

Curriculum Vitae

Researcher in Genetics and Plant Breeding with an interest in abiotic stress tolerance and biofortification. My expertise includes multivariate techniques, genetic diversity analysis, genotype \times environment interaction studies, QTL mapping, association mapping, marker-assisted selection and genomic selection. I have experience in mulberry breeding and am currently working at the Indian Sugarcane Research Institute, focusing on sugarcane improvement.



Personal Details

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| Name | Dr. Karthik Kumar M |
| Designation | Scientist (Genetics and Plant Breeding) |
| Address | Division of Crop Improvement ICAR- Indian Sugarcane Research Institute Lucknow, Uttar Pradesh, India, 226002 |
| Email | urskarthi123@gmail.com |
| Cell No. | +91-9686574247 |
| Research/ Social media | Research Gate: Karthik Kumar Manjunath (https://www.researchgate.net/profile/Karthik-Manjunath-2?ev=hdr_xprf) Google Scholar: Karthik Kumar Manjunath (https://scholar.google.com/citations?user=UPPg5WIAAAAJ&hl=en) |
| Date of Birth | 08.06.1996 |
| Area of Specialization | Genetics and Plant Breeding, Biotic and Abiotic stress tolerance, Biofortification. |

Education:

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| Ph.D. (2020-2023) | Genetics and Plant Breeding ICAR- Indian Agricultural Research Institute, New Delhi Thesis title: Mapping of QTLs for Combined Drought and Heat Tolerance in Wheat (<i>Triticum aestivum</i> L.) <ul style="list-style-type: none">Grade/Class: 8.94 (I Class with Distinction) |
| M.Sc. (2018-2020) | Genetics and Plant Breeding Institute of Agricultural Sciences, Banaras Hindu University, Varanasi Thesis title: Assessment of Genetic Diversity, Correlation, and Path Analysis in Maize (<i>Zea Mays</i> L.) Genotypes <ul style="list-style-type: none">Grade/Class: 8.77 (Excellent) |
| B.Sc. (2014-2018) | College of Agriculture, Hassan University of Agricultural Sciences, Bengaluru Study emphases: Agricultural and allied science, Rural Agricultural Work experience and Hands on Training. <ul style="list-style-type: none">Grade: 8.74 (I Class) |

Professional History:

| Period | Designation | Details of Work |
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| 23.11.2023 – 09.04.2025 | Scientist-B | <p>At CSB-Central Sericultural Research and Training Institute, Mysuru, I served as a Co-Investigator and Facilitator in the following research projects:</p> <ul style="list-style-type: none">• Evaluation of Promising Mulberry Genotypes for Higher Leaf Yield and Resistance to Root Rot and Root Knot Diseases (PIE 01022 SI)• All India Coordinated Experimental Trials for Mulberry – Phase IV (PIE 13001 MI) <p>I was involved in crossing, selection and evaluation of mulberry genotypes aimed at varietal development. Additional responsibilities included supporting Silk Mark Organisation of India activities, working in agro meteorology observatory, social media outreach for research dissemination, and active participation in various institutional committees.</p> |
| 07.07.2025 to till date | Scientist | Posted at ICAR- Indian Sugarcane Research Institute. |

Publications:

- Research and Review papers: 14
- Popular articles: 5
- Book chapters: 3
- Dataset Published: 2
- Conference abstracts: 3

List of peer reviewed research and review articles:

| S. No | Authors | Title | Journal | Year | NAAS Rating (2025) |
|-------|--|---|------------------------|------|--------------------|
| 1 | Manjunath, K. K., Krishna, H., Devate, N. B., VP, S., Chauhan, D., Singh, S., ... & Singh, P. K. | Mapping of the QTLs governing grain micronutrients and thousand kernel weight in wheat (<i>Triticum aestivum</i> L.) using high density SNP markers. | Frontiers in Nutrition | 2023 | 10 |
| 2 | Manjunath, K. K., Krishna, H., Devate, N. B., Sunilkumar, V. P., Patil, S. P., Chauhan, D., ... & Singh, P. K. | QTL mapping: insights into genomic regions governing component traits of yield under combined heat and drought stress in wheat. | Frontiers in Genetics | 2024 | 8.8 |
| 3 | Harisha, R., Ahlawat, A. K., Balakrishnan, A. P., Bhavya, B., Singhal, S., Manjunath, K. K., ... & Singh, V. J. | Exploring the intricate interplay between the physico-chemical and biochemical properties of grain, refined wheat flour, and whole wheat flour in determining chapati | Applied Food Research | 2025 | 12.2 (IF-6.2) |

