Dr. Narottam Dey

Assistant Professor, Department of Biotechnology
Visva-Bharati, Santiniketan
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Educational Qualification: M.Sc. (University of Burdwan, India)
Ph.D (Bose Institute, Kolkata, India)
Post-Doc (Oregon State University, USA)
INSA-Visiting Scientist, Hungarian Academy of Science, Hungary
INSA-Visiting Scientist, Academia Sinica, Taiwan

Fields of Teaching: Genetics and Molecular Biology, Biostatistics, Plant Biotechnology

Fields of Research:

i) Molecular Breeding program targeting rice quality traits (low glycemic load and high antioxidants)
ii) Genomics study Drought, Salinity and Submergence tolerance in rice
iii) Genomics of floral organ development in rice

List of publications (Last 10 years)

Mondal K, Tiwari M, Singh RK, Prasad M and **Dey N** (2023) Feeding the future: role of *OsAUX5* in enhancing rice nutritional value. *Plant Cell Reports* (https://doi.org/10.1007/s00299-023-03033-6) (Published on 21st June, 2023) (Springer Publication **IF- 5.004**)

Panja S, Biswas R, Kar RK and **Dey N** (2023) Morpho-molecular characterization of ethnic Bora rice for conservation and breeding. *Genetic Resource and Crop Evolution.* (DOI:https://doi.org/10.1007/s10722-023-01541-8 (Published on 3rd February, 2023) (Springer Publication **IF- 1.864**)

Show BK, Panja S, GhoshThakur R, Basu A, Koley A, Ghosh A, Pramanik K, Chaudhury S, Hazra AK, **Dey N**, Ross AB, and Balachandran S (2023) Optimisation of Anaerobic Digestate and Chemical Fertiliser Application to Enhance Rice Yield—A Machine-Learning Approach. *Sustainability.* 15, 13706. (Published on 14th September, 2023) https://doi.org/10.3390/su151813706 (MDPI, **IF-4.0**)

Chatterjee A, Galiba G, Kocsy G, Kar RK and **Dey N** (2023) Molecular insight into drought tolerance of CR Dhan 40, an upland rice line from Eastern India. . *J. Crop Sci. Biotechnol* , Springer Publication, Accepted on 20th September, 2023

Samanta P and **Dey N** (2023) microRNA-marker based genetic diversity analysis for drought tolerance in rice (*Oryza sativa* L.). *Plant Physiology Reports.* (DOI: https://doi.org/10.1007/s40502-023-00709-9, Published on 28th January, 2023) (Springer Publication **IF- 1.5)**

Samanta P and **Dey N** (2022) miRNA-mediated regulation of *SK* locus in rice under induced submergence. *J. Crop Sci. Biotechnol.* (DOI: https://doi.org/10.1007/s12892-022-00190-0, Published on 27th December, 2022) (Springer Publication)

Panja S, Kar RK, Dey PC and **Dey N** (2022) Underpinning the soft nature of soak-n-eat rice - A physicochemical and molecular approach. *Food Bioscience* (https://doi.org/10.1016/j.fbio.2022.102122 (Online published 21st October, 2022) (Elsevier **IF- 5.318**)

Panja S, Mondal K, Kar RK, Dey PC and **Dey N** (2022) Exploration of ready-to-eat soft Bora rice genotypes of Assam for submergence tolerance. Accepted in *Journal of Crop Science and Biotechnology* (https://doi.org/10.1007/s12892-022-00164-2) (Springer publication) (Online Published on 13th July, 2022)

Samanta P, Chakraborty A and **Dey N** (2022) Study on physiological responses with allelic diversity of *Sub1A* and *SK* loci in rice seedlings under complete submergence. *Plant Physiology Reports.* (Springer publication) (https://doi.org/10.1007/s40502-022-00660-1). (Published on 27th May, 2022) (Springer Publication, **IF-1.5)**

Samanta P, Chakrabarti A and **Dey N** (2021) Varied shoot growth in rice plants across different developmental stages under induced flooding. *Plant Science Today* 8(3): 704-711. (Horizon, India publication, **IF-0.9**) https://doi.org/10.14719/pst.2021.8.3.1186 (Published on 1st July, 2021)

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 43, 90* (Springer Publication, **IF- 2.983**) https://doi.org/10.1007/s11738-021-03253-x. (Published on 01 June 2021)

Chatterjee A, Dey T, Galiba G, Kocsy G, **Dey N** and Kar RK (2021) Effect of combination of light and drought stress on physiology and oxidative metabolism of rice plants. *Plant Science Today* 8(4): 762 -77. (Horizon, India publication, **IF-0.9)** https://doi.org/10.14719/pst.2021.8.4.1245 (Published on 19th August 2021)

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. (Horizon, India publication, **IF-0.9**) DOI: https://doi.org/10.14719/pst.2021.8.1.965 (Published on 1st January, 2021)

