

FACULTY PROFILE FORMAT

1. **Full Name:** Dr. Chandan Roy
2. **Designation:** Professor
3. **Department/ School:** Genetics and Plant Breeding, School of Crop Improvement
4. **Official Email ID:** chandan.roy43@gmail.com
5. **Profile Photo:**
6. **Area of Specialization:** Biotic and abiotic Stress Breeding, Molecular Breeding
7. **Research Interest:** Rice Breeding
8. **Highest Educational qualification:**

Degree	Subject	University
Ph.D.	Genetics and Plant Breeding	G.B. Pant University of Agriculture and Technology, Pantnagar, Uttarakhand

9. Professional Experience:

Position	Organization	Duration
Professor	Central Agricultural University, Imphal	24.12.2025 to date
Associate Professor	Agriculture University, Jodhpur	26.03.2022 to 22.12.2025
Assistant Professor cum Junior Scientist	Bihar Agricultural University, Sabour, Bhagalpur, Bihar	08.11.2012 to 23.03.2022

10. Research projects:

Title	Funding Agency	Budget	Duration	Status
Understanding agronomic, physio-biochemical and molecular response to drought stress in cumin	ANRF, New Delhi	31.67 Lakhs	2 years	On going
Collection, documentation and registration of Farmer's varieties cereal pulses and vegetable crops and their protection under PPV&FRA-2001	PPV&FR Authority, New Delhi	18 Lakhs	3 Years	Completed
Biofortification of Wheat (Harvest Plus)	BMGF	20000 USD/year	3 years	Completed
Accelerating Genetic Gain in Maize and Wheat for Improved Livelihoods (AGG)	BMGF	30000 USD/year	1 year	Completed
Uniformity and Purity Assessment of Farmer's Potato, Cauliflower and Indian Bean Varieties	DST, NIF Gandhinagar	<10 Lakhs	2 years	Completed
AICRP Wheat	ICAR-IIWBR, Karnal	-	-	-
Breeding for heat and drought tolerance in wheat	Govt. of Bihar	100 Lakhs	1 year	Completed
Breeding for spot blotch resistance in wheat	Institutional	3.0 Lakhs	2 years	Completed
Varietal Improvement in Early cauliflower	Institutional	3.0 Lakhs	5 years	Completed

Population Improvementin cauliflower (<i>B. oleracea</i> var <i>botrytis</i>)	Institutional	4.0 Lakhs	5 years	Completed
Transfer of Improved Ogura cytoplasm in cauliflower	Institutional	4.0 lakhs	3 years	Completed
Breeding for terminal heat tolerance in wheat using marker assisted back cross programme	Institutional	5.0 Lakhs	4 years	Completed
Identification of Marigold lines suitable for summer cultivation	Institutional	2.5 Lakhs	3 years	Completed
Effect of moisture stress on starch and protein quality in wheat grain	Institutional	4.5 Lakhs	3 years	Completed
Prevalence of foliar blight disease of wheat in eastern India	Institutional	5 Lakhs	2 years	Completed
Private testing of Wheat genotypes	Private Companies	80000.0	1 year	Completed
Private testing of cauliflower genotypes	Private Companies	80000.0	1 year	Completed

