

**Dr. MAGANTI SHESHU MADHAV**

**E-mail id: sheshu24@gmail.com**

**Phone: 040-24591208 (O) 95812-39979 (M)**



**1. Personal bio-data:**

- a) **Position/Designation** : Senior Scientist (Biotechnology)
- b) **Joining date** : 12.04.1999, (DOB: 24/08/1972)
- c) **Discipline and Specialization** : Biotechnology, Molecular Biology
- d) **Training/advance exposure in the area of work:**

- 18 months advance training on rice blast as a post doctoral fellow at Dr. G.L. Wang's Lab, the Ohio state University, Columbus, Ohio, USA.
- Training at IRRI on "Rice research to production".
- Training on "Low Cost Gene-Based Technologies for MAS Applications in Rice and Maize" at Barwale Knowledge and Study Centre, Jalna, Maharashtra.
- Training on "Cartagena protocol on Biosafety: decisions to Diagnostics" at NPBGR, New Delhi.

**e) Contribution to the scientific advancement:**

- Mapped and cloned major blast resistance genes -Pikh and Pi 40 through map based cloning.
- Identified of novel alleles as well as novel cis elements of rice blast resistance genes Pikh and Pi ta and BLB genes i.e Xa21, xa5 and xa 13 through true allele mining.
- Deep and comparative transcriptome analysis of rice was done to identify the novel transcripts for resistance to Blast, BLB, water weevil and Army worm.
- Developed functional allele specific primer for Pikh, Aroma and Kernal elongation (KE).
- Pyramided of three blast resistance genes i.e Pi-1, Pi-2 and Pikh in to popular varieties like BPT5204 and Swarna.

**2. Future Planning of research :**

- Identification, mapping of durable leaf and neck blast resistance gene(s) and use them in molecular breeding programmes.

- Improvement of quality characteristics of rice through molecular markers.
- Understanding host susceptibility genes for sheath blight for development of durable resistance.
- Exploring pest derived resistance for management of yellow stem borer through RNAi.

### **3. Publications :**

- G. Ram Kumar, A.K.P. Sivarani, Manisk .K. Pandey, K. Sakthivel, N. Shobha Rani, I. Sudharshan, G.S.V. Prasad, C. N. Neeraja, R. M. Sundaram, B. C. Viraktamath and **M.S. Madhav\***( 2010) Development of a PCR-based SNP marker system for effective selection of kernel length and kernel elongation in rice. **Molecular Breeding**. Volume 26( 4): 735-740.
- G. Ramkumar, K. Srinivasarao, B. C. Viraktamath, **M. S. Madhav\***( 2011). Development and validation of functional marker targeting an InDel in the major rice blast disease resistance gene Pi54 (Pikh) **Molecular Breeding**. Volume 27:129–135.
- G. Ram Kumar, K. Sakthivel, R. M. Sundaram, C. N. Neeraja, S. M. Balachandran, N. Shobha Rani, B. C. Viraktamath and **M.S. Madhav\***.(2010). Allele mining in crops: prospects and potentials. **Biotechnology Advances**. 28 (2010) 451–461.
- R.C.Venu, **M. Sheshu Madhav**, Guo-Liang Wang (2010). Deep and Comparative Transcriptome Analysis of Rice Plants Infested by the Beet Armyworm (*Spodoptera exigua*) and Water Weevil (*Lissorhoptus oryzophilus*). **Rice** (2010) 3: 22–35.
- M. S. Madhav, T.R. Sharma, N.K. Singh (2005). High resolution mapping, cloning and molecular characterization of Pi kh gene which confers resistance to Magnaporthe grisea. **Molecular Genetics and Genomics (MGG)** Vol.274(6):569 – 578 & 671.

### **4. Other relevant activities of Scientist:**

- Awarded “Jawaharlal Nehru Award for outstanding postgraduate agricultural research 2006” from ICAR, Govt of India.
- Awarded “BOYSCAST fellowship (Better opportunities for young scientist in chosen areas of science and technology)” DST, Govt of India.
- Fellow of Association of Biotechnology and pharmacy, India.
- Life Member of Indian Society of Biochemistry and Biotechnology.
- ii) Life Member of Association of DNA technology (ADNAT).
- iii) Life Member of Indian society of Tobacco Research (ISTS).
- iv) Life member of Association of Biotechnology and pharmacy.