

ACHIEVEMENTS OF THE DEPARTMENT OF CROP PHYSIOLOGY
PALLI SIKSHA BHAVANA, VISVA-BHARATI, SRINIKETAN
(During 2024-25)

Total No. of Publications of the Department: 07

A. Papers published: 05

1. Gopalakrishnan VAK, Mondal S, Vaghela P, **Panda D**, Ghosh A (2024) Combined analysis over the years on the influence of foliar application of Kappaphycus seaweed-based biostimulant on the yield of two different varieties of black gram. Asian Journal of Soil Science and Plant Nutrition 10:238–245
2. Mondal S., Mondal Spurti, Pramanik, K. 2024. Effect of Nutripriming with Boric Acid, Zinc Sulphate Heptahydrate and its Combination on Germination Physiology of Lentil (*Lens culinaris* L.) cv. HUL 57 Agricultural Science Digest, 44(4):611-617
3. Gopalakrishnan, V.A.K., Mondal, S., Bagariya, M. Trivedi, K., **Panda, D.** and Ghosh, A. 2025. Varied responses of TAU-1 and DBGV-5 varieties of black gram to Kappaphycus alvarezii-based biostimulant under uniform agro-climatic conditions. Journal of Applied Phycology. 37: 629–643. <https://doi.org/10.1007/s10811-024-03418-4>
4. **Mondal, S.**, and Bose, B. (2024). Effect of salt stress on plant regeneration efficiency in primed and non-primed seed's calli of rice (*Oryza sativa* L.). Biologia Futura. <https://doi.org/10.1007/s42977-024-00237-z>.
5. Pal, S., Pal, D., Kar, R.K., **Panda, D.**, Dey, P.C. and Dey, N. 2025. Coetaneous activity of Sub1a and SK for maintenance of underwater growth in rice genotypes. Plant Gene 42: 100502. <https://doi.org/10.1016/j.plgene.2025.100502>.

B. Book Chapters published: 03

1. Mondal S, Yadav KN, Vikram N, Panda D. 2024. Physiological and molecular basis of seed priming with nanomaterials. In Nanofertilizer Synthesis, ed. Abd-Elsalam KA. Amsterdam: Elsevier. pp. 345–58. doi: 10.1016/b978-0-443-13535-4.00028-6
2. Panda, D., Mondal, S., Bhol, R. and Saha, S. (2024). Phycoremediated Algal Biomass as Biofertilizers for Sustainable Crop Production: An Overview. In Algae Mediated Bioremediation (eds G.A. Ravishankar, A.R. Rao and S.-K. Kim). <https://doi.org/10.1002/9783527843367.ch28>
3. Mondal S., Panda D. (2025). Physiological Disorder of Pineapple. In: Deb P., Bhowmick N. (eds) Recent Advances in Pineapple production postharvest and processing Technology. NIPA, GENX ELECTRONIC RESOURCES & SOLUTIONS P.LTD., Pp- 259-264. Print ISBN: 978-93-58872-76-7.

Awards/recognition: Dr. Debasish Panda was awarded as a DST-JSPS Visiting Scientist to Fukui Prefectural University, Fukui, Japan (2024-2026)

No. of externally funded project: 02

Title of the Project	Duration	Sponsor and Budget	Role
<i>Assessment of combinatorial effect of SUB1A and SK loci in</i>	2022- 2024	SERB, DST, Govt. of India	Co-Principal Investigator

<i>lowland indigenous rice lines for tolerance to flash flood followed by stagnation</i>		(Rs.42,64,832/-)	
<i>A mechanistic understanding of rice varieties with both SUB1A- and SK-mediated tolerance to different flood regimes</i>	2024-2026	DST-JSPS International Collaborative Project (India-Japan Science and Technology Cooperation) (Rs.14,58,000/-)	Co-Principal Investigator

International Collaborations: Dr. Debasish Panda, Assistant Professor of Plant Physiology, collaborated with Prof. Takeshi Fukao, Department of Bio-Science and Biotechnology, Fukui Prefectural University, Fukui. Japan on *both SUB1A- and SK-mediated* tolerance of rice to different flood regimes

Number of Seminars/Symposiums/ training programme/ MOOC Courses attended by the faculty members of the Department:

Conferences/ Seminar attended by the faculty members

1. Dr. Sananda Mondal participated and presented paper in International Conference on “2nd International Webinar on Cardiology and Cardiovascular research” organized by Scientex Conferences (Hybrid mode), Bangkok, Thailand. Title of the Presentation: Nutrigenomics in controlling cardiovascular diseases. Date: 16.05.2024-17.05.2024.
2. Dr. Sananda Mondal participated and presented paper in National Conference on National Conference on “Digital Interventions and Sustainable Livelihoods in Hill-Ecosystem: Towards Vision Viksit Bharat@2047” organized by Indian Council of Social Science Research (ICSSR), New Delhi and Department of Agricultural Economics, PSB, VB, Sriniketan-731236. Title of the Presentation: Effect of green synthesized silver and Zinc nanoparticles in germination physiology of rice. Date: 10.01.2025 – 11.01.2025.
3. Dr. Sananda Mondal participated and presented paper in National Seminar cum Farmers’ Training Programme on “Role of Traditional Indian Knowledge System (IKS) for Sustainable Mechanization in Rice and Groundnut Crop” organized by Department of Agricultural Engineering, Institute of Agriculture, Visva-Bharati, Santiniketan. Title of the Presentation: Gibberellin is a key modulator of jute growth and fibre yield. Date: 20.02.2025-23.02.2025.

