Curriculum Vitae

Dr. EASHAN MUKHERJEE

Present Address: Faculty of Agriculture, Rural and Tribal Development, RKMVERI, Ranchi - 834008, Jharkhand

Permanent Address: Charupalli, Jambuni, Bolpur, Birbhum-731204, West Bengal

Category: General

Contact:

- **Mobile No.:** 6294910015
- **E-mail:** mukherjeeeashan@gmail.com

PERSONAL INFORMATION

Date of Birth: 12 April, 1996
Nationality: INDIAN
Marital Status: Single
Languages: English, Hindi, Bengali

EDUCATIONAL PROFILE

Qualification	Board/University	Year of Passing	Percentage/ OGPA
Secondary	Council of Indian School Certificate Examination	2012	88.43
Higher Secondary	West Bengal Council of Higher Secondary Education	2014	81.60
B.Sc. (Ag.) Hons.	Visva Bharati University	2018	8.94
M.Sc. (Ag.) Genetics and Plant Breeding	Bidhan Chandra Kishi Viswavidyalaya	2020	8.55
Ph.D. Genetics and Plant Breeding	Chaudhary Charan Singh Haryana Agricultural University	2024	8.02

EXAMINATIONS QUALIFIED

1.	AICE-JRF/SRF Ph.D. 2020 in Genetics and Plant Breeding; AIR 21
2.	Agricultural Scientists Recruitment Board - National Eligibility Test (ASRB/ICAR-NET) 2021, in Genetics and Plant Breeding

FELLOWSHIPS RECIEVED

1.	ICAR - AICE-JRF/SRF Ph.D. Fellowship from 15-12-2020 to 07-12-2023
2.	BARC – BRNS Fellowship from 12-09-2024 – 29-12-2025

RESEARCH EXPERIENCE

Organization	Project	Duration
Bidhan Chandra Krishi Viswavidyalaya	M. Sc. Thesis on "*In vitro* regeneration, clonal fidelity assessment and enhanced reserpine	03-08-2018 to 08-09-2020

	production in Indian Snakeroot (*Rauvolfia serpentina*)"*	
Chaudhary Charan Singh Haryana Agricultural University	Ph.D. Thesis on "Molecular, morphophysiological characterization, association mapping and combining ability analysis in Pigeonpea (*Cajanus cajan* (L.) Millsp.)**	15-12-2020 to 07-12-2023
Indian Agricultural Research Institute	DBT sponsored project on "Germplasm characterization and trait discovery in wheat using genomic approaches and its integration for climate resilience, productivity and nutritional quality"***	08-12-2023 to 15-05-2024
Bidhan Chandra Krishi Viswavidyalaya	BRNS-BARC, GOI sponsored project on "Development of novel mutants with improved lutein content African marigold (*Tagetes erecta* L.) through induced mutagenesis approach"****	12-09-2024 to 29-12-2025

*Under the guidance of
Dr. Saikat Gantait
Assistant Professor (Genetics & Plant Breeding)
Bidhan Chandra Krishi Viswavidyalaya [State Agricultural University]
West Bengal, INDIA

**Under the guidance of
Dr. Lakshmi Chaudhary
Assistant Scientist (Genetics & Plant Breeding)
Chaudhary Charan Singh Haryana Agricultural University [State Agricultural University]
Hisar, Haryana, INDIA

***Under the supervision of
Dr. Kiran B. Gaikwad
Senior Scientist (Division of Genetics)
ICAR-Indian Agricultural Research Institute [ICAR-IARI]
Pusa Campus, New Delhi, INDIA

****Under the supervision of
Dr. Jayoti Majumder
Assistant Professor (Floriculture & Landscape Architecture),
Bidhan Chandra Krishi Viswavidyalaya [State Agricultural University]
Mohanpur, Nadia, West Bengal, INDIA

RESEARCH SKILLS/TECHNIQUES	
Topic	**Details**
Experimental Design	CRD, RBD, Augmented RCBD
Crops worked	Pigeonpea, Wheat, Sarpagandha (*Rauvolfia serpentina*), African Marigold (*Tagetes erecta*)
Phenotyping	DUS traits, yield and yield attributing characters, seed vigour traits, physiological characters – NDVI, NBI, CI, FC, AC, Canopy temp.
Plant breeding activities	Selection, Germplasm characterization, Inter-varietal crossing in pulses and wheat, Line x tester analysis, Mutation Breeding
Tissue Culture	Fresh culture, Subculture, Multiple shoot initiation, multiple shoot proliferation, Callus culture, Indirect regeneration, Synthetic seed production, Nanoparticle-mediated elicitation, Clonal fidelity assessment, Cryopreservation and short term storage
Molecular	DNA isolation, PCR, Electrophoresis, Gel documentation, Genotyping through RAPD, SSR
Bioinformatics	BLAST
Statistical softwares	R studio, OPSTAT, GRAPES, NTSYsPC, INDOSTAT, DARWin, TASSEL, STAR