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| | | (Indian flatbread) quality of wheat (<i>Triticum aestivum</i> L.). | | | |
| 4 | Mallick, S., Burman, R. R., Padaria, R. N., Mahra, G. S., Aditya, K., Shekhawat, K., Satyapriya., Paul S., Sahu S., Bishnoi S., Singh R., Manjunath K. K. , Saini S, & Mukherjee, S. | Exploring farmers' psychological perspectives on multimedia-based agro-advisory services. | Scientific Reports | 2025 | 9.8 |
| 5 | Taria, S., Arora, A., Krishna, H., Manjunath, K. K. , Kumar, S., Singh, B., ... & Arunachalam, A. | Mapping of the QTLs governing stem-specific weight for stem reserve mobilisation in wheat (<i>Triticum aestivum</i> L.) under combined heat and drought stress. | Plant Physiology Reports | 2025 | 7.5 |
| 6 | Hongal, D. A., Munshi, A. D., Talukdar, A., Das, A., Pradeepkumara, N., Manjunath, K. K. , ... & Dey, S. S. | Role of important physiological traits and development of heat tolerance index in a large set of diverse cucumber germplasm. | Acta Physiologica Plantarum | 2024 | 8.4 |
| 7 | Taria, S., Arora, A., Krishna, H., Manjunath, K. K. , Meena, S., Kumar, S., ... & Singh, P. K. | Multivariate analysis and genetic dissection of staygreen and stem reserve mobilisation under combined drought and heat stress in wheat (<i>Triticum aestivum</i> L.). | Frontiers in Genetics | 2023 | 8.8 |
| 8 | Devate, N. B., Krishna, H., Mishra, C. N., Manjunath, K. K. , Sunilkumar V. P., Chauhan, D., Singh, S., Sinha, N., Jain, N., Singh, G. P. and Singh, P. K. | Genetic dissection of marker trait associations for grain micro-nutrients and thousand grain weight under heat and drought stress conditions in wheat. | Frontiers in Plant Science | 2023 | 10.1 |
| 9 | Sunilkumar, V. P., Krishna, H., Devate, N. B., Manjunath, K. K. , Chauhan, D., Singh, S., ... & Singh, P. K. (2023). | Marker-assisted selection for transfer of QTLs to a promising line for drought tolerance in wheat (<i>Triticum aestivum</i> L.). | Frontiers in Plant Science | 2023 | 10.1 |
| 10 | Devate, N. B., Krishna, H., Parmeshwarappa, S. K. V., Manjunath, K. K. , Chauhan, D., Singh, S., Singh, J. B., Kumar, M., Patil, R., Khan, H., Jain, N., Singh, G. P. and Singh, P. K. | Genome wide association mapping for component traits of drought and heat tolerance in wheat. | Frontiers in Plant Science | 2022 | 10.1 |
| 11 | Devate, N. B., Krishna, H., Sunilkumar, V. P., Manjunath, K. K. , Mishra, C. N., Jain, N., Singh, G. P. and Singh, P. K. | Identification of genomic regions of wheat associated with grain Fe and Zn content under drought and heat stress using genome-wide association study. | Frontiers in Genetics | 2022 | 8.8 |

