C V of Dr. N. Dey

1. **Name of the applicant (In Block Letters):** Dr. NRISINGHA DEY

2. **Father's/Husband's Name:** Late TARADHAN DEY

3. **Date of Birth (DD/MM/YY):** 15/12/1964

4. **Postal address:** Ramakrishna Mission Vivekananda Educational and Research Institute (RKMVERI) (Deemed-to-be-University), Ramakrishna Mission Ashrama, Narendrapur, Kolkata

5. PIN: 700103

6. E-Mail: nrisingha.dey@gm.rkmvu.ac.in/ nrisinghad@gmail.com

7. Telephone: 9937163453 (mobile)

8. **Permanent Address:** 2B/1, Justice Manmotha Mukherjee Row, Kolkata 700009

9. **Nationality:** Indian

10. **Marital Status**: Married (1 Son)

11. **Whether belongs to SC/ST/PH/OBC:** No.

12. **Educational Qualification (from matriculation onward):**

S. No	Degree	Board/University	Year of passing	Subjects
1.	Madhyamik	W.B.B.S.E.	1980	English, Bengali. Phy. Sc. Life Sc. Mathametics Geography, History, Sanskrit, Physical Edu,
2.	Higher Secondary	W. B. C. H. S. E.	1982	Physics, Chemistry, Mathematics, Biology, English, Bengali
3.	B. Sc. Part - 1	Calcutta University	1984	Chemistry, Math Physics, English
4.	B. Sc. Part-2	Calcutta University	1985	Chemistry – Hons.
5.	M. Sc	Calcutta University	1987	Biochemistry

6.	Ph. D.	Calcutta University	1998	Biochemistry

13. Experience (from current to oldest):

S. No	From	To	Name of Organization	Position held	Scale of Pay
1.	01/01/2025	Till date	Ramakrishna Mission Vivekananda Educational and Research Institute (RKMVERI)	Full-time Professor ICMR-Emeritus Scientist	
2.	08/04/2020	31/12/2024	Institute of Life Sciences, Bhubaneswar	Scientist G	Level 13A of pay matrix of Rs. 1,31,100/- to Rs. 2,16,600/-
3.	01/01/2020	07/04/2024	Institute of Life Sciences, Bhubaneswar	Scientist F	Level 13A of pay matrix of Rs. 1,31,100/- to Rs. 2,16,600/-
4.	01/01/2015	31/12/2019	Institute of Life Sciences, Bhubaneswar	Scientist E	Level 13 of pay matrix of Rs. 1,23,100/- to Rs. 2,15,500/-
5.	16/11/2010	31/12/2014	Institute of Life Sciences, Bhubaneswar	Scientist D	Pay band of PB 3 Rs. 15,600/-to Rs. 39,100/- with GP of Rs. 7,600/-
6.	16/11/2006	15/11/2009	Institute of Life Sciences, Bhubaneswar	Scientist C	Pay band of PB 3 Rs. 15,600/-to Rs. 39,100/- with GP of Rs. 6,600/-
7.	27.06.2006	15.11.2006	Institute of Life Sciences, Bhubaneswar	Scientist B	Pay band of PB 3 Rs. 15,600/-to Rs. 39,100/- with GP of Rs. 5,400/-
8.	16/11/2004	26.06.2006	Institute of Life Sciences, Bhubaneswar	Lecturer	Rs. 8000-275-13,500/-

1. Professional training undergone, if any, and details thereof:

- Post-Doctoral Research Scholar at Iowa State University, Ames, Iowa, USA
  Duration: 01/01/2001 to 21/7/2004
  Subject: Plant Molecular Biology and Genetics
- Post-Doctoral Research Associate at University of Kentucky, Lexington, USA
  Duration: 17.11.1006 to 31/12/2000
  Subject: Plant Molecular Biology

2. **Honors/Awards/Fellowship received:**

- Elected as Fellow from National Academy of Science, Allahabad, (FNASc.),

in the year 2019.

