



## **CURRICULUM VITAE**

### **Dr. Venkateswar Rao Allini**

Assistant Professor  
Department of Biotechnology,  
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### **Personal details**

**Name** : Venkateswar Rao Allini  
**Father's Name** : Narayan Rao  
**Date of Birth** : 14<sup>th</sup> August 1964  
**Social status** : OC

### **ADDRESS**

**Office:** Department of Biotechnology, Kakatiya University, Vidyaranyapuri,  
Hanamkonda, Warangal-506009, Telangana, India.  
**Home:** H. No: 2-5-360, Flat No 301, Satam Sivam Enclave, Nakkalagutta,  
Hanamkonda, Warangal-506001, Telangana, India.

### **ACADEMIC**

**1983-1987:** **B.Sc.** with Botany, Zoology, Chemistry, Silver Jubilee College  
(A. P Residential College), Kurnool, Andhra Pradesh, India.  
**1988- 1990:** **M.Sc.** in Botany with Plant Tissue Culture, Kakatiya University,  
Warangal, Andhra Pradesh, India.  
**1991-1997:** **Ph. D** in Botany on 'Induction and selection of cytoplasmic markers in  
members of *Solanaceae*', Kakatiya University, Warangal, A.P, India.

**Professional History:**

- Faculty to teach Under Graduate (B.Sc.) students of University Arts & Science College, Kakatiya University, Warangal for 04 years.
- Faculty to teach Post Graduate (M.Sc. Biotechnology) students of University College, Kakatiya University, Warangal for 18 years.
- Faculty to teach M.Phil.(Biotechnology) Students of University College, Kakatiya University, Warangal for 01 years.

**Area of Specialization:**

- Plant Biotechnology
- Genetic engineering
- Plant tissue culture
- Plastid transformation
- Genome editing

**List of Awards:**

- University Research fellowship URF, Kakatiya University (1991-1994)
- Senior Research Fellowship, CSIR, New Delhi (1994-1997)
- Research Associateship, CSIR, New Delhi (1998-2001)

**No of articles published in National & International Research Journals: 29**

**No of Book Chapters written and published: 04**

**No of National seminars /Conferences attended: 28**

**No of International Conferences attended: 04**

**No. of students awarded PhD under the supervision: 05**

**No. of students Pursuing PhD under the supervision: 03**

**Citations : 390 (<https://scholar.google.co.in/citations>)**

**h-index : 11**

**i10-index : 12**

### **Member, Editorial Board for International Journals:**

- Editorial Board Member of *American Journal of Agriculture and Forestry (AJAF)*
- Editorial Board Member of *Journal of Modern Agriculture and Biotechnology (JMAB)*

### **Conferences Organized:**

- Actively Participated in organizing National Conference on Frontiers in Bioinformatics and Biotechnology. 2008 January. 3<sup>rd</sup> to 4<sup>th</sup>. Organized by Department of Biotechnology, Kakatiya University, Wgl.
- Actively Participated in organizing International Conference on Plant Biotechnology and Molecular Biology. 2008 Aug. 15<sup>th</sup> to 17<sup>th</sup>. Organized by Department of Biotechnology, Kakatiya University, Wgl.
- Actively Participated in organizing International Conference on Biotechnology: A Global Scenario. 2010 Nov. 2<sup>nd</sup> to 4<sup>th</sup>. Organized by Department of Biotechnology, Kakatiya University, Wgl.
- Actively Participated in organizing International Conference on Biotechnology Human Welfare. 2013 Feb. 7<sup>th</sup> to 9<sup>th</sup>. Organized by Department of Biotechnology, Kakatiya University, Wgl.
- Actively Participated in organizing International Conference on Emerging Biotechnologies. 2016 Jan. 28<sup>th</sup> to 30<sup>th</sup>. Organized by Department of Biotechnology, Kakatiya University, Wgl.