LIST OF PUBLICATIONS:

A. Research Papers/Review Papers:

1. **Mukherjee, E.,** Gantait, S., Sarkar, J.M., Singh, S., Singh, S. and Bhattacharyya, S. (2026). Lutein: Chemistry, biosynthesis, applications, and production biotechnology in plants. *Phytochemistry Reviews*, https://doi.org/10.1007/s11101-025-10209-3 [**NAAS: 13.60; IF: 7.60**]
2. **Mukherjee, E.,** Chaudhary, L. and Kumar, M. (2025) Dissecting yield-associated genetic diversity in early-maturing pigeonpea (*Cajanus cajan* L.) through morphophysiological trait analysis. *Genetic Resources & Crop Evolution*, 72: 10425-10440. [**NAAS: 6.00; IF: 0.00**]
3. **Mukherjee, E.** and Gantait, S. (2024) Strawberry biotechnology: A review on progress over past 10 years. *Scientia Horticulturae*, 338: 113618. **[NAAS: 10.20; IF: 4.20]**
4. **Mukherjee, E.,** Chaudhary, L. and Kumar, M. (2023) Morphological Characterization and Genetic Variability study on Early maturing Pigeonpea [*Cajanus cajan* (L.) Millsp.] lines. *Legume Research – An International Journal*, 46, 1117-1125. [**NAAS: 6.00; IF 0.00**]
5. **Mukherjee, E**. and Gantait, S. (2023). Genetic transformation in sugar beet (*Beta vulgaris* L.): technologies and applications. *Sugar Tech*, 25, 269-281. [**NAAS: 8.00; IF: 2.00**]
6. Chaudhary, L., **Mukherjee, E.** and Kumar, M., (2023). Multivariate analysis for selection of high yielding and early genotypes in pigeonpea [*Cajanus cajan* (L.) millsp.] for north western plain zone of India. *Legume Research-An International Journal*, 46, 555-561. [**NAAS: 6.00; IF: 0.00**]
7. Gantait, S., **Mukherjee, E.,** Bandyopadhyay, P. and Bhattacharyya, S. (2022). M-brigde-and elicitor-assisted enhanced post-storage germination of *Rauvolfia serpentina* synthetic seeds, their genetic fidelity assessment and reserpine estimation. *Industrial Crops and Products*, 180, 114732. [**NAAS: 12.20; IF 6.20**]
8. Gantait, S. and **Mukherjee, E**. (2021). Induced autopolyploidy- a promising approach for enhanced biosynthesis of plants secondary metabolite: an insight. *Journal of Genetic Engineering and Biotechnology*, 19, 1-13. [**NAAS: 8.80; IF: 2.80**]
9. Gantait, S. and **Mukherjee, E.** (2020). Hairy root culture technology: applications, constraints and prospect. *Applied Microbiology and Biotechnology*, 105, 35-53. [**NAAS: 10.30; IF: 4.30**]
10. **Mukherjee, E.,** Sarkar, S., Bhattacharyya, S. and Gantait, S. (2020). Ameliorated reserpine production via in vitro direct and indirect regeneration system in *Rauvolfia serpentina* (L.) Benth. ex Kurz. *3Biotech*, 10, 294. [**NAAS: 8.90; IF: 2.90**]
11. **Mukherjee, E.,** Gantait, S., Kundu, S., Sarkar, S. and Bhattacharyya, S. (2019). Biotechnological interventions in the genus *Rauvolfia*: recent trends and imminent prospects. *Applied Microbiology and Biotechnology*, 103, 7325–7354. [**NAAS: 10.30; IF: 4.30**]

B. Book Chapters

1. Gantait, S., Subrahmanyeswari, T., Kumar, G.V., **Mukherjee, E.,** Valarmathi, R. and Suprasanna, P. (2024) Advances in understanding and engineering plant root system architecture to alleviate abiotic stress. In: (Eds: Bhatt, D., Nath, M., Badoni, S. and Joshi, R.) Developments in Applied Microbiology and Biotechnology: Current Omics Advancement in Plant Abiotic Stress Biology. Academic Press, Elsevier Inc. pp. 145-165.
2. Gantait, S., **Mukherjee, E.,** Jogam, P., Babu, K.H., Jain, S.M. and Penna S. (2022). Improving crops through transgenic breeding—Technological advances and prospects. In: (Eds: Rai, A.C., Kumar, A., Modi, A. and Singh, M.) Advances in Plant Tissue Culture. Academic Press, Elsevier Inc. pp. 295-324.

