BIODATA

PROFESSIONAL DETAILS

Dr. Shankar M.
Scientist-B
Plant Genetic Resources
Central Sericultural Germplasm Resources Centre (CSB-CSGRC), Central Silk Board, Ministry of Textiles, Government of India
Thally Road, Hosur – 635109, Tamil Nadu, India
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sEDUCATIONAL QUALIFICATIONS

Degree	Institution / University	Discipline	Year
Ph.D.	ICAR–Indian Agricultural Research Institute, New Delhi	Plant Genetic Resources	2023
M.Sc. (Ag.)	Tamil Nadu Agricultural University, Coimbatore	Plant Genetic Resources	2018
B.Sc. (Ag.)	Annamalai University, Chidambaram	Agriculture	2016

DOCTORAL RESEARCH

Research Title: Pollen Cryopreservation and Cross-Compatibility Studies to Overcome Wide Hybridization Barriers in Selected Leguminous Species

Institution: Division of Plant Genetic Resources, ICAR–Indian Agricultural Research Institute, New Delhi

M.Sc. RESEARCH

Research Title: Investigations into Cryo-Conservation Approaches in Sugarcane (*Saccharum officinarum* L.) and Cassava (*Manihot esculenta* C.)

University: Department of Plant Genetic Resources, Tamil Nadu Agricultural University, Coimbatore

PROFESSIONAL HISTORY

- Scientist-B in Central Sericultural Germplasm Resources Centre, Central Silk Board, Hosur, Tamil Nadu, India (19 Jan 2026- till date)
- Scientist-B in Central Silk Board, Bangalore, Karnataka, India (06 Oct 2025- 18 Jan 2026)
- Senior Research Fellow at ICAR–Indian Agricultural Research Institute, New Delhi (2019–2023)
- DBT–JRF research under the project “Life Cycle Cryobiotechnology of Orchids for Bioresources Conservation and Sustainable Development” at ICAR–National Bureau of Plant Genetic Resources, New Delhi (2018-2019).

RESEARCH AREAS / EXPERTISE

- Plant Genetic Resources conservation and utilization
- Mulberry germplasm conservation and characterization
- Plant cryopreservation and cryobiology

- Pollen cryopreservation and pollen biology
- *In vitro* conservation and plant tissue culture
- Pre-breeding and wide hybridization
- Cross-compatibility studies and reproductive biology
- Genetic diversity, germplasm characterization and genetic fidelity assessment

RESEARCH PROFILE

Publications (International): 9
Publications (National): 22
Books:1
Popular Articles: 7
Workshop/Training Attended: 7
Patents: 2
Awards: 7