- Elected as Fellow from West Bengal Academy of Science and Technology (FAScT) in the year 2017.
- Received **TATA Innovation award** from Department of Biotechnology (DBT), Govt. of India, in the year 2015.
- CSIR Fellowship 1990
- GATE Qualification 1990

3. **Total Research experience (Years/Months)**: 20 years

4. Area of Interest:

a) Engineering synthetic anti-microbial peptides (AMPs) to combat Methicillin-resistant *Staphylococcus aureus* (MRSA) infection.
b) Development of synthetic plant promoters using rational engineering and directed evolution of genetic elements of pararetroviruses.
c) Plant molecular farming of useful pharmaceuticals using novel promoters.
d) Functional characterization of stress-specific transcription factors in pearl millet (*Pennisetum Glaucum*).
e) CRISPR-Cas9/dCas9 mediated genome editing in crop plants for improving stress tolerance and nutritional index.
f) Identification of novel microRNAs and their targets during ectopic expression of AtFt in Tobacco.
g) Study of novel plant-derived anti-malaria compounds.
h) Identification and characterization of genes involved in bamboo fiber development

5. Teaching Experience:

During the last 20 years, I have taken regular classes for BS, MS, and Ph.D. students in the following subject areas under Life Sciences. I am also a regular examiner and reviewer of MSc. / Ph.D. Thesis.

A. Microbial genetics
B. Biochemistry
C. Principles underlying instrumental bio-macromolecular analyses
D. Advances in plant cell and molecular biology
E. Genomics

6. Publications: 79 (Annexure 1)

7. Details of patents granted: (Annexure 2)

A. US Patents: 3
B. Granted Indian Patents: 7

8. **Details of technology transferred/developed**:

1. Following Patents were transferred by the Institute of Life Sciences to NRDC (National Research Development Corporation) through an Assignment Deed; dated 14th January 2015 and 10th Nov. 2015. The patents are:

- A full-length transcript promoter DNA fragment from Dahlia mosaic virus. INDIA Patent No. 348823

- Vascular tissue specific and stress inducible hybrid promoter ideal for plant derived pharmaceutical production
  INDIA Patent No. 334895

- A full-length transcript promoter DNA fragment from Dahlia mosaic virus. Indian Patent No. 348823

2. Following Promoter clones were transferred to Addgene for Academic use:

    - pSimM24-eGFP Catalog No. 67883
    - pSIMM24-Gus Catalog No. 67882

3. License Agreement with Monsanto Company for M24 promoter, Document of commercialization is attached.

9. Short biography:

Dr. Nrisingha Dey is a full-time professor and ICMR-Emeritus Scientist at RKMVERI, formerly a distinguished Scientist (Scientist-G) at the Institute of Life Sciences, Bhubaneswar. With a Ph.D. in Plant Molecular Biology from University of Calcutta, he conducted postdoctoral research at Iowa State University and the University of Kentucky. His work focuses on developing synthetic promoters, transcription factors, and genetic tools to enhance stress tolerance in crops like rice, millet and pulses aiming to advance sustainable agriculture through innovative genetic engineering solutions. He has made significant contributions to molecular farming and plant biotechnology, through plant-derived biologics with antiviral, antibacterial, and anticancer properties, earning twelve patents and authoring numerous impactful publications. Dr. Dey has secured 14 extramural funded projects, supervised 16 Ph.D. students, and received the prestigious TATA Innovation Fellowship alongwith being a NASI and WAST fellow.

10. Mentorship of Ph.D. students

Serial No.	Name of the student	Title of Thesis	**Current Affiliation**
1	Dr. Deepak	"Pararetrovirus based	Project Scientist II, School

