Curriculum Vitae

Dr. Aparna Kopparapu
Scientist-C, Soil Science Section,
Central Tasar Research and Training Institute,
Piska Nagari, Ranchi-835303
9302795569
aparna.micro@gmail.com

ACADEMIC PROFILE

Degree	Subject	Board/ University	Year of passing	% of marks
B.Sc	Microbiology, Biochemistry, Chemistry	Sri Venkateswara University, Tirupati, A.P.	2004	73.4
M.Sc	Microbiology	Acharya Nagarjuna University, Guntur, A.P.	2006	67.6
Ph.D	Biotechnology (Area: Soil microbial biotechnology)	Jawaharlal Nehru Technological University, Hyderabad, Telangana	2016	62

WORK OF EXPERIENCE

Well experienced in soil and plant microbiology, developing bioinoculants, biofertilizers and biopesticides, soil health and associated indicators, soil metagenomics and allied domains related to soil like carbon sequestration. Specific works of experience include

1. Development and evaluation of PGPR based soil and plant bioinoculant formulations
2. Study effect of management practices on soil microbiological indicators
3. Design of new soil health indicators or new methods for existing indicators: developed new dye reduction assay method for soil microbial activity
4. Biopesticides: Wax degrading bacteria against mealybug in mulberry
5. Symbiotic bioinoculants: Ectomycorrhizal bioinoculant development for tasar host plants
6. Soil allied domains: development of microbial consortium for accelerating plant litter degradation and determination of carbon sequestration potential of tasar sericulture systems

AREA OF INTEREST

- Soil and plant microbiology
- Soil and plant metagenomics
- Microbial technologies for tasar host plant improvement
- Soil ecology and microbial ecology

WORK EXPERIENCE

S. No.	Institution	Position	From (Date)	To (Date)
1	Central Tasar Research and Training Institute, Ranchi, Jharkhand	Scientist-C	1/07/2022	Till date
2	Central Tasar Research and Training Institute, Ranchi, Jharkhand	Scientist-B	17/05/2022	30/06/2022
3	Central Sericultural Research and Training Institute, Central Silk Board, Berhampore, WB.	Scientist-B	01/11/2018	14/05/2022
4	ICAR-Indian Institute of Soil Science, Bhopal	Research Associate	06/03/2017	30/10/2018
5	ICAR-Indian Institute of Soil Science, Bhopal	Senior Research Fellow	02/05/2009	27/01/2017
6	ICAR-Indian Institute of Horticultural Research, Bangalore	Junior Research Fellow	12/10/2007	28/04/2009
7	Jubilant Biosys Ltd., Bangalore	Project Trainee	26/04/2007	10/10/2007
8	Dr. BGR Women's Academy, Nellore	Lecturer	02/08/2006	23/03/2007

RESEARCH EXPERIENCE

Developed a novel method to assess soil microbial activity as a part of institutional activity at CSRTI, Berhampore.

Isolated wax degrading bacteria as a part of pilot study on "Developing microbial technologies for management of Mealy bug in Mulberry ecosystems" as PI

Working on Carbon sequestration potential of tasar sericulture systems through a pilot study "[CTR&TI/SP/HP-21] Carbon dynamics and Carbon sequestration potential of tasar sericulture systems" as PI

Working on developing symbiotic fungal bioinoculants for improving the performance of tasar host plants through the project "[ARP04012SI] Developing ectomycorrhizal bio-inoculants for improving survival and leaf yield of *Terminalia arjuna* and *Terminalia tomentosa*"

Contributing as CI towards evaluation of hybrids of *T. arjuna* and *T. tomentosa* through the project "[PIB 04009 SI] Evaluation of identified hybrids of *Terminalia arjuna* × *T. tomentosa* and drought tolerant accessions of T. arjuna for their suitability in different tropical tasar silkworm rearing regions" and evaluation of the efficiency of phosphate solubilizing bacteria in OST through the project "[MOE- 04014 MI] Evaluation and popularization of improved technologies developed in the field of tasar sector for central and north India (On Station/Farm trials of CTRTI)"

Award/ Honors/ Fellowship

- CSIR-NET Lifesciences qualified for Lectureship (2006)
- ASRB-ICAR NET Agricultural Microbiology qualified (2013)
- Best Poster Presentation (2010) at 75th Annual Convention of Indian Society of Soil Science, Bhopal
- Best Paper Presented (2017) at International Conference on Biotechnology and Bioengineering- Trends, JNTU, Hyderabad

Publications

Journal Articles:

Aparna, K., Rao, D.L.N., Manna M.C. (2014) Microbial Inoculation of Chickpea (*Cicer arietinum* L.) Enhances Rhizosphere Effects on Soil Biological Quality. ***Agrochimica*** 58(2): 114-125 Impact Factor (2015): 0.31

Aparna, K., Pasha, M.A., Rao, D.L.N., Krishnaraj, P.U. (2014) Organic Amendments as Ecosystem Engineers: Microbial, Biochemical and Genomic Evidence of Soil Health Improvement in a Tropical Arid Zone Field Site. ***Ecological Engineering*** 71: 268-277 Impact Factor (2015): 2.74

Malhotra, J., Aparna, K., Dua, A., Sangwan, N., Trimurtulu, N., Rao, D.L.N., Lal, R. (2015) Microbial and Genetic Ecology of Tropical Vertisols under Intensive Chemical Farming. ***Environmental Monitoring and Assessment*** 187 (1):1-17**.** Impact Factor (2015): 1.63

Aparna, K., Rao, D.L.N., Balachandar, D. (2016) Microbial Populations, Activity and Gene Abundance in Tropical Vertisols under Intensive Chemical Farming. ***Pedosphere*** **26** (5): 725-732. Impact Factor (2015): 1.53

Aparna, K., & Rao, D. L. N. (2016). Split-agar assay of antifungal soil microbial metabolites. ***Biocatalysis and Agricultural Biotechnology***, *6*, 184-188.

