

Dr Praveen Mamidala

Associate Professor & Head
Department of Biotechnology
Telangana University
Nizamabad, T.S-503322

Mobile: +91-9177685454
+91-7396316031
Email: p.mamidala@yahoo.com
pmamidala@gmail.com

Research Interests : Functional genomics in non-model organisms

Major research accomplishments :

- ❖ First to elucidate the genetic make-up of *Cimex lectularius* (bed bug) and obtained fundamental molecular knowledge regarding potential defense pathways and genes that may be involved in metabolic resistance to commonly used pesticides.
- ❖ Developed an improved approach of introducing dsRNA (for RNA interference studies) into the hemolymph of *C. lectularius* by microinjecting the bugs in an anatomical location that is accessible in both males and females.
- ❖ First to reveal invasiveness/adaptation criteria of emerald ash borer into naive ecological niches and host-plant resistance of *Fraxinus* (North American ash trees) species using high-throughput sequencing technologies
- ❖ Developed huge molecular resources (expressed sequence tags, ESTs) for bed bug (*Cimex lectularius*), emerald ash borer (*Agrilus planipennis*), red palm weevil (*Rhynchophorus ferrugineus*), potato leaf hopper (*Empoasca fabae*) and ash trees (*Fraxinus* species) of China and North American origin
- ❖ Chitosan nanoparticles for improved shelf-life of tomato fruit and initiated development of marker free transgenic plants
- ❖ Developed transgenic salt tolerant tomato conferring resistance to high salt concentration (~200mM) and raised protocols of simple and easy method of plant genomic DNA extraction
- ❖ Involved in developing regeneration and transformation protocols for *Solanum lycopersicum*, *Strychnos potatorum*, *Terminalia tomentosa*, *Solanum surattense*, and *Givotia rottleriformis*

Grants received till date:

1. Received Rupees Forty Two Lakhs Sixteen Thousand (**Rs.42,16,000/-**) towards **EEQ** “Antennal transcriptome and differential expression of odor processing genes of the invasive insect pest Red Palm Weevil (*Rhynchophorus ferrugineus*)” funded by Department of Science and Technology, New Delhi (February, 2017- January, 2020).
2. Received Rupees **Two Lakhs** for organizing Telangana University Research Internship Program (TRIP) for 10+2 students at Telangana University, Nizamabad.
3. Coordinator, DBT Builder Program with a financial support of 300 Lakhs.
4. Received Rs **1,40,000** for organizing Science Academies Lecture Workshop in 2015.

- Teaching Experience** :
- Associate Professor** : **Department of Biotechnology**, Telangana
(January 2014- Till date) University, Nizamabad, Telangana, India
- Assistant Professor** : **Department of Botany**, University College of
(Sept 2013- January 2014) Science, Osmania University, Saifabad, Hyderabad.
- Assistant Professor** : **Department of Biotechnology**, VCEW
(July 2006-September 2013) Warangal, Andhra Pradesh, India.
- Lecturer** : **Department of Biotechnology**, CPGC, Warangal
(July 1998-August 2001) Andhra Pradesh, India.
- Research Experience** :
- Postdoctoral Researcher** : Functional genomics (Ash, EAB & Bed bug)
(May 2010 –Feb 2013) with Dr Omprakash Mittapalli, Prof Daniel Herms, Prof Bonello, The Ohio State University, OH, USA.
Expertise: *Functional genomics and RNAi in insects*
- Postdoctoral Fellow** : Awarded by Dr. D.S.Kothari Postdoctoral Fellowship,
(March 2009 –May 2010) UGC, New Delhi and worked with Prof Appa Rao Podile,
Department of Plant Sciences, University of Hyderabad,
Andhra Pradesh, India.
Expertise: *Genetic Engineering / Nanotechnology*
- Postdoctoral Fellow** : TWAS-CAS Postdoctoral Fellow at Prof Hongxia Zhang Lab,
(Nov 2007 –Jan 2008) Institute of Plant Physiology and Ecology, Shanghai, China.
Expertise: *Genetic Engineering / Tissue culture*
- Education:**
- PhD Plant Biotechnology** : “Engineering abiotic stress resistance in cultivated tomato”.
PhD Awarded by Kakatiya University, Andhra Pradesh,
India. Final Year Research program at Institute of Plant
Physiology and Ecology, Shanghai, China. Sponsored by
TWAS, Italy and CAS China. (**Distinction in Pre PhD**)
Specialization: *Genetic Engineering / Tissue Culture.*
- M.Sc Botany** : **Distinction with 77% and Awarded University Rank**,
Department of Botany, Kakatiya University **Specialization:**
Plant Biotechnology
- B.Sc B.Z.C** : **Passed in First Division (68%)** from Lal Bahadur College,
Warangal, AP, India.
- PGD Patent Laws** : **Postgraduate Diploma in Patent Laws** from NALSAR
University of Law, Hyderabad, Andhra Pradesh, India.