11. Selected Publications:

Title of the paper	Authors	Reference Journal	Year of Publication
Effectiveness of Lr34 gene in reducing leaf rust severity in wheat cultivar BRW 934 transferred through marker-assisted backcross.	Saini, V.K., Roy, C. & Prasad, P.	Eur. J. Plant Pathol.169, 601–610 https://doi.org/10.1007/s10658-024-02857-6 .	2024
Dissecting quantitative trait loci for spot blotch resistance in South Asia using two wheat recombinant inbred line populations	Chandan Roy, Navin C Gahtyari, Xinyao He, Vinod K Mishra, Ramesh Chand, Arun K Joshi, Pawan K Singh	Frontiers in Plant Science. 12. https://doi.org/10.3389/fpls.2021.641324	2021
New Genotypes and Genomic Regions for Resistance to Wheat Blast in South Asian Germplasm.	Chandan Roy, Philomin Juliana, Muhammad R. Kabir, Krishna K. Roy, Navin C. Gahtyari, Felix Marza, Xinyao He, Gyanendra P. Singh, Aakash Chawade, Arun K. Joshi, and Pawan K. Singh	Plants. 10, no. 12: 2693. https://doi.org/10.3390/plants10122693	2021
Genomic selection for spot blotch in bread wheat breeding panels, full-sibs and half-sibs and index-based selection for spot blotch, heading and plant height.	Philomin Juliana, Xinyao He, Jesse Poland, Krishna K Roy, Paritosh K Malaker, Vinod K Mishra, Ramesh Chand, Sandesh Shrestha, Uttam Kumar, Chandan Roy, Navin C Gahtyari, Arun K Joshi, Ravi P Singh, Pawan K Singh	Theoretical and Applied Genetics 135, 1965–1983. https://doi.org/10.1007/s00122-022-04087-y	2022
Genomic approaches for improving grain zinc and iron content in wheat	Chandan Roy, Sudhir Kumar, Rakesh Deo Ranjan, Sita Ram Kumhar, Velu Govindan	Frontiers in Genetics 8;13:1045955. doi:10.3389/fgene.2022.1045955 .	2022
Identification of Genomic Regions and Sources for Wheat Blast Resistance through GWAS in Indian Wheat Genotypes.	Phuke, Rahul M., Xinyao He, Philomin Juliana, Muhammad R. Kabir, Krishna K. Roy, Felix Marza, Chandan Roy, Gyanendra	Genes 13, 4: 596. https://doi.org/10.3390/genes13040596	2022

	P. Singh, Aakash Chawade, Arun K. Joshi, and Pawan K. Singh		
<i>Peribacillus frigoritolerans</i> T7-IITJ, a potential biofertilizer, induces plant growth-promoting genes of <i>Arabidopsis thaliana</i>	Debankona Marik, Pinki Sharma, Nar Singh Chauhan, Neelam Jangir, Rajveer Singh Shekhawat, Devanshu Verma, Manasi Mukherjee, Moses Abiala, Chandan Roy, Pankaj Yadav, Ayan Sadhukhan	Journal of Applied Microbiology, Ixae066, https://doi.org/10.1093/jambio/ixae066 .	2024
Assessing the wheat cultivars against spot blotch resistance using phenotyping and gene based SSR markers	Sunanda Chakraborty, Sunita Mahapatra, Anubhab Hooi, B Tejabhushan, SkHasibul Alam, Chandan Roy	Tropical Plant Pathology, 50(1)10	2025
Identification of QTLs for spot blotch resistance in two bi-parental mapping populations of wheat.	Navin C Gahtyari, Chandan Roy, Xinyao He, Krishna K Roy, Mohamed Reza, Md A Hakim, Paritosh K Malaker, Arun K Joshi, Pawan K Singh.	Plants. 10 (5), 973. https://doi.org/10.3390/plants10050973	2021
Managing spot blotch disease in wheat: Conventional to molecular aspects.	Chandan Roy, He Xinyao, Navin Chander Gahtyari, Sunita Mahapatra, and Pawan Kumar Singh	Frontiers in Plant Science 14: 401. doi: 10.3389/fpls.2023.1098648.	2023
Association of leaf chlorophyll content with the stay-green trait and grain yield in wheat grown under heat stress conditions	Chandan Roy, Tirthartha Chattopadhyay, Rakesh Deo Ranjan, Wahid Ul Hasan, Abhishek Kumar, Nitish De	Czech Journal of Genetics and Plant Breeding. 57 (4), 140-148. https://doi.org/10.17221/45/2021-CJGPB	2021
Effect of terminal heat stress on physiological traits, grain zinc and iron content in wheat (<i>Triticum aestivum</i> L.).	Narendra M.C., Roy C., Kumar S., Virk P., De N.	Czech J. Genet. Plant Breed., 57: 43–50.	2021
Development of polymerase chain reaction-based marker for identification of a nonsense mutation in a <i>Pseudomonas</i> -responsive receptor like protein gene of tomato	Tirthartha Chattopadhyay, Deepak Maurya, Bhagya Shree, Shirin Akhtar, Chandan Roy	Journal of Horticultural Science and Biotechnology. 1-9. https://doi.org/10.1080/14620316.2021.1947905	2021
Wheat blast: a disease spreading by intercontinental jumps and its management strategies	Pawan K Singh, Navin C Gahtyari, Chandan Roy, Krishna K Roy, Xinyao He, B Tembo, Kaijie Xu, Philomin Juliana, Kai Sonder, Muhammad R Kabir, Aakash Chawade	Frontiers in Plant Science. 1467. https://doi.org/10.3389/fpls.2021.710707	2021
Identification of suitable trait index for selection of heat tolerant wheat (<i>Triticum aestivum</i>) genotypes	MC Narendra, C Roy, S Kumar, N De	The Indian Journal of Agricultural Sciences 90 (6), 1068-1071	2020
Inheritance and relationships of flowering time and seed size in kabuli chickpea.	Prity Sundaram, Srinivasan Samineni, Sobhan B Sajja, Chandan Roy, Suresh P Singh, Priyanka Joshi, Pooran M.	Euphytica, 215 (9), 1-14. https://doi.org/10.1007/s10681-019-2464-8	2019
Insights into Wheat Blast: Its Epidemiology, Recent Advances and Management Strategies	Sunita Mahapatra, Sunanda Chakraborty, Debanjana Deb Nath, Chandan Roy	Journal of Crop Health, 76, 2,397-409	2024
Differential response of germplasm to inter-specific hybridization of <i>Brassica</i> spp.	Chandan Roy, RN Jha, Chandan Kishore, PK Singh, JB Tomar	Vegetos. 9 (3), 13-16.	2016

