

Dr. Vinay Kumar, Senior Scientist (Agricultural Biotechnology)

Joined Agricultural Research Service (ARS) on 26 February, 2008 at ICAR- National Academy of Agricultural Research and Management, Hyderabad, thereafter posted at ICAR- Directorate of Medicinal and Aromatic Plants Research, Anand, Gujarat. Involved in the development of species specific diagnostic molecular markers for rapid detection of adulteration in medicinal plants and developed SCAR markers specific to the *Saraca asoca*, *Polyalthia longifolia*, *Boerhavia erecta* and *B. diffusa* and *Trienthemma monogyna*, Molecular characterization and developed genetic fingerprinting of Ashwagandha, *Withania somifera* Dunal. Transcriptome sequencing and identification of defence related genes under downy mildew stress in Isabgol (*Plantago ovata*). Developed methodologies for somatic embryogenesis and tissue culture in the sandalwood and *Plantago ovata*. Since joining at ICAR- National Institute of Biotic Stress Management, Raipur, Chhattisgarh involved in culture dependent and culture independent metagenomic approach for identification of bacterial endophytes in rice, Pigeonpea and Lathyrus crops. Identified and in planta validated antimicrobial potential of bacterial endophytes against bacterial and fungal pathogens towards used as a biocontrol agents. Presently working on development of super donor in rice for multiple biotic stresses (BLB, Blast and brown Plant hopper). Identification of promoters and broad spectrum resistance (BSR) genes for multiple abiotic and abiotic stresses. Plant microbe interaction and identification of host and non-host factors responsible for pathogen invasion.

Germplasm registration/ NCBI submissions: One elite genetic stock DWS-327; a short height extra dwarf plant of Ashwagandha (*Withania somnifera* Dunal L) was identified and registered with PGRC, ICAR, New Delhi, Accession no. (INGR 11026). Genbank (NCBI) submissions: Bioproject registration- 2 namely *Plantago* transcriptome (PRJNA 222668) and Metagenomics of bacterial endophytes of Lathyrus (PRJNA 392219); 10 tissue specific libraries under SRA and 28054 contigs/singletons under Transcriptome Sequence Assembly (TSA) of *Plantago* database; 10 genomic clones used for SCAR marker development, 110 Nos of 16S r ribosomal DNA sequences of bacterial endophytes isolated from Pigeonpea and Lathyrus and Rice; 21 ITS sequences of Fungal endophytes, six fungal pathogens submitted and accessioned at ITCC, IARI Pusa, New Delhi.

Awards and recognition: CSIR- UGC Junior Research Fellowship (JRF) (2007); Chancellor Gold Medal for being a university topper in the masters programme (2007); Young Biotechnologist Award (2017); Young Scientist Award (2017); Young Biotechnologist award (2020); Fellow- Academy for Environment and Life Sciences (2017); Fellow- Society for World Environment Food and Technology (2020)

Life Member of Professional Societies: (i) Society of Biochemistry and Plant Biotechnology; (ii) Horticultural Society of India; (iii) Indian Society of Genetics and Plant Breeding; (iv) Indian Society of Plant Breeders; (v) Medicinal and Aromatic Plants Association of India (vi) Society for Scientific and Social Development; (vii) Society for World Environment, Food and Technology; (viii) Academy for Environment and Life Sciences; (ix) Agricultural Research Service Scientist Forum (ARSSF)

Publications: Research papers & review articles: 25; Book chapters: 10; Training manuals: 03; Popular articles: 12; Extension folders: 10, having Total citations: 124; H index: 6 and i index 3

Google scholar:<https://scholar.google.com/citations?user=aTAPB2AAAAAJ&hl=en>

Research gate: https://www.researchgate.net/profile/Vinay_Kumar311?ev=hdr_xprf