

## CURRICULUM VITAE

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1. Name : **Dr. S. AMUTHA**  
2. Department and Name of the school : **Botany / School of Biosciences**  
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### ACADEMIC QUALIFICATIONS

- ❖ Doctor of Philosophy, in Botany, Ph.D., - 2013, University of Madras, Chennai, India, Highly commended, Title of the thesis "*Isolation of Anthocyanins from wild and in vitro callus of Hibiscus Sabdariffa Linn. and their anticancer activities*".
  - ❖ Master of Philosophy, M.Phil., in Botany, - 2001, Bharathiar University, Coimbatore, India, Thesis Title: *In vitro* approaches towards the micropropagation of *Kigelia pinnata* (jacq), DC"
  - ❖ Master of Science, M.Sc., in Botany, - 1999, Bharathiar University, Coimbatore, India,
  - ❖ Bachelor of Science, B.Sc., in Botany, - 1997, Bharathiar University, Coimbatore, India
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### AWARDS

- ❖ Certification of Awards – PROF. R. Kalyanasundaram Memorial Prize October 2014
- ❖ Junior Research Fellow (JRF) Research Fellowship in Science for Meritorious, funded by University Grant Commission (UGC) 2008-2010.
- ❖ Senior Research Fellow (SRF) Research Fellowship in Science for Meritorious funded by University Grant Commission (UGC) 20-10-2013.

### ADDITIONAL QUALIFICATION

- ❖ Six sigma Blackbelt

### EXPERIENCE

Institution	Position	Year	Area of expertise
Government Arts and Science College, Udthagamandalam, the Nigari's	Guest Lecturer	2001-2002	Supervised and taught technicians of B.Sc., M.Sc. Botany students, adapting to different scientific levels and backgrounds, stimulating discussion.
Deputy Conservator of Forests, Forest	Junior research	2003-2004	Taxonomy, Plant tissue culture, Seed technology, Conservation

Genetics Division, Tamilnadu, India.	fellow		biology.
PDRV Institutions, Harur, Dharmapuri, Tamilnadu, India.	Botany Instructor	2004-2005	Taxonomy, plant physiology, plant anatomy.
King Institute Preventive Medicine. Chennai Area, India.	Trainee	December 2012 – April 2013	Identified Hepatitis A,B,C,D & E by ELISA. RNA and DNA extraction. Maintain Cancer cell lines techniques.
Department of biotechnology, Indian Institute of Technology Madras, Chennai- 600 036, India.		August 2013- Sep 2014.	<ul style="list-style-type: none"> <li>● Isolation of Plasmid &amp; Genomic DNA, DNA Quantification.</li> <li>● Restriction Digestion, Ligation, Cloning &amp; Sub-Cloning, Transformation.</li> <li>● Enzyme Assays for Xylanase.</li> <li>● Fermentation of bacterial cultures (Upstream and Downstream processing).</li> </ul>
Department of Botany, Avinashilingam Institute of Home science and Higher education for Women	Assistant Professor	November 1 <sup>st</sup> 2017- Till date	Handling UG and PG Botany and guiding PG research

### AREA OF EXPERTISE

- Plant Biotechnology
- Microbiology and Molecular biology
- Pharmacology and Fungal Biotechnology
- Virology and Cancer biology
- CRISPR/Cas9 Gene editing

### FUNDED PROJECTS

- IOT Enabled Plant Monitoring System, 1 year, Artificial Intelligence, DST-CURIE-AI-Phase II

### RESEARCH GUIDANCE

- Ph.D.: 4 Fulltime Ph.D Research scholars
- One Ph.D scholar submitted

### TEACHING & RESEARCH EXPERIENCE

Level	No of Years
PG	14
UG	8
Diploma/BE. d	1
Research	24

### CONFERENCE AND WORKSHOP ORGANIZED

- UGC Sponsored One Day National Seminar of Biological Sciences - A Step Towards Cutting Edge Research (NSBSCER - 2024), Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, Tamil Nadu, India on 07.02.2024.
- UGC Sponsored Two Day national Conference on New Horizons in Biological Science Research (NCNBSR - 2023), Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, Tamil Nadu, India on 04.01.2023 to 05.01.2023
- DST- CURIE Sponsored Two- day National Conference on Medicinal Plant Research and Translational Trends, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, Tamil Nadu, India on 18th -19th December 2017.
- Opportunities through Mushroom Cultivation, One-day student workshop. Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, Tamil Nadu, India on 20th February 2018.