	Kumar (Awarded Ph.D. Degree)	hybrid promoters for enhanced expression of transgene"	of Medicine University of California, San Diego; **USA**
2	Dr. Rajiv Ranjan (Awarded Ph.D. Degree)	"Studies on some plant pararetrovirus promoters for developing hybrid synthetic promoters with enhanced activities"	Associate Professor Plant Molecular Biology Department of Botany Dayalbagh Educational Institute Agra-5, **India**
3	Dr. Vineeta Rai (Awarded Ph.D. Degree)	"Studies on characterizationof genes (ESTs) associated with bamboo development"	Postdoctoral Fellow North Carolina State University Department of Entomology & Plant Pathology, **USA**
4	Dr. Sunita Patro (Awarded Ph.D. Degree)	"Strength and tissue specificity of chimeric promoters derived from full-length and sub-genomic transcript promoters from different pararetroviruses and their uses in translational research"	Postdoctoral Fellow Indian Institute of Sciences Department of Plant Science, Bangalore, **India**
5	Dr. Bhubaneswar Pradhan (Awarded Ph.D. Degree)	"Isolation and Characterization of microRNA in plants under different biotic stress conditions"	Assistant Professor Department of Agricultural Biotechnology Ramakrishna Mission Vivekananda Educational a nd Research Institute (RKMVERI) Kolkata 700103
6	Sefali Acharya (Awarded Ph.D. Degree)	"Designing and testing efficient promoters for enhanced molecular farming of life saving therapeutics in plants"	Staff Scientist, Lonza, Portsmouth, Brentwood, New Hampshire USA
7	Dr. Shayan Sarkar (Awarded Ph.D. Degree)	Characterization of transcriptional promoters from pararetroviruses and their interactions with transcription factor/s	Postdoctoral Fellow **USA**
8	Dr. Debasish Deb (Awarded Ph.D. Degree)	Development of chimeric promoters using Cassavavein Mosaic Virus (CsVMV) sequence for translational research	Assistant Professor, School of Biological Sciences AIPH University Bhubaneswar-752101

9	Dr. Ankita Shrestha (Awarded Ph.D. Degree)	Use of CRISPR-Cas9-sgRNA system coupled to unique caulimoviral promoter/s for targeted metabolite engineering in plants	Postdoctoral Fellow**,** Institute of Plant Molecular Biology, Biology Centre CAS, **Czech Republic**
10	Dr. Ahamed Khan (Awarded Ph.D. Degree)	"Molecular characterization of novel promoter/s from para retroviruses and their interaction with stress inducible transcription factors"	Postdoctoral Fellow**,** Institute of Plant Molecular Biology, Biology Centre CAS, **Czech Republic**
11	Ms. Lini Sethi (Awarded Ph.D. Degree)	"Characterisation of recombinant promoter for efficient gene expression in plant"	Assistant Professor, MITS Institute of Professional Studies, Odisha
12	Mr. Jeky Chanwala (Awarded Ph.D. Degree)	"Genome-wide identification and characterization of WRKY Transcription factor family in Pearl millet (*Pennisetum glaucum"*	Postdoctoral Fellow**,** Swedish University for Agricultural Sciences, Sweden
13	Mrs. Rasmita Das (Thesis submitted)	"Generating genomic resources for a climate resilient crop, *Panicum sumatrense* (Little Millet) through transcriptomic and genomic approaches"	**SRF,** Institute of Life Sciences, Bhubaneswar
14	Ms. Mitrabinda Panda (SRC completed)	Generating genomic resources for *Coccinia grandis* and identification of genes regulating fruit morphology	**SRF,** Institute of Life Sciences, Bhubaneswar
15	Dr. P Sushree Shyamli (Awarded Ph.D. degree)	"Deciphering molecular mechanisms regulating response towards drought stress in *Moringa oleifera*"	Institute of Life Sciences, Bhubaneswar
16	Mr. Tsheten Sherpa (Ongoing)	"Modification of pararetroviral promoter for better translation research"	**SRF,** Institute of Life Sciences, Bhubaneswar
17	Ms. Khushbu Kumari (Ongoing)	"Development of unique promoters for gene expression in both monocot and dicot"	**SRF,** Institute of Life Sciences, Bhubaneswar
18	Mr. Deepak Jha	"Studies on plant transcription factors in Pearl millet (*Pennisetum*	**SRF,** Institute of Life Sciences,