Training Programme attended by the faculty members of the Department

1. Dr. Debasish Panda and Dr. Sananda Mondal participated and successfully completed the 9 Day’s Malaviya Mission Teacher Training Programme (MM-TTP) of University Grants Commission (UGC) Organized by Regional Institute of Education, Mysore (Programme ID – MMC-041-2025-JAN-B-03226) from 23rd to 31st January, 2025.
2. Dr. Debasish Panda and Dr. Sananda Mondal participated and successfully completed the 28 Day’s MOOC on ‘Artificial Intelligence in Agriculture’ Organized by TELAGE-NAARM, Hyderabad, from 01.02.2025 – 28.02.2025.
3. Dr. Debasish Panda and Dr. Sananda Mondal acted as Coordinator and Joint Co-ordinator, respectively, of the Farmer’s Training Programme on ‘Improvement of crop yield through plant growth regulators’ under the Development Action Plan for

Scheduled Cast (DAPSC)/SC Sub-Plan 2023-24 organized by the Dept. of Crop Physiology, Palli Siksha Bhavana on 23.03.2024

4. Dr. Debasish Panda and Dr. Sananda Mondal acted as Coordinator and Joint Co-ordinator, respectively, of the Farmer's Training Programme on 'Identification of nutrient and physiological disorders in crops and their management' under the Development Action Plan for Scheduled Cast (DAPSC)/SC Sub-Plan 2023-24 organized by the Dept. of Crop Physiology, Palli Siksha Bhavana on 27.03.2024.

Farmers' Training Programmes organized by the Department

1. The Department of Crop Physiology, Palli Siksha Bhavana, organized a Farmer's Training Programme on 'Improvement of crop yield through plant growth regulators' under the Development Action Plan for Scheduled Cast (DAPSC)/SC Sub-Plan 2023-24 on 23.03.2024
2. The Department of Crop Physiology, Palli Siksha Bhavana organized a Farmer's Training Programme on 'Identification of nutrient and physiological disorders in crops and their management' under Development Action Plan for Scheduled Cast (DAPSC)/SC Sub-Plan 2023-24 on 27.03.2024.

Extension Activities of Faculty Members of the Department:

1. Dr. Sananda Mondal delivered Radio talk on the topic 'Importance of potato cultivation in winter' Dated: 17.12.2024.
2. Dr. Sananda Mondal acted as Co-Chairperson of the National Seminar cum Farmers' Training Programme on "Role of Traditional Indian Knowledge System (IKS) for Sustainable Mechanization in Rice and Groundnut Crop" organized by Department of Agricultural Engineering, Institute of Agriculture, Visva-Bharati, Santiniketan, WB, India. Date: 20.02.2025-23.02.2025.
3. Dr. Sananda Mondal acted as Member of Organized Committee in the 'National Conference on "Digital Interventions and Sustainable Livelihoods in Hill-Ecosystem: Towards Vision Viksit Bharat@2047"' organized by Indian Council of Social Science Research (ICSSR), New Delhi and Department of Agricultural Economics, PSB, VB, Sriniketan-731236. Date: 10.01.2025 – 11.01.2025.
4. Dr. Sananda Mondal acted as Rapporteur of the 'National Conference on "Digital Interventions and Sustainable Livelihoods in Hill-Ecosystem: Towards Vision Viksit Bharat@2047"' organized by Indian Council of Social Science Research (ICSSR), New Delhi and Department of Agricultural Economics, PSB, VB, Sriniketan-731236. Date: 10.01.2025 – 11.01.2025.
4. Dr. Debasish Panda acted as a resource person in the one-day awareness program on "Intellectual Property under IPR Component of MSME Innovative Scheme" organized by the Department of Plant Pathology, Palli-Siksha Bhavana, Visva-Bharati, Sriniketan on March 8, 2025.
5. Dr. Debasish Panda acted as Assistant Treasurer in the National Seminar cum Farmers' Training Programme on "Role of Traditional Indian Knowledge System (IKS) for Sustainable Mechanization in Rice and Groundnut Crop" organized by the Department of Agricultural Engineering, Palli Siksha Bhavana, Visva-Bharati, Sriniketan during 20-23 February 2025.