### PUBLICATION

- Nallasamy, L., **Swaminathan, A.**, Krishnamoorthy, D., Murugavelu, G. S., & Selvaraj, S. L. (2024). Optimization of Anti-Inflammatory Activity of Rauvolfia tetraphylla L. Crude Extracts Using Response Surface Methodology. *Indian Journal of Pharmaceutical Education and Research*, 58(3s), s934-s943.
- Deepika Krishnamoorthy, **Amutha Swaminathan**, Lavanya Nallasamy, Girija Sangari Murugavelu and Swarna Lakshmi Selvaraj. 2024. Advancements And Challenges In Health Informatics: A Comprehensive Overview of Data Management, Interoperability, AI Applications, And Privacy Concerns. Futuristic Trends in Biotechnology. IIP Series, Volume 3, Book 1, Part 1, Chapter 14.

- Sangari, M. G., Chandar, S. R., Mahalakshmi, S., Latha, P., **Amutha, S.**, & Appunu, C. (2024). CRISPR/Cas Genome Editing in Legume Crops: Challenges and Opportunities: A Review. *Legume Research: An International Journal*, 47(6).
- Murugavelu, G. S., Harish Chandar, S. R., Sakthivel, S. K., Ramaswamy, M., **Swaminathan, A.**, & Chinnaswamy, A. (2024). Progress and Updates of CRISPR/Cas9-Mediated Genome Editing on Abiotic Stress Tolerance in Agriculture: A Review. *Sugar Tech*, 1-15.
- Krishnamoorthy, D., **Swaminathan, A.**, AlGarawi, A. M., Nallasamy, L., Murugavelu, G. S., & Selvaraj, S. L. (2024). Exploring the therapeutic potential of *Cynanchum tunicatum* (Retz.) Alston-assessment of phytochemicals and biological activities. *Journal of King Saud University-Science*, 103238.
- Lavanya Nallasamy, **Amutha Swaminathan**, Deepika Krishnamoorthy, Girija Sangari Murugavelu and Swarna Lakshmi Selvaraj, Insights of micropropagation, somatic embryogenesis and plant regeneration from an endangered medicinal plant *Rauvolfia tetraphylla* L. *The Journal of Plant Science Research*, 40 (1), 163-189.
- Nallasamy, L., Chandar, S. H., Bukhari, N. A., Murugavelu, G. S., Krishnamoorthy, D., Mahalakshmi, S., **Swaminathan, A.**, & Chinnaswamy, A. (2024). Functional characterization of promiscuous tryptophan decarboxylase from indole alkaloids producing *Rauvolfia tetraphylla* L. *Journal of King Saud University-Science*, 36(5), 103182.
- Swaminathan, A.** & D. Saravanan (2023). Conservation of Mangroves. *Research & Conservation Biodiversity*, 25.
- Krishnamoorthy, D., **Swaminathan, A.**, Nallasamy, L., Murugavelu, G. S., Selvaraj, S. L., & Raman, J. (2023). In vitro seed culture optimization of *Cynanchum tunicatum* (Retz.) Alston using Response Surface Methodology. *Medicinal Plants-International Journal of Phytomedicines and Related Industries*, 15(4), 654-665.
- Jagadeesan Manjunathan., Sowmya Hari., R. Logeshwaran., T. Mahalakshmi., A. Salma., Akshita Ramesh., R. Rogesh., **Amutha Swaminathan.**, Malarkodi Velraj & D. Saravanan. (2022) A General Review of Desert Locust – *Schistocera gregaria*. *Ecology Environment and Conservation*
- Amutha Swaminathan**, Lavanya Nallasamy, Deepika Krishnamoorthy, Girija Sangari Murugavelu, Swarnalakshmi Selvaraj, Jagadeesan Manjunathan, Bhuvaneshwari Krishnakumar and Eswari Masanam. *In vitro* Callus Induction of *Rauvolfia tetraphylla* (L.) an Endangered Medicinal Plant and Evaluation of Biological Activities. *Eco. Env. & Cons.* 28 (October Suppl. Issue): 2022; pp. (S440-S447)
- Amutha Swaminathan**, Lavanya Nallasamy, Deepika Krishnamoorthy, Girija Sangari Murugavelu, Swarna Lakshmi Selvaraj, Jagadeesan Manjunathan, Bhuvaneshwari Krishnakumar, and Eswari Masanam. Evaluation *In vitro* Antioxidant and Anti-cancer Activity of *Rauvolfia tetraphylla* L. on Breast Cancer Cell Lines. *Eco. Env. & Cons.* 28 (October Suppl. Issue): 2022; pp. (S448-S454)
- Amutha Swaminathan**, Deepika Krishnamoorthi, Lavanya Nallasamy and Dr. Karthiyaini Ramasamy, 2020, Haploid plant production from a potential medicinal plant, *Calotropis gigantea* (Linn), *World Journal of Pharmaceutical Research*, 9(7): 1877-1888, ISSN 2277-7105.