	(Ongoing)	*glaucum)"*	Bhubaneswar
19	Ms. Sandhya Suranjika	"Development, Validation and Utilization of genomic resources from Vigna species".	**SRF,** Institute of Life Sciences, Bhubaneswar
20	Mrs. Soumya Shree Nayak	"Generating genomic resources from *Phragmites karka* for identification of genes involved in abiotic stress tolerance"	**SRF,** Institute of Life Sciences, Bhubaneswar

11. Grants Received during Last 5 Years:

Funding Agency	Year		Cost of the Project in Rs.
1) DST-SERB	From: 08/03/2022	To: 07/03/2025	40.98 lacks INR
Title: Genetic analysis of plant pararetrovirus promoter sequence/s for developing universal promoter with enhanced activity in both monocot and dicot plants			
2) DBT	From: 24/10/2018	To: 23/10/2023	3187.312 lacks INR
Title: Genetic Enhancement of Minor Pulses: Characterization, Evaluation, Genetic Enhancement and Generation of Genomic Resources for Accelerated Utilization and Improvement of Minor Pulses			
3) DBT	From: 20/03/2018	To: 19/03/2021	22.37 lacks INR
Title: Development of seedless Bhimkol (Musa balbisiana, BB genome) through CRISPR/Cas9, ploidy breeding and mutation approaches			
4) DBT-TATA Innovation	From: 14/03/2016	To: 13/03/2021	45.0 lacks INR
Title: Studies on In vitro and in Vivo Interaction between Arabidopsis Transcription Factors TGA and WRKY leading to Salicylic acid-mediated gene activation in Cestrum Yellow leaf curling virus (CmYLCV) Promoter.			

12. National conferences, workshops and meetings organized: 9

13. Oral Presentation (last 5 years):

1. Talk given on "CRISPR-Mediated cis engineering for enhanced accumulation of iron and folic acid in rice endosperm" in Symposium on "Emerging trends in biology research" organised by Institute of Life Sciences, Bhubaneswar, Odisha, India. 18th – 19th March 2019.
2. Delivered seminar on "Transcriptional regulation of plant gene expression" at Dept. of Biotechnology, Ramadevi women college, Bhubaneswar on 15th March 2019.
3. Talk given on "Designing plant transformation promoters using breakthrough technologies" in one-day symposium on "Application of advanced tools and technology in plant biology" held at ASMH, Dept. of Botany, Calcutta University on 6th March, 2019.
4. Attended Inception workshop of network project on "Genetic Enhancement of Minor Pulses" held at ICAR-NBPGR, New Delhi on January 15th, 2019.
5. Dr. Nrisingha Dey invited as a key note speaker, talk given on "Molecular characterization of novel promoter (s) from para-retroviruses and their interaction with stress inducible transcription factors" at National conference on "Recent advances in plant sciences, biotechnology and bioinformatics" (February 17-18, 2020) held at Department of Botany, Berhampur University.
6. Dr. Nrisingha Dey invited as a speaker, talk given on "Plant a potential for molecular farming-prospects in India" at National seminar on Green technology for environment management and 44th Annual conference of Orissa Botanical Society" (22-23rd January 2020) held at North Orissa University.
7. Dr. Nrisingha Dey invited as a key note speaker, talk given on "Interaction of Arabidopsis TGA3 and WRKY53 transcription factors on Cestrum yellow leaf curling virus full length promoter (CmYLCV) drives salicylic acid-dependent gene expression in plants" at National Arabidopsis Meeting" (29-31st December 2019) organized by NISER, Bhubaneswar.
8. Dr. Nrisingha Dey invited as a chief speaker, talk given on "TOBACCO AS A POTENTIAL TOOL FOR MOLECULAR FARMING - PROSPECTS IN INDIA" at national symposium on Approaches and Strategies for Augmenting Tobacco Farmers' Income (19th - 20th July 2019) organized by Indian Society of Tobacco Sciencce, Rajahmundry, Andhra Pradesh.
9. Dr. Nrisingha Dey invited as a key note speaker, talk given on "Research: A Nobel profession" at National webinar series 2020 organized by Department of Zoology, Rajdhani college, Bhubaneswar (20th November 2020)
10. Dr. Nrisingha Dey invited as a speaker, talk given on "Transcriptional regulation of plant gene expression" at RC on Biological Sciences conducted by UGC HRDC, University of Calcutta (2nd February 2021).