### **Courses/Training programmes attended:**

- Attended Orientation course, conducted by UGC Academic Staff College, Osmania University, Hyderabad from 28-9-2012 to 31-10-2012.
- Attended Refresher course, conducted by UGC Academic Staff College, Osmania University, Hyderabad from 08-8-2013 to 28-8-2013
- Attended Refresher course, conducted by UGC Academic Staff College, MANUU, Hyderabad from 30-11-2017 to 20-12-2017
- Attended Refresher course, conducted by UGC HRDC, Osmania University, Hyderabad from 03-01-2021 to 16-01-2021

### **Invited Talks/Lectures:**

- Delivered an **invited lecture** in Short term training course on **Animal cell culture and molecular diagnostic techniques** organized by Department Zoology, KU, during 18<sup>th</sup> august to 1<sup>st</sup> September 2014

- Acted as **Resource Person** and delivered a lecture in the **Staff Development Program** organized by QUALITY IMPROVEMENT PROGRAM, Pharmacy Cell, UCPSc, Ku during 27-10-2014 to 08-11-2014
- Acted as **Resource Person** and delivered a lecture in **Orientation Program for Junior Lecturers** organized by District Vocational Education Officer, Warangal during 25<sup>th</sup> November 2015.
- Acted as **Resource Person** and delivered a lecture in the **Staff Development Program** organized by QUALITY IMPROVEMENT PROGRAM, Pharmacy Cell, UCPSc, KU during 05-02-2018 to 19-02-2018

#### **Academic & Administrative Positions Held**

- Joint Director, University Hostels, KU (2010-2013)
- Head, Department of Biotechnology, KU (2013-2015).
- Chairperson, Board of Studies, Biotechnology, nominated by Academic Council, Kakatiya University, Warangal (2015-2017).
- Head, Department of Biotechnology, Kakatiya University (2016-17).
- External Member, Board of Studies, Biotechnology, nominated by Academic Council, Osmania University, Hyderabad (2015-2017).
- External Member, Board of Studies, Biotechnology, nominated by Academic Council, Telangana University, Nizamabad (2015-2017).
- External Member, Board of Studies, Biotechnology, Pingle Government Degree College for Women, Hanamkonda. (2021-2023).

#### **MAJOR RESEARCH PROJECTS**

- 2010-2013: Principle Investigator:** Genetic Engineering for Anthracnose disease resistance in Chilli Pepper using defensin gene (TvD1), **UGC, New Delhi**
- 2010-2013: Co-Investigator:** Developing plastid transformation system for expression of defensin gene in *Capsicum annuum*, **DST, New Delhi**
- 2014-2017 Co-Investigator:** Genetic engineering for male sterility by the expression of CysteineProtease (CP) gene in Chilli Pepper (*Capsicum annuum* L.), **DBT, New Delhi**

### **List of publications:**

1. Phanikanth Jogam, Dulam Sandhya, Anshu Alok, Venkataiah Peddaboina, **Venkateswar Rao Allini**, Baohong Zhang (2022) A review on CRISPR/Cas-based epigenetic regulation in plants, *International Journal of Biological Macromolecules*;219:1261-1271
2. Jogam, P., Sandhya, D., Alok, A., Shekhawat, M. S., venkataiah.P;Kashmir Singh., & Allini, V. R. (2022). *Agrobactreium* mediated genetic transformation and cloning of candidate genes in suspension cells of *Artemisia pallens* Wall.ex DC. 3 *Biotech* 12:94(IF: 2.87)
3. Dulam Sandhya, Phanikanth J, Ajay Kuumar V, Pandarinath S, Venkataiah P, **V Rao Allini** & Sadanandam Abbagani (2022) Highly efficient *Agrobacterium*-mediated transformation and plant regeneration system for genome engineering in tomato. **Saudi Journal of Biological Sciences** 29:103292
4. Kasim Mood, Phanikanth Jogam, Abhitheja Sirikonda, Mahipal S. Shekhawat, Gulab Khan Rohela, M. Manokari, & **V Rao Allini** (2022). Micropropagation, morpho-anatomical characterization, and genetic stability studies in *Lippia javanica* (Burm.f.) Spreng: a multipurpose medicinal plant. **Plant Cell, Tissue and Organ Culture (PCTOC)** <https://doi.org/10.1007/s11240-022-02294-5>
5. Mood, K., Sirikonda, A., Kudikala, H., & **Allini, V. R** (2021). Effect of different surface sterilizing agents and growth media on in vitro seed germination of *Lippia nodiflora* L. **Journal of Indian botanical Society**, 101(4):341-348
6. Sandhya, D., Jogam, P., Manokari, M., Shekhawat, M. S., Jadaun, J. S., **Allini, V. R.**, & Abbagani, S. (2021). High-frequency in vitro propagation and assessment of genetic uniformity and micro-morphological characterization of *Origanum majorana* L.—A highly traded aromatic herb. **Biocatalysis and Agricultural Biotechnology**, 34, 102024.
7. Jogam, P., Sandhya, D., Shekhawat, M. S., Alok, A., Manokari, M., Abbagani, S., & **Allini, V. R.** (2020). Genetic stability analysis using DNA barcoding and molecular markers and foliar micro-morphological analysis of in vitro regenerated and in vivo grown plants of *Artemisia vulgaris* L. **Industrial Crops and Products**, 151, 112476. (IF: 5.64)