Santosh Ranjan Mohanty, Rakhi Yadav, Garima Dubey, Usha Ahirwar, Neha Ahirwar, Aparna, K., Rao, D. L. N., and Bharati Kollah, (2018) **The Journal of Agricultural Science** 156, 215–224. Impact Factor (2016): 1.29

Rao, D.L.N., Aparna, K. and Mohanty, S.R. (2019) Microbiology and biochemistry of soil organic matter, carbon sequestration and soil health. **Indian Journal of Fertilizers** 15 (2): 124-138

Conference presentations:

Abstracts:

K.Aparna, D.L.N.Rao and M.C.Manna. (2010) *Rhizobium* and PGPR inoculation influence soil microbial processes in chickpea rhizosphere. 75th Annual Convention of Indian Society of Soil Science, Bhopal. Achieved Best Poster Presentation award.

K. Aparna, D.L.N. Rao (2013) Impact of Organic Amendments on Soil Microbial Community Structure and Function. Indraprastha International Conference on Biotechnology, Delhi.

Aparna, K and Sivaprasad, V (2021) Simplification of soil microbiological techniques to promote technology translation in agriculture and allied sectors. In abstract book of Annual International Conference of Association of Microbiologists of India on Microbial World: Recent Developments in Health, Agriculture and Environmental Sciences. Pp:138

Aparna K., Bhagat B.R., Oraon A.S., Gandhi Doss S., Yadav H, Sathyanarayana K. (2022) Accelerating Soil Carbon Turnover in Tasar Host Plantations: Way Towards Carbon Negative Ecosystem. In abstract book of National Seminar on Climate Smart Sericulture-2022, Central Silk Board, Bangalore

Aparna K., Yadav H., Singh J., Gandhi Doss S., Bhagat B., Sathyanarayana K. (2022) Carbon Sequestration Potential of Tasar Sericulture Systems. In souvenir cum abstract book of National Symposium on "Vanya Sericulture – Opportunities Galore", CTRTI, Ranchi. Pp: 71

Aparna K, Sivaprasad V, Sathyanarayana K (2022) A Novel Dye Reduction Assay for Quantitative Estimation of Soil Microbial Activity. In National Seminar on Developments in Soil Science: 2022, 86th Annual Convention of Indian Society of Soil Science, MPKV, Rahuri.

Full paper

Rao D.L.N., Aparna K., Krishnaraj, P.U., Balachandar, D., Lal, R. (2014) Soil Biological Health: Unified Indicators across Soil Types and Management Systems. National conference on empowering mankind with microbial technologies, Annual convention of Association of Microbiologists of India, Coimbatore, Tamil Nadu.

Aparna K. (2017) Novel Technique for Measuring the Antifungal Metabolite Production Potential of Soils. International conference on Biotechnology and Bioengineering- Trends, JNTUH, Hyderabad, 2017. Achieved Best Paper Presentation award.

Bhagat B.R., Aparna K., Gandhi Doss S., Yadav H., Sathyanarayana K. (2022) Microbiological Interventions for Improvement of Tasar Host Plantation Ecosystems. In National Symposium on "Vanya Sericulture – Opportunities Galore", CTRTI, Ranchi. *Plant Archives*, Special Issue: 196-199

Book chapter:

M.L. Dotaniya, K. Aparna, C.K. Dotaniya, Mahendra Singh, K.L. Regar. (2018) Role of Soil Enzymes in Sustainable Crop Production. In: Enzymes in Food Biotechnology, ELSEVIER Global Book Production

M. L. Dotaniya, K. Aparna, Jairam Choudhary, C. K. Dotaniya, Praveen Solanki, Ekta Narwal, Kuldeep Kumar, R. K. Doutaniya, Roshan Lal, B. L. Meena, Manju Lata, Mahendra Singh and Udal Singh (2020) Effect of Soil Pollution on Soil Microbial Diversity In Frontiers in Soil and Environmental Microbiology

International/ National Seminar/ Symposium

1. National Seminar on Developments in Soil Science: 2022, 86th Annual Convention of Indian Society of Soil Science, MPKV, Rahuri
2. National Symposium on "Vanya Sericulture – Opportunities Galore", CTRTI, Ranchi
3. National Seminar on Climate Smart Sericulture-2022, Central Silk Board, Bangalore
4. Annual International Conference of Association of Microbiologists of India on Microbial World: Recent Developments in Health, Agriculture and Environmental Sciences (2021)
5. International conference on Biotechnology and Bioengineering- Trends, JNTUH, Hyderabad, 2017.

Training

1. Hands-On Training Programme on Statistics and Its Application In Tasar Culture 5-7 January, 2022
2. Intensive Bivoltine Training on silkworm rearing 2021
3. Orientation programme on silkworm seed production 2021

Memberships

1. Life member in Association of Microbiologists of India
2. Member in Indian Society of Soil Science