14. Collaboration

We have collaboration with following labs and institutes:

International collaboration:

- Dr. Sitakanta pattanaik, University of Kentucky, Lexington, USA

- Dr. Indu B Maiti, University of Kentucky, Lexington, USA
- Dr. Prof. Phillip Becraft, Iowa state university, Ames, Iowa, USA

National collaboration:

- Prof. Sampa Das, Bose Institute, Kolkata
- Prof. Sudip Chattopadhyay, NIT Durgapur
- Dr. Debasish Chattopadhyay, NIPGR, New Delhi

Annexure 1

1. Chanwala J, Kumari K, Jha DK, Giri MK, Dey N (2025) Pearl millet WRKY transcription factor PgWRKY52 positively regulates salt stress tolerance through ABA-MeJA mediated transcriptional regulation. Plant Stress 16:100814. doi:https://doi.org/10.1016/j.stress.2025.100814
2. Jha DK, Chanwala J, Sandeep IS, Barla P, Dey N (2025) Evolutionary progression and functional diversification of NAC family members in pearl millet with comprehensive characterization of PgNAC103 under drought stress. Plant Stress 15:100728. doi:https://doi.org/10.1016/j.stress.2024.100728
3. Sherpa, T., & Dey, N. (2025). Development of robust constitutive synthetic promoter using genetic resources of plant pararetroviruses. Frontiers in plant science, 15, 1515921. https://doi.org/10.3389/fpls.2024.1515921
4. Khan, A., Pudhuvai, B., Shrestha, A., Mishra, A. K., Shah, M. P., Koul, B., & Dey, N. (2024). CRISPR-mediated iron and folate biofortification in crops: advances and perspectives. Biotechnology & genetic engineering reviews, 40(4), 4138–4168. https://doi.org/10.1080/02648725.2023.2205202
5. Chanwala, J., Jha, D.K., Sherpa, T., Kumari, K., Barla, P., Das, A. and Dey, N., 2024. Comprehensive genomic screening and expression profiling of trihelix family in pearl millet under abiotic stresses with emphasis on functional insights of PgTHX24. **Current Plant Biology**, p.100371.Kumari, K., Sherpa, T. and Dey, N.,
6. Analysis of plant pararetrovirus promoter sequence/s for developing useful synthetic promoter with enhanced activity in rice, pearl millet, and tobacco plants. **Frontiers in Plant Science**, 15, p.1426479.
7. Suranjika, S., Barla, P., Sharma, N. and Dey, N., 2024. A review on Ubiquitin ligases: Orchestrators of plant resilience in adversity. **Plant Science**, p.112180. https://doi.org/10.1016/j.plantsci.2024.112180
8. Chanwala J, Jha DK, Giri MK, Dey N (2024). "PgWRKY44, a pearl millet WRKY transcription factor-Calmodulin module, enhances salt and drought stress resilience in transgenic plants" **Environmental and Experimental Botany**, Volume 219, https://doi.org/10.1016/j.envexpbot.2023.105629.
9. Chanwala J, Khadanga B, Jha DK, Sandeep IS, Dey N. MYB Transcription Factor Family in Pearl Millet: Genome-Wide Identification, Evolutionary Progression and Expression Analysis under Abiotic Stress and Phytohormone Treatments. **Plants (Basel)**. 2023 Jan 12;12(2):355. doi: 10.3390/plants12020355. PMID: 36679070; PMCID: PMC9865524. (IF- 4.5)
10. Sherpa T, Jha DK, Kumari K, Chanwala J, **Dey N**. Synthetic sub-genomic transcript promoter from Horseradish Latent Virus (HRLV). **Planta**. **2023** Jan 18; 257 (2):40. (IF- 4.3)
11. Khan, A.; Nasim, N.; Pudhuvai, B.; Koul, B.; Upadhyay, S.K.; Sethi, L.; **Dey, N**. Plant Synthetic Promoters: Advancement and Prospective. **Agriculture 2023**, 13, 298. (IF- 3.6)
12. Chanwala, J., Jha, D.K., Sandeep, I.S., Dey, N. (2022). The Role of Transcription Factors in Response to Biotic Stresses in Pearl Millet. In: Wani, S.H., Nataraj, V., Singh, G.P. (eds) Transcription Factors for Biotic Stress Tolerance in Plants. Springer, Cham.
13. Khadanga, B., Sherpa, T., Chanwala, J., Dey, N. (2022). Synthetic Promoters in Regulating Disease Gene Expression. In: Wani, S.H., Nataraj, V., Singh, G.P. (eds) Transcription Factors for Biotic Stress Tolerance in Plants. Springer, Cham.
14. Sethi, L., Sherpa, T., Kumari, K. et al. Further Characterization of MUAS35SCP and FUAS35SCP Recombinant Promoters and Their Implication in Translational Research. Mol Biotechnol (2022). https://doi.org/10.1007/s12033-022-00513-0 (I.F- 2.86)