C. <u>Popular Articles</u>

1. Rai, N.K., Karuna and **Mukherjee, E.** (2023) Biofortification in Millets - A Potential Approach for Nutritional Security. *Just Agriculture*, 3: (5), e-ISSN: 2582-8223.
2. Karuna, Rai, N.K. and **Mukherjee, E.** (2023) Pre-Breeding: A Link between Gene Pool and Crop Improvement. *Biotica Research Today*, 5:113-115, e-ISSN: 2582-6654
3. **Mukherjee, E.,** Karuna and Rai, N.K. (2023) Role of Secondary Metabolites in Drought Tolerance in Crops. *Biotica Research Today*, 5:178-179. e-ISSN: 2582-6654
4. **Mukherjee, E.** (2023) Aerobic Rice: Implications and Prospects. *The Science World* 3:1258-1261. ISSN: 2583-2212.
5. **Mukherjee, E.** (2023) Role of Plant Growth Promoting Rhizobacteria in combating Abiotic Stress in Crops. *Biotica Research Today*. 5:590-592, e-ISSN: 2582-6654.

<u>LIST OF SEMINARS AND CONFERENCES ATTENDED AND PRESENTED</u>

A. INTERNATIONAL CONFERENCES: -

1. **Mukherjee E**, Gantait S, Sarkar S, Bhattacharyya S (2019) An in vitro regeneration protocol on *Rauvolfia serpentina* for production of genetically-true biomass with enhanced reserpine content. International Seminar on "Agriskills for Convergence in Research, Industry & Livelihood (ACRIL)" at Farmers' Academy and Convention Centre, Bidhan Chandra Krishi Viswavidyalaya, Kalyani, India 28 November - 01 December, 2019, Organized by Crop and Weed Science Society, BCKV, West Bengal, INDIA, pp. 81-82.
2. Chaudhary L, **Mukherjee E**, Yadav R, Kumar S (2021) Selection of superior genotypes by assessing character association and genetic parameters in Pigeonpea (*Cajanus cajan* L. Millsp.). International Conference on "Future Challenges and Prospects in Plant Breeding" at Centre for Plant Breeding and Genetics Tamil Nadu Agricultural University Coimbatore, 6-7 October, Organized by Centre for Plant Breeding and Genetics Tamil Nadu Agricultural University Coimbatore & Indian Society of Plant Breeders, INDIA, pp. 179.
3. **Mukherjee E**, Chaudhary L, Kumar M (2023) Genetic diversity study using SSR markers in early maturing pigeonpea (*Cajanus cajan* L. Millsp) genotypes. International Conference on "Pulses: Smart Crop for Agricultural Sustainability and Nutritional Security" at National Agricultural Science Complex (NASC), New Delhi, INDIA, 10-12 February, Organized by Indian Society of Pulses Research and Development (ISPRD), ICAR-Indian Institute of Pulses Research (IIPR, Kanpur), Indian Council of Agricultural Research (ICAR), pp. 423.
4. **Mukherjee E**, Chaudhary L, Kumar M (2023) Morphological characterization based on DUS traits and diversity analysis of early maturing pigeonpea (*Cajanus cajan* L. Millsp) accessions. International Conference on "Climate Resilient Agriculture for Food Security and Sustainability" at CCS Haryana Agricultural University, Hisar (Haryana) INDIA, 17-19

February, Organized by CCS Haryana Agricultural University, Hisar (Haryana) INDIA, pp.124.

5. Chaudhary L, Pilania P, **Mukherjee E**, Sharma R (2023) Evaluation of lentil varieties for adaptation and yield performance in Haryana. International Conference on "Climate Resilient Agriculture for Food Security and Sustainability" at CCS Haryana Agricultural University, Hisar (Haryana) INDIA, 17-19 February, Organized by CCS Haryana Agricultural University, Hisar (Haryana) INDIA, pp.47-48.
6. **Mukherjee E**, Chaudhary L, Kumar M (2023) Molecular diversity analysis and population structure study in early maturing pigeonpea (*Cajanus cajan* L. Millsp) accessions. International Conference on "Strategies for global food and nutritional security, sustainability and wellness (NUTRI-2023)" at CCS Haryana Agricultural University, Hisar (Haryana) INDIA, 04-06 December 2023, Organized by CCS Haryana Agricultural University, Hisar (Haryana) INDIA, pp. 27.
7. **Mukherjee E**, Chaudhary L, Kumar M (2023) Diversity analysis of chlorophyll, flavonoid, anthocyanin and nitrogen balance index of pigeonpea accessions at three different growth stages. International Conference on "Strategies for global food and nutritional security, sustainability and wellness (NUTRI-2023)" at CCS Haryana Agricultural University, Hisar (Haryana) INDIA, 04-06 December 2023, Organized by CCS Haryana Agricultural University, Hisar (Haryana) INDIA, pp. 38.

