biofertilizer production	Rajarishi Bhattacharyya (Senior Technical Officer, Rain Forest Research Institute, Jorhat, Assam, India)	Seminar Hall
19/12/25	10.A.M – 1.00 P.M	Training on Trichoderma production	Dr. Mausomi Madhab (Senior Technical Officer, Tocklai Tea Research Institute, Jorhat, Assam, India	Seminar Hall
	Lunch Break			
	2.30 P.M – 4.00 P.M	Valedictory Session		Conference Hall

The 5-day National Workshop on "Novel Technologies in the Production of Biofertilizers for a Sustainable Environment" was conducted from December 15 to December 19, 2025, organized by the Department of Botany in collaboration with the Botanical Forum of Jagannath Barooah University (J.B.U), the Assam Science Technology and Environment Council, and the Assam Pollution Control Board. Dr. Liza Handique served as the organizing secretary. The event commenced with a welcome address by Dr. Utpal Jyoti Mahanta, the Registrar of J.B.U, followed by an inaugural speech by the Honourable Vice Chancellor, Prof. Jyoti Prasad Saikia, who emphasized the significance of novel technologies like nanobiofertilizers and genetic engineering in biofertilizer production. The keynote address delivered by Dr. Gaurav Mishra, a Scientist E from ICFRE, focused on innovative biofertilizer

technologies aimed at fostering climate-resilient agriculture in Northeast India. Additionally, guest speaker Mr. Jayanta Dutta, Regional Head of the Assam Pollution Control Board, discussed plastic waste management rules and the associated policies and regulations in India. Dr. Tashmi Konwar, Assistant Professor in the Department of Botany, provided the vote of thanks. The workshop attracted over 45 participants from various institutions and featured a detailed technical schedule throughout the week.

Each day focused on distinct sessions covering various aspects of biofertilizers. Day 1 included a session on vermicomposting by Nilave Bhuyan, Associate Professor, Dept. of Zoology, Jagannath Barooah University, Jorhat. On Day 2, Dr. Prosanta Hazarika, Retd. Chief Technical Officer, Rain Forest Research Institute, Jorhat discussed the isolation and inoculum production of AMF biofertilizers, while in the afternoon session, Dr. Bharat Chandra Nath, Scientist, Assam Agricultural University, Jorhat, explored harnessing microbial biocontrol agents for biopesticide production and commercialization. Day 3 featured two sessions: Dr. Heikham Evelin, Associate Professor, Manipur University, Manipur presented on the role of mycorrhizae as biofertilizers, followed by Dr. P.N. Bhattacharyya, H.O.D, Dept. of Botany, N.N. Saikia College, Titabar in the afternoon session covered PGPR as biofertilizer and provided hands-on training in the isolation and mass multiplication of PGPRs. On Day 4, Rajarishi Bhattacharyya, Senior Technical Officer, Rain Forest Research Institute, Jorhat, conducted a practical demonstration of Azolla cultivation and biofertilizer production. The final day, Day 5, included a training session on Trichoderma production led by Dr. Mausomi Madhab, Senior Technical Officer, Tocklai Tea Research Institute, Jorhat, followed by the valedictory session concluding the workshop.



Photo: Day 1-Inaugural session



Photo: Speech By Honourable VC Prof. Jyoti Prasad Saikia of JBU



Photo: Speech by Mr. Jayanta Dutta, Invited official from APCB, Sivasagar Branch.