Awards/Honors

- ❖ **OARDC International Travel Award 2012-** (500 US dollars) For participation in 60th Annual Meeting of Entomology Society of America held at Knoxville Convention Center, Knoxville, Tennessee from November 11th-14th, 2012.
- ❖ **OARDC International Travel Award 2011-** (500 US dollars) For participation in International conference on Biotechnology for Better Tomorrow, Aurangabad, India (February 6th-9th 2011).
- ❖ **Dr. D. S. Kothari Postdoctoral Fellowship** (2009) for a period of three years by University Grants Commission, New Delhi, India (*availed for fourteen months, March 2009-May 2010*).
- ❖ **TWAS-CAS Postdoctoral Fellowship** - Awarded jointly by Third World Academy of Sciences, Italy and Chinese Academy of Sciences, China for a period of one year (*availed for 3 months, November 2007-January 2008*).
- ❖ **UGC Postdoctoral Fellowship** (2007) by University Grants Commission, New Delhi, India (*not availed*).
- ❖ **UGC Postdoctoral Fellowship** (2006) by University Grants Commission, New Delhi, India (*not availed*).
- ❖ **TWAS-CAS Postgraduate Fellowship** - Awarded jointly by Third World Academy of Sciences, Italy and Chinese Academy of Sciences, China for a period of one year to finish final year of PhD program (*availed for one year, June 2005-June 2006*).
- ❖ **International Training Course 2001** at Biological Research Centre, Szeged, Hungary (*not availed*).
- ❖ Qualified **State Level Eligibility Test (SLET 2000)** eligible for **Lectureship to teach in Universities/Colleges in India**.
- ❖ Qualified in **GATE 1998 and 1999** (Graduate Aptitude Test in Engineering) –National Level Entrance for admission into professional postgraduate programs in India.
- ❖ **University Rank Merit Scholarship** during M.Sc. (Botany) studies at Kakatiya University, Warangal.

Publications Summary:

- ❖ Number of research publications = **49** (SCI Journals = **40**; Non-SCI journals = **9**). As on 10/04/2017, total citations = **596** with *h-index* **14** as per publish or perish.
- ❖ Number of presentations at symposia/conference (abstracts) = **46**.

List of publications (Last 5 years):

1. Bansal R, Mittapelly P, Chen Y, **Mamidala P**, Zhao C and Michel A (2016) Quantitative RT-PCR Gene Evaluation and RNA Interference in the Brown Marmorated Stink Bug PLOS ONE 11(5) 0152730 (IF:3.534; IF=Impact Factor).
2. Bansal R, **Mamidala P**, et al. (2015) Recommended reference genes for Soybean under various stress conditions PLoS ONE 10 (2): e453232 (IF:3.234).
3. **Mamidala P**, et al. (2013) Identification of odor processing genes in emerald ash borer, *Agilus planipennis* PLoS ONE 8(2): e56555 (IF:3.534).

