

SUVARNA K. KESANAPALLI
Research and Development Associate

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SUMMARY

- Several years of experience in, plant tissue culture, genetic engineering, protein purification, analytical, natural products, and process chemistry.
- Published seven peer-reviewed scientific articles, and presented research findings at six national and/or international conferences.
- Extensive experience in tissue culture aspects of endangered and commercial plants, purification, and structural elucidation of natural molecules.
- Proven ability in process development, having been achieved in the scale-up of allantoin, rosmarinin acid, humulon and lupulon.
- Experience with purification of proteins by conventional methods such as column chromatography, tangential flow filtration, gel exclusion chromatography.
- Developed, optimized and validated analytical methods such as HPLC and GC/MS for diverse range of plant and microbial metabolites.
- Applied chemical and analytical methods such as HPLC, Raman, UV-Vis, FT-IR, HRMS, GC/MS, LC/MS/MS, and 1D & 2D NMR to structural elucidation of compounds from plant and tissue culture sources.

PROFESSIONAL EXPERIENCE

2008 – 2011: Postdoctoral Research Associate, Department of Evolutionary Biology, University of Colorado, Boulder, Colorado, USA.

- Managed research projects that originating from both inside and outside the university; and coordinated group research activities.
- Developed and or modified analytical methods for the detection and quantification of jasmonic acid, methyl jasmonate and other metabolites present in the pine samples.
- Quantified the amount of jasmonic acid, and methyl jasmonate present in stressed samples of pine needles, and phloem samples using GC-MS and HPLC.
- Developed and standardized an economically viable technology for the extraction of jasmonic acid from the pine samples.

2001 – 2004: Postdoctoral Research Associate, National Centre for Natural Products Research, University of Mississippi, Mississippi, USA.

- Discovered two new compounds from *Zanthoxylum* species which were active against malaria in mice with significant improvement over chloroquine and artemisinin, currently the most common drugs used clinically.
- Developed analytical methods for the detection and quantification of furocoumarins present in *Zanthoxylum* species.
- Developed a process for extracting non-polar constituents from hops with simultaneous separation of Humulon and Lupulon.
- Isolated several bioactive pyrrolizidine alkaloids from *Symphytum officinale*.
- Standardized an economically viable technology for the isolation and purification of Xanthohumol; *iso*-Xanthohumol; antiviral lead agents from Hops extract, and two clinically used compounds: allantoin and rosmarinin acid from *Symphytum officinale*.

1996-2001: Research Associate, Department of Plant Sciences, University of Hyderabad, Hyderabad, India.

- Elucidated the role of flavonoids in disease resistance by molecular and transgenic approaches.
- Isolated proteins from native using the state-of-the-art technology platform targeted to specific market needs in the areas of human health, and nutrition, and 96-well SPE procedures for the high-throughput analysis.
- Studied Antibacterial properties of naturally occurring flavonoids and their synthetic derivatives on *Xanthomonas oryzae*, a major rice pathogen.
- Studied the composition of epicuticular waxes in different varieties of rice.
- An efficient protocol was developed for micro-propagation of the following commercial plants:
 - *Aesculus hippocastanum L*, *Albizia lebbek L*, *Azadirachta indica A. Juss*, *Camptotheca acuminata*, *Eucalyptus tereticornis*, *Jatropha curcas*, *Pterocarpus marsupium*, and *Pterocarpus santalinus*.

Honors:

- US Rockefeller Foundation Project Fellowship
- Sri Venkateswara University Merit Scholarship

Education:

- Ph.D. Plant Biotechnology, Sri Venkateswara University, Tirupati, India
- M.S. Plant Sciences, Sri Venkateswara University, Tirupati, India