

KISHOR KUMAR

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Education

Ph. D., Punjab Agricultural University (PAU), Ludhiana, Punjab (CGPA 7.6/10.00) 2017

- A novel locus (*Bph34*), conferring resistance to Brown Planthopper in rice was mapped on chromosome 4 using 50K SNP chip
- Developed Skill in hybridization of rice plants, raising the crop, handling segregating generation and analysis of agronomic data
- Efficient in PCR, Tetra ARMS PCR, SNP assay and analysis
- Familiar with bioinformatics and statistical program like R/QTL, R/GAPIT, QTL cartographer, RECORD, MapMaker, ICIMapping, DARwin, NTSYS etc.

M. Sc. (Ag), Vasanttrao Naik Marathwada Agricultural University, Maharashtra (CGPA 8.5/10.00)

2010

- Assessment of molecular diversity in CMS, maintainer and restorer lines of sunflower
- Use of highly diverse lines in sunflower hybrid breeding program

**B. Sc. (Ag), Indira Gandhi Agricultural University, Raipur, Chhattisgarh (CGPA 7.4/10.00)
2008**

Awards and scholarships

- Qualified Joint CSIR- UGC NET- JRF exam with 76 rank conducted by Council for Scientific and Industrial Research, New Delhi in June, 2017.
- Qualified ICAR-SRF (ICAR- senior research fellow) fellowship conducted by Indian Council of Agricultural Research (ICAR), New Delhi for pursuing Ph. D. in 2013.
- Qualified Agricultural Research Services, National Eligibility Test (NET) conducted by Agricultural Scientist Recruitment Board, Indian Council of Agricultural Research in 2012.
- Qualified GATE (Graduate Aptitude Test for Engineering) conducted by Indian Institute of Technology, Guwahati, India.
- Awarded with Department of Biotechnology, Govt. of India fellowship for pursuing Master of Science (Agricultural Biotechnology) during the academic session from August 2008 to June 2010

Research Experience

School of Ag. Biotechnology, PAU, Ludhiana, Punjab, India Feb 2013 to March 2016

Junior Research Fellow under ICAR- Niche Area of Excellence project, "Creation of novel genetic

resources using alien and exotic introgression for higher productivity and resistance in wheat and rice

- Production of an interspecific hybrid derived from *Oryza punctata* acc. IRGC105137 ($2n=2x=24$, BB) and *O. sativa* cv. PR122 ($2n=2x=24$, AA)
- Production of colchicine induced synthetic amphiploids to restore fertility
- Cytological and flow cytometric characterization of hybrids and synthetic amphiploids
- The main objective was to transfer many agronomic traits to cultivated rice

National Research centre on Plant Biotechnology, New Delhi, India June 2011 to 10 Jan 2013

Senior Research Fellow under National funded project, “*Phenomics of Moisture Deficit and Low Temperature Stress Tolerance in Rice*”

- Selection of up-regulated candidate gene from microarray experiments in different stage of rice plants under drought condition
- Validation of those genes by semi quantitative PCR and RT-PCR
- Cloning and transformation in rice variety IR64, Nagina 22 and Pusa Sungandh-2
- Suppression of genes using *RNAi*

Vasantrao Naik Marathwada Agricultural University, Parbhani (MH) India 27 Jan to 31 march 2011

Research Associate under DBT Network Project, “*Development and application of biotechnological tools for millet improvement*”

Marker-assisted breeding for shoot fly resistance in seed parents (B) lines of *rabi* sorghum hybrids from. Two donor parents and 6 recurrent parents are grown, extracted their bulk DNA, run PCR with different polymorphic SSR markers located near to shoot fly resistance QTL to estimate parental polymorphism and backcrossed both the parents to get hybrids.