8. Sandhya, D., Jogam, P., **Allini, V. R.**, Abbagani, S., & Alok, A. (2020). The present and potential future methods for delivering CRISPR/Cas9 components in plants. **Journal of Genetic Engineering and Biotechnology**, 18(1), 1-11.
9. Kudikala, H., Jogam, P., Sirikonda, A., Mood, K., & **Allini, V. R.** (2020). In vitro micropropagation and genetic fidelity studies using SCoT and ISSR primers in *Annona reticulata* L.: an important medicinal plant. **Vegetos**, 33(3), 446-457.
10. Savitikadi, P., Jogam, P., Rohela, G. K., Ellendula, R., Sandhya, D., **Allini, V. R.**, & Abbagani, S. (2020). Direct regeneration and genetic fidelity analysis of regenerated plants of *Andrographis echinoides* (L.)-An important medicinal plant. **Industrial Crops and Products**, 155, 112766. (IF: 5.64)
11. Sirikonda, A., Jogam, P., Ellendula, R., Kudikala, H., Mood, K., & **Allini, V. R.** (2020). In vitro micropropagation and genetic fidelity assesment in *Flemingia macrophylla* (Willd.) Merr: an ethnomedicinal plant. **Vegetos**, 33(2), 286-295.
12. Rajput, B. S., Jani, M., Ramesh, K., Manokari, M., Jogam, P., **Allini, V. R.**, & Shekhawat, M. S. (2020). Large-scale clonal propagation of *Bambusa balcooa* Roxb.: an industrially important bamboo species. **Industrial Crops and Products**, 157, 112905. (IF: 5.64)
13. Kota, S., Hao, Q., Narra, M., Anumula, V., **Rao, A. V.**, Hu, Z., & Abbagani, S. (2019). Improved plastid transformation efficiency in *Scoparia dulcis* L. **Journal of Plant Biotechnology**, 46(4), 323-330.
14. Kota, S., Lakkam, R., Kasula, K., Narra, M., Qiang, H., Rao **Allini, V.**, & Abbagani, S. (2019). Construction of a species-specific vector for improved plastid transformation efficiency in *Capsicum annum* L. **3 Biotech**, 9(6), 1-11. (IF: 2.40)
15. Narra, M., Kota, S., Velivela, Y., Ellendula, R., **Allini, V. R.**, & Abbagani, S. (2018). Construction of chloroplast transformation vector and its functional evaluation in *Momordica charantia* L. **3 Biotech**, 8(3), 1-11. (IF: 2.40)
16. Kudikala, H., Ellendula, R., Nazrin, S., Sirikonda, A., Mood, K., & **Allini, V. R.** (2018). Research article effect of pre-treatment methods on in vitro seed germination of bullock's heart (*Annona reticulata* L.). **Asian Journal of Plant Sciences**, 17, 142-149.