Das, SP, Deb D and **Dey N** (2020) Expression study of five genes involved in floral organ development in multiple seeded rice. *J. Plant Biochem. Biotechnol*. 29, 348–351 (2020). (Springer Publication, **IF- 1.525)** https://doi.org/10.1007/s13562-019-00526-y (Published on June, 2020)

Samanta P, Ganie SA, ChakrabortyA and **Dey N** (2020) Study on regulation of carbohydrate usage in a heterogeneous rice population under submergence. *J. Plant Biochem. Biotechnol.* 30 (1): 138-146. (Springer Publication, **IF- 1.525**) DOI. https://doi.org/10.1007/s13562-020-00577-6 (Published on 4th August, 2020)

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.* 30: 364–372. (Springer Publication, **IF- 1.525**) https://doi.org/10.1007/s13562-020-00602-8 (Published on 5th November, 2020)

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* (Wiley Publication, **IF- 4.153**). https://doi.org/10.1111/jac.12358 (published on 30th July, 2020)

Das SP, Deb D and **Dey N** (2018) Micromorphic and Molecular Studies of Floral Organs of a Multiple Seeded Rice (*Oryza sativa* L.). *Plant Molecular Biology Reporter* 36:764–775. (Springer Publication, **IF- 2.011**) https://doi.org/10.1007/s11105-018-1116-9 (Published on 25th October, 2018)

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. (Horizon, India publication, **IF-0.9**) https://doi.org/10.14719/pst.2018.5.3.387 (Published on 1st July, 2018)

Goswami S, Kar RK, Paul A and **Dey N** (2018) Differential Expression of *Sub1A* Loci In Rice under Submergence. *J. Plant Biochem. Biotechnol* 27 (4): 473-477. (Springer Publication, **IF-1.525**) https://doi.org/10.1007/s13562-018-0456-8 (Published on 12th July, 2018)

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. (Elsevier Publication, **IF- 5.4**) https://doi.org/10.1016/j.cpb.2017.10.002 (Published on September, 2017)

Ganie SA, Karmakar J, Roychowdhury R, Mondal TK and **Dey N** (2016) An exploratory study on allelic diversity among rice and its wild species as well as relatives with simple sequence repeat and inter simple sequence repeat markers. *Indian Journal of Biotechnology* (15): 357-362. (CSIR, India publication, **IF- 0.324**) (DOI Not available)

Ganie SA, **Dey N** and Mondal TK (2016) Promoter methylation regulates the abundance of osa IR393a in contrasting rice genotypes under salinity stress. *Functional & Integrative Genomics* 16(1):1-11. (Springer Publication, **IF- 3.711**) https://doi.org/10.1007/s10142-015-0460-1 (Published on January, 2016)

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. (Springer Publication, **IF- 1.708** in 2021) https://doi.org/10.1007/s00606-014-0999-7 (Published on 15th February, 2014)

Ghosh N, Das SP, Mandal C, Gupta S, Das K, **Dey N**, Adak M K (2012) Variations of antioxidative responses in two rice cultivars with polyamine treatment under salinity stress. *Physiol. Mol. Biol.Plants* 18(4):301-313. (Springer Publication, **IF-3.442**) https://doi.org/10.1007/s12298-012-0124-8 (Published on 26th July, 2012)

Karmakar J, Roychowdhury R, Kar RK, Deb D 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(2):125–132. (Springer Publication, **IF-3.442**). https://doi.org/10.1007/s12298-012-0110-1 (Published on 30th March, 2012)

Google Scholar citation (taken on September, 2023)

	All	Since 2018
Citations	704	507
h-index	14	12
i10-index	23	16

Different research ID:
Research Gate ID: narottam.dey@visva-bharati.ac.in
ORCID ID: https://orcid.org/0000-0002-2761-5473

Ph.D. students supervised with areas of research; Awarded-08, Continuing-02

No	Student's name	Title of the Ph.D thesis with title of research	Date of award	Shodhgangotri-inflibnet link
1.	Dr. Joydip Karmakar	Molecular profiling of selected rice landraces for drought stress tolerance and characterization of associated plant growth promoting rhizobacteria.	4th December, 2015	http://shodhgangotri.inflibnet.ac.in:8080/jspui/handle/123456789/6169
2.	Dr. Rajib Roy Choudhury	Genetic analyses in rice (*Oryza sativa* L.) with special reference to agro-morphology, quality and osmotic stress tolerance.	16th April, 2016	http://shodhgangotri.inflibnet.ac.in:8080/jspui/handle/123456789/6165
3.	Dr. Anuj Mamgain	"Studies on cultural & morphological variability, management and development of PCR based molecular marker for leaf blight of rapeseed & mustard caused by *Alternaria brassicae*.	21st December, 2016	Not available
4.	Dr. Showkat Ahmad Ganie	Studies of molecular genetic diversity in rice with reference to salinity tolerance.	3rd February, 2017	http://shodhgangotri.inflibnet.ac.in:8080/jspui/handle/123456789/6168
5.	Dr. Sayani Goswami	Molecular and Genetic Study of Floral Organ Development in rice (*Oryza sativa* L.).	23rd September, 2018	https://shodhganga.inflibnet.ac.in:8443/jspui/handle/10603/222432
6.	Dr. Soumya Prakash Das	Molecular genetic analysis of Submergence tolerance in rice (Oryza sativa L.) with Special references to landraces and wild species	5th April, 2019	https://shodhganga.inflibnet.ac.in/handle/10603/248461
7.	Dr. Pratyasha Samanta	Physiological, Biochemical and Molecular screening for submergence tolerance trait in deep water rice (*Oryza sativa* L.) land races of West Bengal under water logging	11th August, 2022	https://shodhganga.inflibnet.ac.in/handle/10603/398900
8.	Dr. Suraj Panja	Exploration and molecular breeding of soft rice with special reference to cooking and eating quality	September, 2023	Not available

