Detail CV of Dr. Narottam Dey

Date of birth: 05/05/1976

Date of joining in Visva-Bharati: 16/06/2009

Highest qualification: Ph.D

Area of expertise/interest: Area of expertise (Genetics, Biostatistics and Plant Biotechnology)
Area of interest (Rice Genetics, Genomics and Molecular Breeding)
Fields of Research: i) Molecular Breeding for quality traits in rice
ii) Genomics study of drought, salinity and submergence tolerance in rice
iii) Genomics study of floral organ development in rice

Number of research scholars produced and currently working: Awarded-05, currently working: 05

Research article (with links): (Last 10 years)

1. Maiti S, Ghosh B, Mandal C, Das K, Dey N and Adak M K (2012) Responses of the maize plant to chromium stress with reference to antioxidation activity. *Braz. J. Plant Physio*l 24(3): 203-212. https://doi.org/10.1590/S1677-04202012000300007

2. Roychowdhury R, Karmakar J, Dey N (2012) PCR-compatible genomic DNA isolation from different tissues of rice (*Oryza sativa*) for SSR fingerprinting. *Eurasia J Biosci* 6: 85-90. DOI:10.5053/ejobios.2012.6.0.10

3. Karmakar J, Roychowdhury R, Kar RK and Dey N (2012) Profiling of selected indigenous rice (*Oryza sativa* L.) landraces of Rarh Bengal in relation to osmotic stress tolerance. *Physiol Mol Biol Plants* 18: 125–132. https://doi.org/10.1007/s12298-012-0110-1

4. Mandal C, Ghosh N, Maiti S, Das K, Gupta S, Dey N, Adak MK (2013) Antioxidative responses of Salvinia (*Salvinia natans* Linn.) to aluminum stress and it's modulation by polyamine. *Physiol Mol Biol Plants* 19(1):91-103. DOI: 10.1007/s12298-012-0144-4

5. Roychowdhury R, Karmakar J, Adak MK and Dey N (2013) Physio-Biochemical and Microsatellite Based Profiling of Lowland Rice (*Oryza sativa* L.) Landraces for Osmotic Stress Tolerance. *American Journal of Plant Sciences.* 4(12C): 52-63. doi: 10.4236/ajps.2013.412A3007

6. Das K, Mandal C, Ghosh N, Dey N and Adak MK (2013) Cadmium Accumulation in *Marsilea minuta* Linn. and Its Antioxidative Responses. *American Journal of Plant Sciences 4(*2A) 365-371. doi: 10.4236/ajps.2013.42A048

7. Das K, Mandal C, Ghosh N, Dey N and Adak M (2014) Responses of *Marsilea minuta* L. to Cadmium stress and assessment of some oxidative biomarkers. *American Journal of Plant Sciences* (**5):** 1467-1476. doi: 10.4236/ajps.2014.510162.

8. Das K, Mandal C, Ghosh N, Banerjee S, Dey N and Adak MK (2014) Effects of Exogenous Spermidine on Cell Wall Composition and Carbohydrate Metabolism of *Marsilea* Plants under Cadmium Stress. *J Plant Physiol Pathol*. 2:3.DOI: 10.4172/2329-955x.1000127

9. Ganie SA, Karmakar J, Roychowdhury R, Mondal TK and Dey N (2014) Assessment of genetic diversity in salt-tolerant rice and its wild relatives for ten SSR loci and one allele mining primer of *salT* gene located on 1st chromosome. *Plant Syst Evol* 300**:** 1741–1747. https://doi.org/10.1007/s00606-014-0999-7

10. Mandal C, Ghosh N, Dey N and Adak MK (2014) Effects of putrescine on oxidative stress induced by hydrogen peroxide in *Salvinia natans* L., *Journal of Plant Interactions* 9(1):550-558. https://doi.org/10.1080/17429145.2013.871076

11. Banerjee S, Dey N and Adak MK (2015) Assessment of Some Biomarkers under Submergence Stress in Some Rice Cultivars Varying in Responses. *American Journal of Plant Sciences*, 6: 84-94. doi: 10.4236/ajps.2015.61010

12. Banerjee S, Ghosh N, Mandal C, Dey N and Adak MK (2015) Physiological basis of submergence tolerance in rice genotypes with reference to carbohydrate metabolism, *Plant Gene and Trait* 6(2) 1-11 DOI:10.5376/pgt.2015.06.0002

13. Priya A, Das SP, Goswami S, Adak M, Deb D and Dey N (2015) An Exploratory Study on Allelic Diversity for Five Genetic Loci Associated with Floral Organ Development in Rice. *American Journal of Plant Sciences*, **6:** 1973-1980. doi: 10.4236/ajps.2015.612198.