- Amutha Swaminathan**, Deepika Krishnamoorthi, Lavanya Nallasamy and Dr. Karthiyaini Ramasamy, 2020. Phytochemical analysis of *Calotropis gigantea* (Linn) and its biological activities, World Journal of Pharmaceutical Research, 9(6): 1927-1946, ISSN 2277-7105.
- Nanjan Raaman, **Swaminathan Amutha**, Mohan Baskar, Samidurai Divakar, Balan Leeba and Mummoorthy Chithra. 2013. Micropropagation and accumulation of anthocyanin in callus of *Hibiscus sabdariffa* L. *International Journal of phytomedicine and related industries*, 5: 21-26.
- Vennila, S., S. Mohana, S. Bhobesh, S. Dhanakaran, M. Baskar, **S. Amutha** and B. Leeba, 2012. Qualitative phytochemical analysis and *in vitro* antioxidant activity of *Helecteres isora* L. *International Journal of Herbal tech*, 9: 14-18.
- Nanjan Raaman, Balan Leeba, **Swaminathan Amutha**, Mahalingam Amsaveni and Chandrasekaran Sriram. *In vitro* callus induction and comparative antimicrobial activity of wild plant and callus of a medicinal plant *Mukia maderaspatana* (L.) Cogn. *International Journal of phytomedicine and related industries*, 5: 126-134.
- Raaman Nanjan, Mummoorthy Chithra, **Swaminathan Amutha**. 2014. Micropropagation of *Mucuna pruriens* (L.) DC and determination of tyrosinase. *International Journal of phytomedicine and related industries*, 5: 179-186.
- Raaman Nanjan, Punitha Natarajan, **Amutha Swaminathan**, Leeba Balan and Hariprasath Laxmanan. *In vitro* propagation, qualitative phytochemical analysis and antioxidant activity of *Ruta chalapensis* L. *International Journal of phytomedicine and related industries*, 5: 179-186.
- Raaman Nanjan, Sriram Chandrasekar an, Divakar Samidurai, **Amutha swaminathan**, Leeba Balan and Punitha Natar ajan 2015. Micropropagation, qualitative phytochemical analysis and antioxidant potential of *Indigofera aspalathoides* Vahl. ex. DC. *International Journal of phytomedicine and related industries*, 7, 95-102.