Reviewer's assignment in different journal

Recently act as reviewer of the following journals:

1. *Frontiers of Plant Science*
2. *Acta Physiologia Plntarum*
3. *Scientific Reports*
4. *Rice*
5. *PLOS ONE*
6. *Current Plant Biology*
7. *Food Bioscience*
8. *Journal of Genetics*
9. *Rice Science*
10. *Environmental and Experimental Botany*
11. *Journal of Soil Science and Plant Nutrition*

List of Extramural Research Projects received

Project title	Period	Ref. No.	Total Project cost (Rs.)	Funding agency
(i) Allele Mining for Stress Tolerance in Traditional and Wild Relatives of Rice (*Oryza sativa* L.) (As P.I)	01.02.2011 - 30.06.2014	F. No. 39-288/2010 (SR) dated 01.02.2011	10,560,00/- (completed)	UGC, Govt. of India
(ii) Biochemical and Molecular Profiling of West Bengal Folk Rice Germplasm with reference to Abiotic Stress Tolerance. (As P.I)	05.03.2011 - 31.03.2015	462(Sanc.)/ST/P/S&T/ 1G-11/2010 dated 27/11/2010	9,76,548/- (completed)	State DST, Govt. of W.B
(iii) Development of multiple kerneled rice through biotechnology (As P.I)	01.07.2014 - 31/08/2017	SB/YS/LS-187/2013	21,99,408/- (completed)	SERB, Govt. of India
(iv) Responses of crop plants (rice and wheat) to combination of light and drought stresses (DST-Indo-Hungarian international collaboration)	04.11.2016 - 04.11.2019	DST-Indo-hung INT/HUN/P-08/2016	19,86,839/- (completed)	DST, Govt. of India
(v) Genetic improvement and popularization of Komal Chawl-a potential rice preparation for soldiers posted in remote places (As P.I)	04.07.2017 - 03.12.2020	LSRB-303/FSH-ABB/2017	24,85,653/- (completed)	DRDO, Govt. of India.
(vi) 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)	27.07.2018 - 30.06.2023	233(Sanc.)/ST/P/S&T/ 1G-75/2017 dated 24/03/2018	11,99,800/- (Completed)	DST-DBT, Govt. of West Bengal
(vii)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)	01.03.2021 - Till date	CRG/2019/004567 dated 12/02/2021	42,64,832/- (Cont…)	SERB, Govt. of India

Details of collaboration with other research laboratory (outside of Visva-Bharati) (in last 10 years)

Sl No.	Name of researcher	Area of research	Research Institute	paper published
1.	Dr. Gabor Kocsy	Effect of drought and light on Rice and Wheat plants	Agricultural Institute, Centre for Agricultural Research, ELKH, Martonvásár, Hungary	04
2.	Dr. Tapan K Mandal	Study on salt tolerance in rice	Scientist, ICAR-NBPGR, New Delhi, Now at ICAR-NIPB, New Delhi, India.	03

3.	Dr. Debal Deb	Flowering mutant in rice	Centre for Interdisciplinary Studies, Basudha Biotechnology Laboratory for Conservation (Basudha Trust), West Bengal, India	04
4.	Dr. Asif Iquebalal	Genomics and Bioinformatics study in rice	Centre for Agricultural Bioinformatics, ICAR-Indian Agricultural Statistics Research Institute, Library Avenue, New Delhi, India	01
5.	Dr. Tushar Kanti Maiti	PGPR study in rice	Department of Botany, The University of Burdwan, Burdwan 713 104, West Bengal, India	01
6.	Dr. Anupam Paul	Phenotyping and Breeding of West Bengal rice land races	Agricultural Training Centre (ATC), Fulia, Nadia, West Bengal, India	03
7	Mr. Abhra Chakrabarti	Submergence tolerance in West Bengal rice land races	Fisheries Department, Govt. of West Bengal, India	02
8.	Dr. MK Adak	Abiotic stress tolerance in plants	Department of Botany, University of Kalyani, Kalyani, Nadia-741235, India	10
9.	Dr. Pradip Dey	Indian Soft rice from North Easter states	Regional Agricultural Research Station, Assam Agricultural University, Titabar, Assam, India	03