17. Raghu, E., Muralikrishna, N., Srinivas, K., Bharathkumar, K., Yashodhara, V., Pandarinath, S., & **Venkateswar Rao, A.** (2016). An efficient and high frequency regeneration protocol in two cultivars of *Capsicum annuum*. L cvs. G3 and G4. **International Journal of Current Biotechnology**, 4(3), 1-8.
18. Porika, M., Aileni, M., Kokkiralala, V. R., Gadidasu, K., Umate, P., **Rao, A. V.**, & Abbagani, S. (2009). In vitro HIV type-1 reverse transcriptase inhibitory activity from leaf extracts of *Scoparia dulcis* L. **Journal of herbs, spices & medicinal plants**, 15(3), 241-247.
19. Tippani, R., Porika, M., **Rao, A. V.**, Abbagani, S., Yellu, N. R., & Thamidala, C. (2008). A Algesic activity of root extract of *Acorus calamus* Linn. **Pharmacology online** 3: 240-243. **(IF: 0.22)**
20. P. Mahendar, V. Uday, T. Radhika, **A. V. Rao** T. Christopher, D. Rama Krishna and A. Sadanandam (2008) Plant and Human Telomeres and Telomerases : An over view. **International Journal of Pharmacology and Biological Sciences**. 2(3):1-16. **(IF: 0.88)**
21. Rao, K. V., Kiranmayee, K., Pavan, U., Sree, T. J., **Rao, A. V.**, & Sadanandam, A. (2005). Induction of multiple shoots from leaf segments, in vitro-flowering and fruiting of a dwarf tomato (*Lycopersicon esculentum*). **Journal of plant physiology**, 162(8), 959-962. **(IF: 3.54)**
22. T.Jaya Sree, K.Venugopal Rao, K.Kiranmayee, U.Pavan **A.V.Rao** and A.Sadanandam (2005) Antibiotic Resistant Mutants of *Solanaceous* species: **Proceedings on National Sminar on Biotechnology in environmental Protection and Monitoring**. Pp 31-46.
23. Ramesh, R., Pavan, U., Prasad, S. S., **Rao, A. V.**, & Sadanandam, A. (2002). In vitro regeneration of plants from mature nodal segments of *Terminalia arjuna* Bedd. **Sericologia (France)**.
24. M. Ramesh, U. Pavan, S. Shyam Prasad, **A.V. Rao** and A. Sadanandam (2001). *Terminalia arjuna* : A break-through in micropropagation. **Indian Silk**. Aug., p.17.
25. Pavan, U., Srinivasa Reddy, K., Ramesh, M., **Rao, A. V.**, & Sadanandam, A. (2001). Direct somatic embryogenesis in *Morus indica* L. cv. S13: improved embryoid induction and further evidence. **Sericologia (France)**.

26. JayaSree, T., Pavan, U., Ramesh, M., **Rao, A. V.**, Jagan Mohan Reddy, K., & Sadanandam, A. (2001). Somatic embryogenesis from leaf cultures of potato. **Plant cell, tissue and organ culture**, 64(1), 13-17. **(IF: 2.71)**
27. Pavan, U., **Rao, A. V.**, Yashodhara, V., Rama Swamy, N., & Sadanandam, A. (2000). A simple protocol for rapid and efficient isolation of protoplast from callus cultures of mulberry (*Morus indica* L.) cv. S13. **Sericologia (France)**.
28. Pavan, U., **Rao, A. V.**, Yashodhara, V., Rama Swamy, N., & Sadanandam, A. (2000). Evaluation of specific parameters in the isolation of protoplasts from mesophyll cells on three mulberry cultivars. **Sericologia (France)**.
29. **Rao, A. V.**, JayaSree, T., Ramesh, M., Pavan, U., & Sadanandam, A. (2000). Nitrosomethylurea induced streptomycin resistance in *Lycopersicon esculentum* Mill. **Indian journal of experimental biology**, 38: 617-620. **(IF: 0.81)**
30. **Rao, A. V.**, Venu, C. H., & Sadanandam, A. (1997). Selection of streptomycin and kanamycin resistance using nitrosomethylurea and *Agrobacterium* in *Solanum sisymbriifolium*. **Indian journal of experimental biology**, 35(2), 188-192. **(IF: 0.81)**
31. Farooqui, M. A., **Rao, A. V.**, Jayasree, T., & Sadanandam, A. (1997). Induction of atrazine resistance and somatic embryogenesis in *Solanum melongena*. **Theoretical and Applied Genetics**, 95(4), 702-705. **(IF: 5.69)**
32. **Rao, A. V.**, Farooqui, M. A., & Sadanandam, A. (1997). Induction of lincomycin and streptomycin resistance by nitrosomethylurea and ethyl methanesulphonate in *Capsicum annuum* L. **Plant Cell Reports**, 16(12), 865-868. **(IF: 4.57)**
33. **Rao, A. V.**, Farooqui, A., Sree, T. J., Ramana, R. V., & Sadanandam, A. (1993). EMS-induced streptomycin resistance in *Solanum melongena*. **Theoretical and Applied Genetics**, 87(4), 527-530. **(IF: 5.69)**