Google Scholar: https://scholar.google.co.in/citations?user=OSeaeOEAAAAJ&hl=en

ResearchGate: https://www.researchgate.net/profile/Shankar-Muthusamy

SELECTED RESEARCH PUBLICATIONS

- Shankar, M., Gowthami, R., Tripathi, K., Deepak, D. A., Raghavendra, K. V. & Agrawal, A. (2025). Unveiling reproductive biology, phenology, and pollen viability in *Lathyrus* species to enhance crop improvement. Genetic Resources and Crop Evolution, 72, 3493–3511. DOI: 10.1007/s10722-024-02180-3.
- Deepak, D. A., Puneeth, G. M., Gowthami, R., Shankar, M., Chander, S., Malhotra, E. V., Archak, S. & Agrawal, A. (2025). Trans situ conservation of *Piper nigrum* L. in India—a review. Genetic Resources and Crop Evolution, 72, 1477–1494. DOI: 10.1007/s10722-024-02058-4.
- Shankar, M., Gowthami, R., Tripathi, K., Deepak, D. A., Chander, S. & Agrawal, A. (2025). Pollen Cryopreservation in Grass Pea (*Lathyrus sativus* L.). In: Pollen Cryopreservation Protocols. Springer Protocols Handbooks, pp. 277–290. DOI: 10.1007/978-1-0716-4686-1_19.
- Shankar, M., Gowthami, R., Tripathi, K., Chander, S., Deepak, D. A. & Agrawal, A. (2025). Cowpea Pollen Cryopreservation (*Vigna unguiculata*). In: Pollen Cryopreservation Protocols. Springer Protocols Handbooks, pp. 265–275. DOI: 10.1007/978-1-0716-4686-1_18.
- Shankar, M., Gowthami, R., Tripathi, K., Chander, S., Deepak, D. A. & Agrawal, A. (2024). Cryopreservation protocol for cowpea pollen storage. CryoLetters, 45(6), 340–348. DOI: 10.54680/fr24610110312.
- Gowthami, R., Rajasekharan, P. E., Chander, S., Shankar, M., Srivastava, V. & Agrawal, A. (2024). Cryopreservation of two-celled pollen: a model system for studying the cellular mechanisms of cryoinjury and recovery. 3 Biotech, 14, 304. DOI: 10.1007/s13205-024-04140-1.
- Agrawal, A., Gowthami, R., Chander, S., Srivastava, V., Shankar, M. & Deepak, D. A. (2024). Biotechnological tools for conservation of plant genetic diversity. In: Sustainable Utilization and Conservation of Plant Genetic Diversity. Springer, pp. 711–752. DOI: 10.1007/978-981-99-5245-8_21.
- Gowthami, R., Rajasekharan, P. E., Martinez-Montero, M. E., Chander, S., Singh, A. M., Puneeth, G. M., Shankar, M. & Deepak, D. A. (2024). In vitro techniques for safeguarding medicinal plants with antiallergic properties. In: Biotechnology of Medicinal Plants with Antiallergy Properties. Springer, pp. 635–672. DOI: 10.1007/978-981-97-1467-4_22.
- Shankar, M., Gowthami, R., Tripathi, K., Deepak, D. A., Barpete, S. & Agrawal, A. (2023). *In vitro* germination and cryopreservation technique for long-term pollen conservation of underutilized legume: Grasspea (*Lathyrus sativus*). The Indian Journal of Agricultural Sciences, 93(2), 205–209. DOI: 10.56093/ijas.v93i2.131469.
- Chander, S., Gowthami, R., Pandey, R., Shankar, M. & Agrawal, A. (2023). Cryoconservation of *in vitro* grown shoot tips of *Cicer microphyllum*: a crop wild relative of chickpea. CryoLetters, 44(6), 360–368.

- Nagar, A., Gowthami, R., Sureja, A. K., Munshi, A. D., Verma, M., Singh, A. K., Mallick, N., Singh, J., Chander, S., Shankar, M., Pathania, P. & Rajkumar, S. (2023). Simple cryopreservation protocol for *Luffa* pollen: enhancing breeding efficiency. Frontiers in Plant Science, 14, 1268726. DOI: 10.3389/fpls.2023.1268726.
- Sharma, N., Malhotra, E. V., Chandra, R., Gowthami, R., Sultan, S. M., Shankar, M. & Agrawal, A. (2022). Cryopreservation and genetic stability assessment of regenerants of the critically endangered medicinal plant *Dioscorea deltoidea* Wall. ex Griseb. for cryobanking of germplasm. *In Vitro* Cellular & Developmental Biology – Plant, 58, 521–529. DOI: 10.1007/s11627-022-10267-8.
- Deepak, D. A., Malhotra, E. V., Shankar, M. & Agrawal, A. (2022). Improved Micropropagation Protocol and Molecular Marker Based Genetic Stability Assessment of Black Pepper (*Piper nigrum* L.). Indian Journal of Plant Genetic Resources.
- Chaudhury, R., Shankar, M., Awasthi, M., Thongam, B., Malik, S. K. & Pritchard, H. (2020). Seed cryopreservation of orchid *Coelogyne nitida* (Wall. ex Don) Lindl. using air desiccation and vitrification techniques. Indian Journal of Plant Genetic Resources, 33(2), 146–153.
- Shankar, M., Thiruvengadam, V., Shanmuganathan, M., Ram, S. G. & Viswanathan, P. L. (2018). Development of a simple and genotype independent in vitro regeneration system in Sugarcane [*Saccharum* spp.] using shoot apex explants. Electronic Journal of Plant Breeding, 9(3), 1077–1082.

Declaration

I hereby confirm that the information given above is correct