Teaching Experience

Assistant professor (Ad-hoc), Guru Ghasidas Central University, Bilaspur (C.G.) (Feb 2017-Jan 2018)

Integrated UG/PG courses

- Genetic Engineering
- Plant Physiology
- Biotechnology in crop improvement

Post graduates courses

- Plant Biotechnology

Assistant professor (Agri Biotech), IRDM faculty centre, Ramakrishna Mission Vivekananda Educational and Research Institute, Narendrapur, Kolkata (Nov 2018 to till date)

Post graduates courses

- ABT105- Molecular Biology (2+0)
- ABT205- Genetic Engineering (2+0)

- ABT304- Genomics and Proteomics (2+0)

Publications

Kishor Kumar, Kumari Neelam, Gurpreet Singh, Jyotirmaya Mathan, Aashish Ranjan, Darshan Singh Brar and Kuldeep Singh (2019) Production and cytological characterization of *Oryza sativa* and *Oryza punctata* derived synthetic amphiploids. Genome (Accepted).

Kishor Kumar, Preetinder Singh Sarao, Dharminder Bhatia, Kumari Neelam, Amanpreet Kaur, Gurjeet Singh Mangat, Darshan Singh Brar and Kuldeep Singh (2018) High resolution genetic mapping of a novel brown planthopper resistance locus, *Bph34* in *Oryza sativa* L. X *Oryza nivara* (Sharma & Shastry) derived interspecific F2 population. Theoretical and Applied Genetics. 131:1163–1171

Kumari Neelam, Gurpreet K. Sahi, **Kishor Kumar** and Kuldeep Singh (2017) Identification of drought stress tolerance in wild species germplasm of rice based on leaf and root morphology. Plant genetic resources. DOI:10.1017/S1479262117000284

Kishor Kumar, S. N. Mandal, S. P. Deshpande and S. P. Mehtre (2017) Assessment of molecular diversity of CMS, maintainer and restorer lines of sunflower (*Helianthus annuus* L.) using RAPD, ISSR and SSR markers. Journal of Crop and Weed, 13(2): 01-06

Neelam K, Thakur S, Neha, Yadav IS, Kumar K, Dhaliwal SS and Singh K (2017) Novel Alleles of Phosphorus-Starvation Tolerance 1 Gene (PSTOL1) from *Oryza rufipogon* Confers High Phosphorus Uptake Efficiency. Frontiers in Plant Sciences 8:509. DOI: 10.3389/fpls.2017.00509

Kumari Neelam, Jagjeet Singh Lore, Karminderbir Kaur, Shivali Pathania, Kishor Kumar, Gurpreet Sahi, Gurjit S Mangat and Kuldeep Singh (2016) Identification of resistance sources in wild species of rice against two recently evolved pathotypes of *Xanthomonas oryzae* pv *oryzae*. Plant genetic resources. DOI: 10.1017/S1479262116000149

Book Chapter

Kumari Neelam, **Kishor Kumar**, Harcharan Singh Dhaliwal, Kuldeep Singh (2016) “Introgression and exploitation of QTLs for yield and yield components from related wild species to rice cultivars”. V.R. Rajpal et al. (eds.), Molecular Breeding for Sustainable Crop Improvement, Sustainable Development and Biodiversity 11, Springer International Publishing AG DOI: 10.1007/978-3-319-27090-6_8

Kumari Neelam, Palvi Malik, Karminderbir Kaur, **Kishor Kumar**, Sahil Jain, Neha, Kuldeep Singh (2018) “*Oryza rufipogon* Griff.” T. K. Mondal and R. J. Henry (eds.), The Wild *Oryza* Genomes, Compendium of Plant Genomes, Springer International Publishing AG DOI: 10.1007/978-3-319-71997-9_25

Conferences

International

- Poster presented at 1st International Agro Biodiversity Congress-Science, Technology, Policy and Partnership, November 6-9, 2016, New Delhi, India
- Poster presented at International conference on “Plant Biotechnology for Food Security: New Frontiers”. February 21-24, 2012, New Delhi, India

National

- Poster presented at national conference on “Germplasm to Genes: Harnessing Biotechnology for Food Security and Health”, August 9- 11, 2015, New Delhi, India
- Poster presented at national symposium on “Crop Improvement for Inclusive Sustainable Development” held at Punjab Agricultural University, Ludhiana from November 7- 9, 2014.
- Poster presented at national conference on “Integration of Genomics and Phenomics in Crop Improvement” held at Punjab Agricultural University, Ludhiana from August 7- 8, 2014.
- Poster presented at national symposium on “Advances in Biotechnology for Crop Improvement” held at Eternal University, Baru Sahib, Himachal Pradesh, India on July 12, 2014.