15. Sethi, L., Deb, D., Khadanga, B., Dey, N. (2021). Synthetic promoters from blueberry red ringspot virus (BRRV). Planta 253, 121. https://doi.org/10.1007/s00425-021-03624-1 (I.F- 4.54)
16. Sethi L, Kumari K, **Dey N**. Engineering of Plants for Efficient Production of Therapeutics**. Mol Biotechnol. 2021** Dec; 63 (12):1125-1137.
17. Jha DK, Chanwala J., Sandeep I. S., Dey N. (2021). Comprehensive identification and expression analysis of GRAS gene family under abiotic stress and phytohormone treatments in Pearl millet. Functional Plant Biology. (https://doi.org/10.1071/FP21051) (I.F- 2.81)
18. Nasim N, Dey N. (2021). Pararetroviruses: Plant infecting dsDNA viruses. Plant Molecular Biology Reporter. (Accepted) https://doi.org/10.1007/s11105-021-01294-7 (I.F-1.816)
19. Gupta, D., Dey, N., Leelavathi, S., Ranjan, R. (2021). Development of efficient synthetic promoters derived from pararetrovirus suitable for translational research. Planta 253, 42. https://doi.org/10.1007/s00425-021-03565-9 (I.F- 4.54)
20. Khadanga, B., Chanwala, J., Sandeep, I.S., Dey, N. (2021). Synthetic Promoters from Strawberry Vein Banding Virus (SVBV) and Dahlia Mosaic Virus (DaMV). Molecular Biotechnology. https://doi.org/10.1007/s12033-021-00344-5 (I.F- 2.86)
21. Sethi, L., Kumari, K. & Dey, N. Engineering of Plants for Efficient Production of Therapeutics. Mol Biotechnol (2021). https://doi.org/10.1007/s12033-021-00381-0 (I.F- 2.86)
22. Chanwala. J., Satpati, S., Dixit, A., Parida, A., Giri, M.K., **Dey, N. (2020**). Genome- wide identification and expression analysis of WRKY transcription factors in pearl millet (Pennisetum glaucum) under dehydration and salinity stress. **BMC Genomics** 21(1), 1-16.
23. Deb, D, Khan, A, **Dey, N**. Phoma diseases: Epidemiology and control. **Plant Pathol. 2020**; 69: 1203– 1217
24. Deb, D., Shrestha, A., Sethi, L., Das, N. C., Rai, V., Das, A. B., Maiti, I. B., Dey, N. (2020). Transgenic tobacco expressing Medicago sativa Defensin (Msdef1) confers resistance to various phyto-pathogens. Nucleus. https://doi.org/10.1007/s13237-020-00307-2
25. Deb, D., Shrestha, A., Sethi, L., Das, N. C., Rai, V., Das, A. B., Maiti, I. B., **Dey, N. (2020).** Transgenic tobacco expressing Medicago sativa Defensin (Msdef1) confers resistance to various phyto-pathogens. **Nucleus.**
26. Khan, A., Shrestha, A., Shaju, M., Panigrahi, K.C, **Dey, N.** Identification of miRNA Targets by AtFT Overexpression in Tobacco**. Plant Mol Biol Rep** 38, 48–61 (**2020)**.
27. Chanwala. J., Satpati, S., Dixit, A., Parida, A., Giri, M.K., **Dey, N**. (2020). Genome- wide identification and expression analysis of WRKY transcription factors in pearl millet (Pennisetum glaucum) under dehydration and salinity stress. *BMC Genomics* 21(1), 1-16. https://doi.org/10.1186/s12864-020-6622-0 (I.F- 3.969)
28. Deb, D., Khan, A., **Dey, N.** (2020) Phoma diseases: Epidemiology and control. *Plant Pathology*. DOI: 10.1111/ppa.13221 (I.F-2.772)
29. Shrestha A., Khan A., Dey N. (2019) CRISPR-Cas9-Mediated Editing of the CYP82E4-Nicotine N-Demethylase (nnd) Gene in Tobacco Protoplasts. *Journal of Plant Biochemistry & Physiology* 7:230. DOI: 10.4172/2329-9029.1000230 (I.F- 4.25)
30. Mukherjee A., Mazumder M., Jana J., Srivasatava A K., Mondal B., De A., Ghosh S., Saha U., Bose R., Chatterjee S., Dey N., and Basu D.: Enhancement of ABA sensitivity through conditional expression of ARF10 gene in Brassica juncea exhibit fertile plants with tolerance against Alternaria brassicicola, Molecular Plant-Microbe Interactions (June 2019). DOI: 10.1094/MPMI-05-19-0132-R (I.F- 4.171)
31. Khan, A., Shrestha, A., Shaju, M., Panigrahi, K. C., & **Dey, N.** (2019). Identification of miRNA Targets by AtFT Overexpression in Tobacco. *Plant Molecular Biology Reporter*, 1-14. http://doi.org/10.1007/s11105-019-01180-3 (I.F-1.816)
32. Deb, D., & **Dey, N.** (2019). Synthetic Salicylic acid inducible recombinant promoter for