Identification of suitable WA-CMS lines using morphological and molecular marker analysis in rice (<i>Oryza sativa</i> L.)	Chandan Roy and Indra Deo	Oryza. 55 (2), 278-284.	2018
Identification of effective inoculum of <i>Rhizoctonia solani</i> (Khun) for screening of WA-male sterile lines in rice against sheath blight disease	Chandan Roy and Indra Deo	Agricultural Research Journal. 55 (3), 425-430. DOI No. 10.5958/2395-146X.2018.00078.9	2018
The role of intellectual property rights in agriculture and allied science	Chandan Roy	CRC Press & AAP Press , 353p.	2019
Globally Important Non-rust Diseases of Wheat	He, X., Gahtyari, N.C., Roy, C., Dababat, A.A., Brar, G.S., Singh, P.K.	Springer, Cham 143-158p	2022
Protection of Perennial Horticultural Crops through Intellectual Property Rights	Chandan Roy	Biotech Books, New Delhi. 457-470p	2019
An Agricultural Perspective on Patentability of Genes	Ravi S. Singh, Chandan Roy, Tribhuvan Kumar, Chandra S. Prabhaker, Ujjwal Kumar, Prabhash K. Singh	AAP-CRC Press, USA. & 297-314 p.	2019

12. Course taught:

Principles of Plant Breeding,
Advances in Plant Breeding System,
Principles of Quantitative Genetics

13. Student Guided

MSc Guided:06

PhD Guided:01

14. Variety/Genotypes/Patent/Design developed

1. Developed early cauliflower variety **Sabour Mukta** for Odisha, Chattishgarh& Andra Pradesh
2. Developed zinc biofortified Wheat variety **Sabour Gehun 4**for Bihar
3. Developed Wheat blast resistant wheat genotype **BRW 3806 (INGR21017)**.
4. Certificate of Registration of Design for Farmer Friendly Solar Powered Boom Sprayer Vehicle (450091-001)
5. Certificate of Registration of Design for Multipurpose Handholding DualTools with Adjustable Angle and Multiple Blades (442237-001)
6. Certificate of Registration of Design for Motorized Battery-Operated Fruit Harvester (463238-001)

15. Workshop/Training/conference organized: 08

16. Google Scholar: <https://scholar.google.com/citations?hl=en&user=LpC973EAAAAJ>

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