4. **Mamidala P**, et al. (2013) Molecular characterization of an inward rectifier potassium channel (Kir) in the bed bug (*Cimex lectularius*) *Comp Biochem Physiol B Biochem Mol Biol.* **164(4):**275-279. (IF: 2.069).
5. Upender M, **Mamidala P**, et al. (2013) Constitutive over expression of small *HSP24.4* gene in transgenic tomato conferring tolerance to high-temperature stress. *Moleclular Breeding* DOI: 10.1007/s11032-013-9901-5 (IF:3. 251)
6. **Mamidala P**, et al. (2012) RNA-Seq and molecular docking reveal multi-level pesticide resistance in the bed bug **BMC Genomics** **13:6. Highly accessed and most viewed article.** (IF:4.40)
7. **Mamidala P**, et al. (2011) Identification and validation of reference genes for quantitative real-time PCR in the bed bug. *Journal of Medical Entomology* **48:947-951.** (IF:1.925)
8. Bai X*, **Mamidala P***, et al. (2011) Transcriptomics of the bed bug (*Cimex lectularius*) *PLoS ONE* **6:** e16336 (*shared first authorship). (IF:4.40). **Highly accessed article and received attention of media (BBC, Wall Street Journal, ABN etc.) and first study to decipher metabolic resistance in bed bugs.**
9. DeLay BD*, **Mamidala P***, et al. (2012) Transcriptome analysis of the salivary glands of the potato leafhopper, *Empoasca fabae*. *Journal of Insect Physiology* **58:** 1626-1634 (*shared first authorship) (IF:2.416).
10. Rajarapu SP*, **Mamidala P*** et al. (2012) Validation of reference genes for gene expression studies in emerald ash borer (*Agrilus planipennis*) *Journal of Insect Science* **19:**41-46 (*shared first authorship) (IF:1.786).
11. Rivera LV*, **Mamidala P*** et al. (2012) Evaluation of reference genes for gene expression studies in ash (*Fraxinus* spp.) *Plant Molecular Biology Reporter* **30:**242-245 (*shared first authorship) (IF:5.319). **First study to validate reference genes across the species**
12. Bai X, Rivera-Vega L, **Mamidala P**, et al. (2011) Transcriptomic signatures of ash (*Fraxinus* spp.) phloem. *PLoS ONE* **6:**e1636861 (IF:4.092).
13. Mittapalli O, Bai X, **Mamidala P**, et al. (2010) Tissue-specific transcriptomics of the invasive insect pest emerald ash borer *PLoS ONE* **5(10):** e13708 (IF:4.11).
14. Bansal R, **Mamidala P**, et al. (2012) Validation of reference genes for gene expression studies in soybean aphid, *Aphis glycines* Matsumura. *Journal of Economic Entomology* **105(4):**1432-1438. (IF:1.699).
15. Rajarapu SP, **Mamidala P**, et al. (2011) Antioxidant defense in *Agrilus planipennis* - an alien invasive exotic insect pest. *Journal of Insect Physiology* **57(6):**819-824. (IF:2.214).
16. **Mittapalli O**, *Mamidala P*, et al. (2012) mRNA profiles of piRNA pathway genes in emerald ash borer (*Agrilus planipennis*) *Insect Science* **19:** 455-460 (IF: 1.786). **First study to find the expression of miRNA genes in insect ovaries.**
17. Mittapalli O, **Mamidala P**, et al. (2011) Cloning and characterization of *mariner*-like elements in the soybean aphid, *Aphis glycines* Matsumura. *Bulletin of Entomological Research* **12:**1-8. (IF:1.58).
18. **Mamidala P** et al. (2011) Metabolic resistance in bed bugs. *Insects* **2:**36-48 (IF:1.786).

Number of PhD students currently enrolled = 03

1. Ms Javeria Uzma (UGC FIP)
2. Mr Palla Sreenivas Rao (CSIR-SRF)
3. Ms B Anusha (Provisionally qualified for DST INSPIRE)

Administrative and Statutory positions held:

- ✚ **Head**, Department of Biotechnology, Telangana University, Nizamabad, Telangana, India from January 2014 to till date.
- ✚ **Member, Board of Studies**, Department of Biotechnology, Telangana University, Nizamabad, A.P, India from March 2014 to till date.
- ✚ **Member Secretary, Institutional Bio-safety Committee (IBSC)** of Telangana University, Nizamabad, Andhra Pradesh, India, from May, 2014 to till date.
- ✚ **Member, Institutional Ethical Committee (IEC)** of Telangana University, Nizamabad, Andhra Pradesh, India from May, 2014 to till date.
- ✚ **Director**, Telangana University Research Internship Program (TRIP) from 2016 April to till date.
- ✚ **Coordinator**, National Mission on Education ICT, Human Resource Development (HRD), Government of India (January, 2015 to till date)
- ✚ **Controller of Examinations**, Telangana University, , Nizamabad, Telangana State (July 2014 – January, 2015).
- ✚ **Chairperson, Board of Studies**, Microbiology Department, Telangana University, Nizamabad, Telangana (July 2015 to till date)
- ✚ **Member, Board of Studies**, Department of Biotechnology, JNTU, Kakinada, Andhra Pradesh (February, 2016 to till date)
- ✚ **Coordinator, UGC and Non-UGC**, Telangana University from March -2014 to October 2014.

Professional Service:

- ❖ **Referee for scientific journals:** PLoS ONE, Insect Molecular Biology, Journal of Insect Physiology, Plant Cell Tissue and Organ Culture, Plant Molecular Biology Reporter.
- ❖ **Reviewer for several national and international funding agencies**

Society Membership:

- ❖ Member, Entomological Society of America, USA; 2010–till date.
- ❖ Member, International Society of Chemical Ecology, USA; 2010-till date
- ❖ Member, All India Biotechnology Association, New Delhi, India; 2005-till date.
- ❖ Senior Member (*Life time*), APCBEES, Malaysia.