14. Goswami S, Labar R, Paul A, Adak MK and Dey N (2015) Physio-Biochemical and Genetic Exploration for Submergence Tolerance in Rice (*Oryza sativa* L.) Landraces with Special References to Sub1 Loci. *American Journal of Plant Sciences* 6: 1893-1904. http://dx.doi.org/10.4236/ajps.2015.612190

15. De AK, Dey N and Adak MK (2016) Bio indices for 2,4-D sensitivity between two plant species: *Azolla pinnata* R.Br. and *Vernonia cinerea* L. with their cellular responses. *Physiol Mol Biol Plants* 22: 371–380. https://doi.org/10.1007/s12298-016-0375-x

16. Ganie SA, Dey N and Mondal TK (2016) Promoter methylation regulates the abundance of osa-miR393a in contrasting rice genotypes under salinity stress. *Funct Integr Genomics* **16:** 1–11. https://doi.org/10.1007/s10142-015-0460-1

17. Mandal C, Bera S, Dey N and Adak MK (2016) Physiological alterations of *Salvinia natans* L. exposed to aluminium stress and its interaction with polyamine. *Plant Science Today* 3(2):195-206. http://dx.doi.org/10.14719/pst.2016.3.2.198

18. Dey N (2017) Global transcriptome analysis in rice (*Oryza sativa* L.) *Canadian Journal of Biotechnology* 1: 290. DOI: https://doi.org/10.24870/cjb.2017-a274

19. Goswami S, Kar RK, Paul A and Dey N (2017) Genetic potentiality of indigenous rice genotypes from Eastern India with reference to submergence tolerance and deepwater traits. *Current Plant Biology* 11– 12: 23–32. https://doi.org/10.1016/j.cpb.2017.10.002

20. Saha I, De AK, Sarkar B, Ghosh A, Dey N and Adak MK (2018) Cellular response of oxidative stress when sub1A QTL of rice receives water deficit stress. *Plant Science Today* 5 (3): 84-94. https://doi.org/10.14719/pst.2018.5.3.387

21. Saha I, De A, Ghosh A, Sarkar B, Dey N and Adak M (2018) Preliminary Variations in Physiological Modules When *sub1A* QTL Is under Soil-Moisture Deficit Stress. *American Journal of Plant Sciences*, **9:** 732-744. doi: 10.4236/ajps.2018.94058.

22. Goswami S, Kar RK, Paul A and Dey N (2018) Differential expression of *Sub1A* loci in rice under submergence. *J. Plant Biochem. Biotechnol.* 27**:** 473–477 (2018). https://doi.org/10.1007/s13562-018-0456-8

23. Das SP, Deb D and Dey N (2018) Micromorphic and Molecular Studies of Floral Organs of a Multiple Seeded Rice (*Oryza sativa* L.). *Plant Mol Biol Rep* 36**:** 764–775 (2018). https://doi.org/10.1007/s11105-018-1116-9

24. Gyugos M, Ahres M, Gulyás Z, Szalai G, Darkó E, Végh B, Boldizsár A, Mednyánszky Z, Kar RK, Dey N, Sarkadi LS, Galiba G and Kocsy G (2019) Role of light-intensity-dependent changes in thiol and amino acid metabolism in the adaptation of wheat to drought. *Journal of Agronomy and Crop Science* **https://doi.org/10.1111/jac.12358**

25. Kumari R, Choudhury D, Goswami S and Dey N (2019) Physiological, biochemical, and molecular screening of selected upland rice (*Oryza sativa* L.) lines from eastern India. *Bulletin of the National Research Centre.* 43:56. https://doi.org/10.1186/s42269-019-0087-9

26. Das SP, Jasrotia RS, Deb D, Iquebal MA, Jaiswal S and Dey N (2020) Genomic analysis of polycarpellary rice (*Oryza sativa* L.) through whole genome resequencing. *J. Plant Biochem. Biotechnol.* https://doi.org/10.1007/s13562-020-00602-8