translational research. *Journal of biotechnology*, *297*, 9-18. https://doi.org/10.1016/j.jbiotec.2019.03.004 (I.F- 3.595)

33. Shrestha, A., Khan, A., & **Dey, N.** (2018). Cis–trans engineering: advances and perspectives on customized transcriptional regulation in plants. Molecular plant, 11(7), 886-898. DOI: 10.1016/j.molp.2018.05.008 (I.F- 21.949)
34. Deb, D., Shrestha, A., Maiti, I. B., & **Dey, N.** (2018). Recombinant promoter (MUASCsV8CP) driven totiviral killer protein 4 (KP4) imparts resistance against fungal pathogens in transgenic tobacco. *Frontiers in plant science*, *9*, 278. doi: 10.3389/fpls.2018.00278 (I.F-6.627)
35. Sarkar, S., Das, A., Khandagale, P., Maiti, I. B., Chattopadhyay, S., & **Dey, N.** (2018). Interaction of Arabidopsis TGA3 and WRKY53 transcription factors on Cestrum yellow leaf curling virus (CmYLCV) promoter mediates salicylic acid-dependent gene expression in planta. *Planta*, *247*(1), 181-199. https://doi.org/10.1007/s00425-017-2769-6 (I.F-4.54)
36. Khan, A., Shrestha, A., Bhuyan, K., Maiti, I. B., & **Dey, N.** (2018). Structural characterization of a novel full-length transcript promoter from Horseradish Latent Virus (HRLV) and its transcriptional regulation by multiple stress responsive transcription factors. *Plant molecular biology*, *96*(1-2), 179-196. https://doi.org/10.1007/s11103-017-0693-6 (I.F- 4.335)
37. Chatterjee, A., Das, N. C., Raha, S., Maiti, I. B., Shrestha, A., Khan, A., ... & **Dey, N.** (2017). Enrichment of apoplastic fluid with therapeutic recombinant protein for efficient biofarming. *Biotechnology progress*, *33*(3), 726-736. https://doi.org/10.1002/btpr.2461 (I.F-2.909)
38. Patel, A., **Dey, N.**, Chaudhuri, S., & Pal, A. (2017). Molecular and biochemical characterization of a Vigna mungo MAP kinase associated with Mungbean Yellow Mosaic India Virus infection and deciphering its role in restricting the virus multiplication. *Plant Science*, *262*, 127-140. https://doi.org/10.1016/j.plantsci.2017.06.005 (I.F- 5.363)
39. Rai, V., Sarkar, S., Satpati, S., & **Dey, N.** (2016). Overexpression of human peroxisomal enoyl-CoA delta isomerase2 HsPECI2, an ortholog of bamboo expressed during gregarious flowering alters salinity stress responses and polar lipid content in tobacco. *Functional plant biology*, *43*(3), 232-243. DOI: 10.1071/FP15292 (I.F-2.81)
40. Sarkar, S., Jain, S., Rai, V., Sahoo, D. K., Raha, S., Suklabaidya, S., ... & **Dey, N.** (2015). Plant-derived SAC domain of PAR-4 (Prostate Apoptosis Response 4) exhibits growth inhibitory effects in prostate cancer cells. *Frontiers in plant science*, *6*, 822. doi: 10.3389/fpls.2015.00822 (I.F-6.627)
41. Pradhan, B., Naqvi, A. R., Saraf, S., Mukherjee, S. K., & **Dey, N.** (2015). Prediction and characterization of Tomato leaf curl New Delhi virus (ToLCNDV) responsive novel microRNAs in Solanum lycopersicum. *Virus research*, *195*, 183-195. DOI: 10.1016/j.virusres.2014.09.001 (I.F- 6.286)
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Annexure 2