B. NATIONAL CONFERENCES: -

1. **Mukherjee E**, Chaudhary L (2022) Selection of superior genotypes by assessing character association and genetic parameters in Pigeonpea (*Cajanus cajan* L. Millsp.). National symposium on "Crop protection through bio-rational approaches-current trends and future perspective" & Annual Meeting of Indian Phytopathological Society (NZ), 10 March 2022, Organized by Indian Phytopathological Society & Department of Plant Pathology, College of Agriculture, CCSHAU Hisar (Haryana) INDIA, pp. 52-53.

LIST OF WORKSHOPS & TRAINING PROGRAMS ATTENDED	
1.	International Workshop on Advance Statistical Data Analysis Using SPSS, organized by Science Tech Institute, Lucknow (Uttar Pradesh), INDIA, Sept 21-27, 2021.
2.	National Workshop on "Real-Time PCR and its applications in animal health", organized by Department of Animal Biotechnology, College of Veterinary Sciences, Lala Lajpat Rai University of Veterinary & Animal Sciences, Hisar (Haryana), INDIA, May 3-5, 2023.
3.	International Training Program titled "PLANT 2025: Practical Learning in Agriculture and Allied Next-Gen Techniques", organized by Agriversegreen, Chandigarh University, Akal Degree College, Mastuana Sahib (Sangrur), Biocarve Seeds, Sran Welfare Foundation Trust, and Sran Agricultural Research Farm, INDIA, December 18-24, 2025

SOCIETY MEMBERSHIP	
1.	Life Membership in the **Indian Society of Genetics and Plant Breeding**

LIST OF AWARDS	
1.	Awarded **Second Prize** for **Best Poster** Presentation; Molecular diversity analysis and population structure study in early maturing pigeonpea (*Cajanus cajan* L. Millsp) accessions. International Conference on "Strategies for global food and nutritional security, sustainability and wellness (NUTRI-2023)" at CCS Haryana Agricultural University, Hisar (Haryana)

	INDIA, 04-06 December 2023, Organized by CCS Haryana Agricultural University, Hisar (Haryana), INDIA.
2.	Awarded **Certificate of Merit** for securing **3rd position** in PhD during 2023-2024 session in the Dept. of Genetics and Plant Breeding, College of Agriculture, CCS Haryana Agricultural University, Hisar (Haryana), INDIA.

RESEARCH OUTREACH

Total citations	h-index	i-10 Index	Scopus Index
331	8	8	8

ORCiD: 0000-0001-5421-7078

EXTRA-CURRICULAR ACTIVITIES:

- Involvement in National Service Scheme (NSS) for two years (2014-2016).

WORK EXPERIENCE:

- Project Associate – I in DBT funded Project entitled: "Germplasm characterization and trait discovery in wheat using genomics approaches and its integration for improving climate resilience, productivity and nutritional quality" at Division of Genetics, IARI-Pusa Campus, New Delhi - 110012 from 08-12-2023 to 15-5-2024.
- Junior Research Fellow in BRNS-BARC, GOI sponsored project entitled: "Development of novel mutants with improved lutein content African marigold (*Tagetes erecta* L.) through induced mutagenesis approach" at Department of Floriculture and Landscape Architecture, Faculty of Horticulture, BCKV, Mohanpur, Nadia-741252 from 12-09-2024 to 29-12-2025.

TEACHING EXPERIENCE

Organization	Batch	Programme	Courses Taught	Duration
Ram Krishna Mission Vivekananda Education and Research Institute (RKMVERI), Ranchi	Undergraduate	B.Sc. (Ag.) Hons.	**GPBR 243** – Principles of Seed Technology (1+2) **GPBR 367** – Crop Improvement – II (Rabi) (1+1) **GPBR 368** – Commercial Plant Breeding (1+2)	03-01-2026 to Present

REFERENCES

1. **Dr. Saikat Gantait**; Ph.D., Post-Doc (UPM, Malaysia)
   Assistant Professor (Genetics & Plant Breeding),
   Bidhan Chandra Krishi Viswavidyalaya, Mohanpur 741252, Nadia, West Bengal, India,
   Email: saikatgantait@yahoo.com

2. **Dr. Mukesh Kumar**; Ph.D., Post-Doc (USA)
   Assistant Professor (Genetics & Plant Breeding),
   Chaudhary Charan Singh Haryana Agricultural University
   Hisar 125004, Haryana, India
   Email: mukeshhau@yahoo.com

DECLARATION

I hereby declare that the above particulars are true and correct to the best of my knowledge.

Place: Ranchi, India
Date: 26-02-2026

(**Eashan Mukherjee**)