27. Samanta P, Ganie SA, Chakraborty A and Dey N (2020) Study on regulation of carbohydrate usage in a heterogeneous rice population under submergence. *J. Plant Biochem. Biotechnol.* **30:** 138–146. https://doi.org/10.1007/s13562-020-00577-6

28. Das SP, Deb D and Dey N (2020) Expression study of five genes involved in floral organ development in multiple seeded rice. *Journal of Plant Biochemistry and Biotechnology.* 29: 348–351. https://doi.org/10.1007/s13562-019-00526-y

29. Karmakar J, Goswami S, Pramanik K, Maiti TK, Kar RK and Dey N (2021) Growth promoting properties of *Mycobacterium* and *Bacillus* on rice plants under induced drought. *Plant Science Today* 8 (1):49-57. https://doi.org/10.14719/pst.2021.8.1.965

30. Gyugos M, Ahres M, Gulyás Z, Szalai G, Darkó E, Mednyánszky Z, Dey N, Kar RK, Sarkadi LS and Kocsy G (2021) Light spectrum modifies the drought-induced changes of glutathione and free amino acid levels in wheat. *Acta Physiologiae Plantarum.* https://doi.org/10.1007/s11738-021-03253-x

Book publication (with ISBN): NIL

Research project: (Last 10 years)

| Project title | Duration | Funding agency |
|---|---|---|
| 1. Allele Mining for Stress Tolerance in Traditional and Wild Relatives of Rice (*Oryza sativa* L.) (As P.I) | 2011-14 | UGC, Govt. of India |
| 2. Biochemical and Molecular Profiling of West Bengal Folk Rice Germplasm with reference to Abiotic Stress Tolerance (As P.I) | 2011-14 | State DST, Govt. of W.B |
| 3. Development of multiple kerneled rice through Biotechnology (As P.I) | 2014-17 | SERB, Govt. of India |
| 4. Responses of crop plants (rice and wheat) to combination of light and drought stresses (As Co-P.I) | 2016-19 | DST, Govt. of India |
| 6. Genetic improvement and popularization of Komal Chawl-a potential rice preparation for soldiers posted in remote places (As P.I) | 2017-20 | LSRB-DRDO, Govt. of India. |
| 7. Development of SNP and miRNA based functional markers for abiotic stress (drought salinity and submergence) tolerance among selected West Bengal rice land races (As P.I) | 2018-21 | WBCST and BT, Govt. of West Bengal |
| 8. Assessment of combinatorial effect of *SUB1A* and *SK* loci in lowland indigenous rice lines for tolerance to flash flood followed by stagnation (as P.I) | 2021-2024 | SERB, Govt. of India |

Awards: (Last 10 years)

1. INSA (Indian National Science Academy) Bilateral visiting Scientist award with Hungarian Academy of Science in 2012

2. UGC Post Doctoral Raman Fellowship for USA in 2014

3. DBT travel grant for visiting abroad to attend International Symposium on Rice Functional Genomics in 2016

4. SERB travel grant for visiting abroad to attend International Symposium on Rice Functional Genomics in 2017

5. INSA (Indian National Science Academy) Bilateral visiting Scientist award with Academia Sinica (Tiwan) in 2019

Workshops attended: (Last 10 years)

1. Participated in the Workshop on “Statistical Techniques used in Research” Organized by Department of Statistics, The University of Burdwan from 16th February- 19th February, 2016.

2. Participated in the National Workshop on "MOOCs” organized by A. K. Dasgupta Centre for Planning and Development, Visva-Bharati, Santiniketan from 5th February to 11th February, 2019.

3. Participated in the National Workshop on "Application of R in Research & Developmen” organized by A. K. Dasgupta Centre for Planning and Development, Visva-Bharati, Santiniketan from 14th September to 23rd September, 2019.

Nucleotide sequence submission in NCBI database:

1. Whole genome sequence of an indigenous rice line with multiple kernels (NCBI SRA data ref. No. SRP131720) (https://www.ncbi.nlm.nih.gov/sra/?term=SRP131720)

2. Whole leaf transcriptomics of indigenous submergence tolerant rice line (Ref. No. PRJNA732207) (https://www.ncbi.nlm.nih.gov/bioproject/?term=PRJNA732207)