#### **List of Books/ Book chapters published:**

1. Phanikanth Jogam, Dulam Sandhya, Pankaj Kumar, **Venkateswar Rao Allini**, Sadanandam Abbagani and Anshu Alok (2021). Genetic transformation methods and advancement of CRISPR/Cas9 technology in wheat, Book chapter 12 in “CRISPR and RNAi Systems” Elsevier Inc. Publishers pages 253-275.



2. **Venkateswar Rao**, T.Sivaram, P.Mahender and P.Venkataiah (2019) B.Sc. Biotechnology, V semester book entitled “Molecular Biology and r DNA technology” Edited by A.Sadanandam, N.Rama Swamy and MA. Singaracharya, Published by Telugu Academy, Hyderabad
3. K. Venu Gopal Rao, P. Venkataiah, **A. Venkateswar Rao**, T.Christopher and A. Sadanandam (2010) Plastid transformation in higher plants. In: Plant Tissue Culture Totipotency to Transgenics. Edited by HP Sharma, Narosa Publishers, New Delhi
4. **Venkateswar Rao**, T.Christopher and A.Sadanandam (2010) Genetic transformation of plants (Book Chapter). In: Plant Tissue Culture Totipotency to Transgenics. Edited by HP Sharma, Narosa Publishers, New Delhi

## Other Information

I am one of the group members working on Chloroplast genetics and plastid transformation in India. Our group headed by Prof. A. Sadananadam, who is the pioneer in area of plastome engineering. In this area, We have international collaboration with world reputed scientists like Prof. R. G. Hermann and Prof. Hans Ulrich Koop, Botanical Institute, LMU, Munich; Prof. Ralph Bock, Max Planck Institute for Molecular Plant Physiology, Potsdam, Golm Germany; Prof. MGK Jones, Australia; Prof. Hu Zanmin, Beijing, China; Prof Laslo Szabados, BRC Hungary; Prof. Pal Maliga, USA. These collaborations have promoted us for exchange of research students and research material's like gene constructs etc. We have initiated the work on genome editing. In recent years, sequence-specific genome editing technologies were found to be useful tools for crop improvement. In particular, the clustered regularly interspaced short palindromic repeats (CRISPR)/CRISPR-associated protein9 (Cas9) genome editing technology (CRISPR/Cas9) has so far shown the greatest promise for addressing emerging challenges in agriculture. CRISPR/Cas9 technology is becoming a user-friendly tool for development of non- transgenic genome edited crop plants to cope up with changing climate and ensure future food security. We have published research work in most prestigious and high impact factor international Journal like *Theoretical Applied Genetics* (5.69), *Industrial Crops and Products* (5.61), *Plant Cell*

*Reports* (4.57), *Journal of Plant Physiology* (3.54), *Plant Cell Tissue & Organ Culture* (2.71), *3Biotech* (2.40), *Sericologia* (France), etc. Apart from teaching and research, I was also involved administrative activities like Head, Department of Biotechnology, KU for two terms (2013-15 & 2016-17); Chairperson, Board of Studies Biotechnology, KU (2015-17); Joint Director, University Hostels, KU (2010-2013); External Member, Board of Studies, Biotechnology, Osmania University; External Member, Board of Studies, Biotechnology, Telangana University. External Member, Board of Studies, Biotechnology, Pingle Government Degree College for Women, Hanamkonda. I also served as Coordinator, SAP DRS Phase II Programme, sanctioned by UGC, New Delhi to the Department of Biotechnology, Kakatiya University, Warangal.

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