



Manju Manuel

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Research Experience

Young Professional II	2023-Present
Department of Biotechnology, ICAR -DCR, Karnataka Guide : Dr. Siddanna Savadi, Scientist, ICAR - DCR, Karnataka, India December - Present	
Project assistant	2023
<i>Building a biorepository of Western Ghats Medicinal and Aromatic Plants</i> Department of Biotechnology and Bioinformatics, JNTBGRI, Palode, Trivandrum Guide : Dr. K.K Sabu, Principal scientist, JNTBGRI, Palode July - November	
Internship	2023
Department of Biotechnology and Bioinformatics, JNTBGRI April - June	
Research Assistant	2023
Genetika, Centre for Advanced Genetic Studies, Trivandrum January - March	
Master's Thesis	2022
<i>Screening of novel Simple Sequence Repeat markers for polymorphism and genetic diversity analysis in Cashew</i> April - September Supervisor : Dr. Siddanna Savadi, Scientist at ICAR - DCR, Karnataka, India	
Internship	2020 - 2021
<i>In silico screening of phytochemicals and Drug Discovery</i> December - January Supervisor : Dr. S Sreekumar, Scientist at JNTBGRI, Trivandrum	
Bachelor's Thesis	2019 - 2020
Comparison of the effect of different substrates on the yield of <i>Pleurotus florida</i> November - February Supervisor : Dr. I' ma Neerackal, Associate Professor, Sacred Heart College	

Education

M. Sc Biotechnology	2020 - 2022
St. Berchmans College, Changanassery, India Affiliated to Mahatma Gandhi University	CGPA: 4.56/5 Grade: A+
B. Sc Botany	2017 - 2020
Sacred Heart College, Thevara, India Affiliated to Mahatma Gandhi University	CGPA: 8.2/10 Grade: A
Higher Secondary Education	2014 - 2016
St. Kuriakose Public School, Kaduthuruthy, India	Overall Percentage: 88
Seconadry School Education	2013 - 2014
Labour India Public School, Marangattupilly, India	CGPA: 10/10

Publications

- Manju M, Gokul M, Lavanya B, Ashwitha K, Vijetha K, J. D Adiga, Siddanna S*. (2023). **'Screening of simple sequence repeats for polymorphism and genetic diversity analysis in cashew'**, *Proceedings of National Seminar Recent Trends in Plant Biotechnology*, Vimala College, Thrissur. <https://online.fliphtml5.com/fvhke/dppm/>
- Siddanna Savadi, Manju Manuel, Thippagonahally Nagaiya Raviprasad, Vanitha Kaliaperumal, Rajashekara Hosalli (2026). **"Evaluation and Validation of Stable Reference Genes for Accurate Gene Expression Analysis Across Developmental Stages, Sexes, and Tissues of Helopeltis antonii (Hemiptera: Miridae)"**, *Archives of insect biochemistry and physiology*. <https://doi.org/10.1002/arch.70125>
- Savadi, Siddanna, Gokul Mohan, K. Manoj, Manju Manuel, B. M. Muralidhara, Babli Mog, and Jamboor Dinakara Adiga. **"Microsatellite markers development and molecular fingerprinting of cashew cultivars."** *Molecular Biology Reports* 52, no. 1 (2025): 1-13. <https://doi.org/10.1007/s11033-024-10131-5>
- Siddanna Savadi, Manoj K., Manju Manuel, Manjunatha Krishnappa (2025). **'Development of a rapid and efficient protocol for kernel oil and shell oil analysis in cashew'**, *Proceedings of 7th International Conference on Bioenergy, environment and sustainable technologies*.
- Siddanna Savadi, J.D. Adiga, B.M. Muralidhara, Pramod Prasad, K. Manjunatha, K. Ashwitha Gokul Mohan, Manju Manuel, K. Manoj. (2023). **'Discovery of genome-wide genetic variations and development of first set of InDel markers for genetics research in cashew'**, *Industrial Crops & Products* <https://doi.org/10.1016/j.scienta.2023.112233>
- Siddanna Savadi, Manju Manuel, Manjunatha K., Muralidharaz B.M (2025). **'Challenges in enhancing Cashew Crop Production and Modern technological solutions to address the challenges'**, *Kerala Karshaka English journal*, Volume-13, issue-2, Pg 46-50.
- Siddanna Savadi, Manjunatha K., Manju Manuel. (2025). **'Strategies for improving cashew productivity and profitability for indian cashew farmers'**, *The cashew and cocoa journal*, Volume-13, No -2, April-June 2025, Pg 7-9.

Skills and Expertise

Technical skills - Standardization of DNA and RNA isolation protocol, Primer designing, PCR, RT-PCR (Quantstudio5), AGE, SDS-PAGE, DNA fingerprinting, linkage mapping, genetic diversity analysis, biochemical analysis, bacterial culture techniques, identification and staining techniques,, scientific writing.

Bioinformatic softwares - R Studio, RefFinder, Drago 3 (PRGdb), PrimerQuest, BatchPrimer3, BLAST, PyRx, PyMol, AutoDock, Discovery Studio Visualizer, PowerMarkerV3, Darwin Software

Miscellaneous

- First prize in scientific paper presentation competition conducted by Department of Botany, Vimala College, Thrissur, Kerala.
- Presented paper in National Seminar on 'Recent trends in Plant Biotechnology' organized by Kerala State Council for Science, Technology and Environment.
- Third prize in state level Yurekaa! Idea Pitching competition conducted as part of PMEGP-Khadi Expo 2022 organized by Govt. of India
- Won National level prizes for fashion show competitions during under graduate course

Languages

English - Proficient; **Malayalam** - Mother tongue

Referees

Dr. Siddanna Savadi - Senior Scientist (Biotechnology), ICAR - Directorate of Cashew Research (DCR), Puttur - 574 202, Dakshina Kannada district, Karnataka, India, Email: siddannasavadi@gmail.com

Dr. Mohana, G.S. - Principal Scientist (Genetics and Cytogenetics), In-charge, Agricultural Knowledge Management Unit ICAR- Directorate of Cashew Research, Puttur - 574 202, Dakshina Kannada district, Karnataka, India, Email: Mohana.GS@icar.gov.in