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| 12 | Sunilkumar, V. P., Krishna, H., Devate, N. B., Manjunath, K. K. , Chauhan, D., Singh, S., ... and Singh, P. K. | Marker assisted improvement for leaf rust and moisture deficit stress tolerance in wheat variety HD3086 | Frontiers in Plant Science | 2022 | 10.1 |
| 13 | Harisha, R., Balakrishnan, A. P., Manjunath, K. K. , Bhavya, B., Singhal, S., Shivakumar, H. B., ... & Singh, A. M. | Polyphenol oxidase (PPO) in wheat (<i>Triticum aestivum</i>): a systematic review on bioactivity, inheritance, functionality and their effects on end products. | Cereal Research Communications | 2024 | 7.6 |
| 14 | Sahana Police Patil, Hari Krishna, Narayana Bhat Devate, Karthik Kumar Manjunath , ... & Pradeep Kumar Singh | Deciphering the genetic basis of grain iron and zinc content in wheat under heat and drought stress using GWAS | PLoS One | 2025 | 8.6 |

Awards and Recognitions:

| Sl. No. | Year | Award | Institute/University/ Professional society |
|---------|------|--|---|
| 1. | 2023 | Best Research Scholar Award during the International Conference AASIEFS-2023 held at Maharaja Agrasen Himalayan Garhwal University, Uttarakhand | Maharaja Agrasen Himalayan Garhwal University, Uttarakhand |
| 2. | 2023 | Best Oral Presentation Award on “Mapping of the QTLs governing grain micronutrients and thousand kernel weight in wheat (<i>Triticum aestivum</i> L.) using high-density SNP markers”. The International Conference on Agriculture & Allied Sciences for Improving Environment and Food Security, May 26-28, 2023, Maharaja Agrasen Himalayan Garhwal University, Pokhra, Garhwal, UK. | Maharaja Agrasen Himalayan Garhwal University, Pokhra, Garhwal, UK. |
| 3. | 2022 | Best Oral Presentation Award on “Identification of marker trait associations (MTAs) for yield and drought tolerant traits in advanced breeding lines of bread wheat (<i>Triticum aestivum</i> L.) using genome wide association”. 1st International Symposium on Cereals for Food Security and Climate Resilience, January 18 to 20, 2022. | Society for Advancement of Wheat & Barley Research, (SAWBAR), Karnal & ICAR -Indian Institute of Wheat and Barley Research, Karnal – 132001 (Haryana) |
| 4. | 2022 | Best Oral Presentation Award on “Molecular breeding for high yielding climate resilience in wheat”, Regional conference on prioritizing crop specific technologies for sustainable profitability: The Uttara Pradesh chapter, April 29-30. | National Education Empowerment and Development Foundation (NEEDEF), Gorakhpur, Uttar Pradesh, ICAR-IISR, SAWBAR, CRD |
| 5. | 2022 | Best poster Presentation award on “Dissection of genomic regions of wheat linked to grain Fe and Zn content under drought and heat stress using genome wide association study”, Regional conference on prioritizing crop specific technologies for sustainable profitability: The Uttara Pradesh chapter, April 29-30. | National Education Empowerment and Development Foundation (NEEDEF), Gorakhpur, Uttar Pradesh |

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| | | | Pradesh, ICAR-IISR, SAWBAR, CRD |
| 6. | 2020 | Champa Devi Gold Medal for securing the second position in order of merit at M.Sc. (Ag.) Genetics and Plant Breeding, Institute of Agricultural Sciences, B.H.U (2020) | Institute of Agricultural Sciences, Banaras Hindu University |
| 7. | 2021 | ASRB NET in Genetics and Plant Breeding | Agricultural Scientists Recruitment Board |
| 8. | 2020 | ICAR - Senior Research Fellowship (SRF) Award | Indian Council of Agricultural Research |
| 9. | 2020 | Qualified GATE in Life Sciences, | IISc and IITs |
| 10. | 2019 | CSIR- NET , Junior Research Fellowship (JRF) and Senior Research Fellowship (SRF) Award in Life Sciences, 2019 | Council of Scientific and Industrial Research |
| 11. | 2018 | ICAR- Junior Research Fellowship Award (JRF) | Indian Council of Agricultural Research |
| 12. | 2014-2018 | University Merit Scholarship for Undergraduate students | University of Agricultural Sciences, Bengaluru |