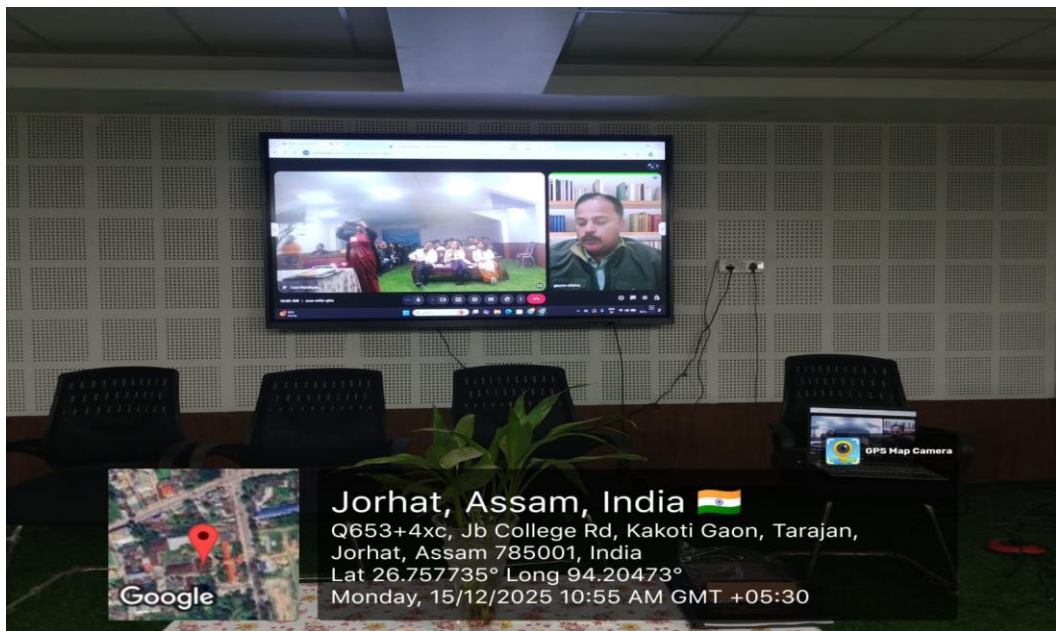


Photo: Speech by Keynote speaker Dr. Gaurav Mishra, Sc-E, ICFRE, during the inaugural session



Photo: Session I on Vermicomposting by Mr. Nilave Bhuyan, J.B.U



Photo: Session II on AMF as biofertilizers by Dr. Prosanta Hazarika, RFRI



Photo: Session III, Dr. Bharat Chandra Nath, Scientist, Assam Agricultural University, Jorhat, explored harnessing microbial biocontrol agents for biopesticide production and commercialization



Photo: Session IV , Dr. Heikham Evelin, Manipur University, Manipur, presented on the role of mycorrhizae as biofertilizers.



Photo: Session V , Dr. P.N. Bhattacharyya, N.N. Saikia College, Titabar, covered PGPR as biofertilizer and provided hands-on training in the isolation and mass multiplication of PGPRs



Photo: Session V, Rajarishi Bhattacharyya, RFRI, gave practical demonstration of Azolla cultivation and biofertilizer production

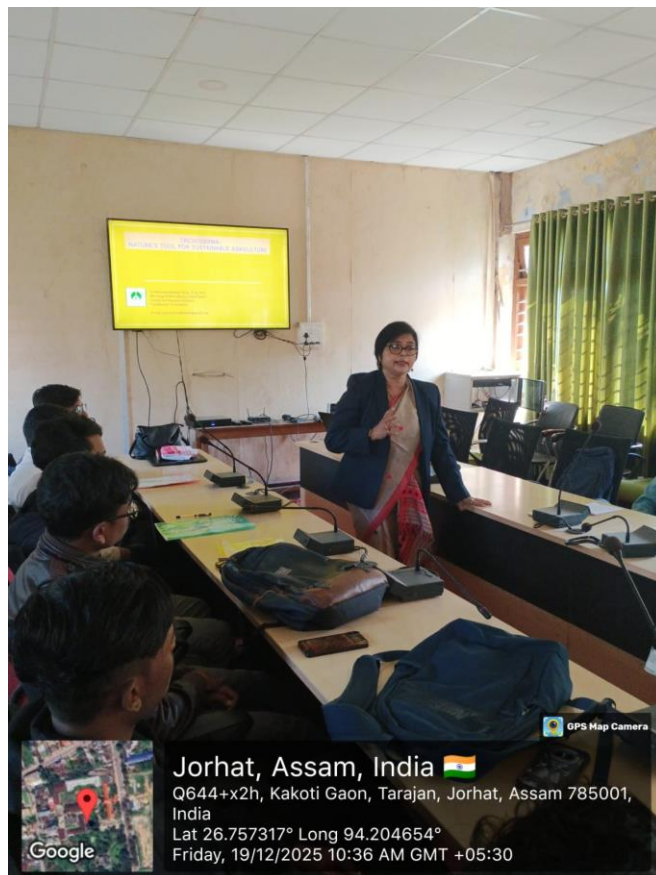


Photo: Session VI, a training session on Trichoderma production led by Dr. Mausomi Madhab, Senior Technical Officer, Tocklai Tea Research Institute, Jorhat



Photo: Valedictory Session