A. US Patents

US Patent No.	Title	Inventors
U.S. Patent 6,930,182	Composition and methods of using the mirabilis mosaic caulimovirus sub-genomic transcript (sgt) promoter for plant genetic engineering.	Maiti, I.B. and Dey, N
U.S. Patent 6,420,547	Use of the full-length transcript (flt) from Mirabilis Mosaic caulimovirus to express chimeric genes in plants	Maiti, I.B., Dey, N. and Shepherd, R.J
U.S. Patent 9,322,028.	Unique nucleic acid promoters from two or more promoter sequences	Maiti, I. and Dey, N

B. Granted Indian Patents

Serial No.	Patent No.	Patents	Patent Title	Inventors
1	Indian Patent No. 292986		Novel sub-genomic transcript promoter DNA fragments and a method for obtaining sub-genomic promoter DNA fragments from figwort mosiac virus	Nrisingha Dey, Rajiv Ranjan; Alok Kumar; Indu B. Maiti
2	Indian Patent No. 322247		A novel pararetrovirus based hybrid promoter DNA fragment	Nrisingha. Dey, Deepak Kumar; Deepak Kumar Sahoo; Indu B. Maiti.
3	Indian Patent No. 334895		Vascular tissue specific and stress inducible hybrid promoter ideal for plant derived pharmaceutical production	Nrisingha Dey, Rajiv Ranjan, Sunita Patro, I. B. Maiti.
4	Indian Patent No. 319161		A method for enhancing antimicrobial activity of plant and bacteria derived human beta defensin-1 (HBD-1) and human beta defensin-2 (HBD-2)"	Nrisingha Dey, Soumitra Maiti, Sunita Patro

5	Indian Patent No. 348823		A full-length transcript promoter DNA fragment from Dahlia mosaic virus.	Nrsingha Dey Dipak Sahoo, I.B. Maiti
6	Indian Patent No. 389415		A salicylic acid inducible promoter DNA fragment obtained from Figwort mosaic virus sub-genomic transcript promoter and a method for producing the same	Nrisingha Dey; Deepak Kumar; Sunita Patro; I.B. Maiti.
7	Indian Patent No. : 400498		A sub-genomic transcript promoter fragment from dahlia mosaic virus	Nrisingha Dey, Dipak Sahoo and I. B. Maiti