

Name : Dr. E.UMA

Designation : Assistant Professor

Department : Botany

Qualification : M.Sc., M.Phil.,PGDBI., Ph.D

Experience : Teaching: 10 Years Research : 20 Years

Area of Specialization(s): Microbiology, Plant anatomy, Plant
microbe interaction



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Scopus Id: <http://www.scopus.com/authid/detail.url?authorId=36096190000>

Researcher Id: [AAC-9228-2020](#)

Google Scholar Id: <https://scholar.google.co.in/citations?user=a-gHlvwAAAAJ>

Academic Qualifications

Degree	Branch	Institution/ University Name	Year of Graduation
Ph.D.	Botany	Bharathiar University, Coimbatore	2017
M.Phil.	Botany	Bharathiar University, Coimbatore	2009
M. Sc.	Botany	PSGR Krishnammal College for Women, Coimbatore	2007
B.Sc.	Botany	PSG College of Arts & Science, Coimbatore	2005

Additional Qualifications

Diploma/ Certification	Area of Specialization	Institution/UniversityName	Year
MOOC	Natural farming- Principles and Practices	MANAGE, Hyderabad	2025
Certification	Algal Biotechnology	Coursera / Technical University of Denmark	2023
Certification	Antimicrobial resistance - theory and methods	Coursera / UC San Diego	2023
MOOC	management of environment & its	Nesamani Memorial College, Kanyakumari	2020

	resources		
PG Diploma	Bioinformatics	Bharathiar University	2010

Research Guidance

Programme	No. of Scholars	
	Completed	Pursuing
Ph.D.	-	1

Research Publications (Indexed)

1. Rahul Kumar, Neha Kamboj, Divya Gunsola, Rachan Karmakar, Sourav Chattaraj, Saurabh Gangola, Bhavya Mudgal, Devvret Verma, Prateek Gururani, Nitika Rathi, Rajat Singh, Anuprita Ray, **Uma Eswaranpillai**, Debasis Mitra (2025) Phytonutrients: Harnessing Anti-inflammatory and Anti-cancer Potential for Health Benefits. Current Research in Nutrition and FoodScience, Volume 13: 53-71
2. Preethi Jenifer Praticia S, **Uma E** and Kanchana M (2024) Effect of Gibberellic Acid (GA3) Seed Priming on Seed Germination and Early Seedling Growth of Salt Stressed *Majidea zangueberica*, *Phyllanthus emblica*, *Tectona grandis* and *Tabebuia aurea*. Indian Journal of Natural Sciences 14: 67553-67561
3. **Uma E**, Yhasasuwini S, Ponmurugan K (2023) Nutritional evaluation of *Chrysophyllum oliviforme* L. (Sapotaceae) an underutilized exotic fruit. Journal of Applied and Natural Science 15(2): 447-453
4. **Uma E**, Priyadharsini M, Ponmurugan K (2023) Assess the impact of cultivation substrates for growing sprouts and microgreens of selected four legumes and two grains and evaluation of its nutritional properties. Plant Science Today10(2):160-169
5. Sathiyadash K, Jabeen JA, Ezhilarasi K S and **Uma E** (2020) Diversity of Arbuscular Mycorrhizal Fungi in Shola Forests of Kodaikanal, Southern India. International Journal of Life scienceand PharmaResearch 10:109-116
6. **Uma E**, Rajendran R. Muthukumar T (2015) Morphology, anatomy and mycotrophy of pseudobulb and subterraneanorgans in Eulophia epidendraea and Malaxis acuminata (Epidendroideae, Orchidaceae). Flora Morphology Distribution Functional Ecology of Plants 217:14-23
7. Muthukumar T, Sathiyaraj G, Priyadharsini P, **Uma E** and Sathiyadash K (2014) Arbuscular mycorrhizal and dark septate endophyte fungal associations inferns and lycophytes of Palni Hills, Western Ghats, southern India. Revista Brasileira De Botanica 37:561-581
8. **Uma E** and Muthukumar T (2014) Comparative root morphological anatomy of Zingiberaceae. Systematics and Biodiversity 12: 195-209
9. MuthukumarT, **Uma E**, Priyadharsini P. (2014) Occurrence of foliicolous parasitic alga *Cephaleuros virescens* on cultivated ornamental plants in southern India. Botanica Lithuanica 20: 87-98

10. Muthuraja R. Muthukumar T, Sathiyadash K, **Uma E**, Priyadharsini P (2014) Arbuscular Mycorrhizal (AM) and Dark Septate Endophyte (DSE) fungal association in lycophytes and ferns of the Kolli Hills, Eastern Ghats, Southern India. *American Fern Journal* 104: 67-102
11. Muthukumar T, **Uma E**, Pandey R R. (2013) Root morphology and mycotrophy of *Disperis neilgherrensis* (Orchidaceae) from Western Ghats, southern India. *Anales de Biología* 35: 89-94
12. Sathiyadash K, Muthukumar T, Murugan S.B, Sathishkumar R, **Uma E**, Jaison S, Priyadharsini P (2013) In vitro asymbiotic seed germination, mycorrhization and seedling development of *Acampae praemorsa* (Roxb.) Blatt. & Mc Cann, a common south Indian orchid. *Asian Pacific Journal of Reproduction* 2: 114-118
13. Sathiyadash K, Muthukumar T, **Uma E**, Pandey R.R. (2012) Mycorrhizal association and morphology in orchids. *Journal of Plant Interactions* 7: 238-247
14. **Uma E**, Sathiyadash K, Loganathan J, Muthukumar T (2012) Tree species as hosts for arbuscular mycorrhizal and dark septate endophyte fungi. *Journal of Forestry Research* 23: 641-649
15. Muthukumar T, **Uma E**, Karthikeyan A, Sathiyadash K, SarahJaison, Priyadharsini P, Ishworani C, Muniappan V. (2011) Morphology, anatomy and mycorrhizae in subterranean parts of *Zeuxine gracilis* (Orchidaceae). *Anales de Biología*, Volume 33, Year 2011, Pages 127-134
16. Sathiyadash K, Muthukumar T, **Uma E**. (2010) Arbuscular mycorrhizal and darkseptate endophyte fungal associations in South Indian grasses. *Symbiosis* 52: 21-32
17. Uma E, Muthukumar T, Sathiyadash K, Muniappan V (2010) Mycorrhizal and darkseptate fungal associations in gingers and spiral gingers. *Botany* 88: 500-511
18. Muthukumar T, Sathiyadash K, **Uma E**, Muniappan V. Arbuscular mycorrhizal morphology in sporophyte of *Psilotum nudum*. *Phytomorphology an International Journal of Plant Morphology*, Volume 59, Year 2009, Pages 141-146

Book Chapters Published (Indexed):

1. Arindam Ganguly, Ritwick Konar, Ponmurugan Karuppiyah, **Uma Eswaranpillai**, Mousumi Ganguly, Manasi Chattaraj, Debasis Mitra, and Sourav Chattaraj (2025) Sustainable Valorization of Food Waste Through Bacterial Biofilm: A Pathway Towards Environmental Safety and Economic Viability. In: *Biofilm Applications to Revolutionize Food Technology*, Volume 1, Pages 293-308 . Springer Nature
2. Ponmurugan Karuppiyah, Kamali Joshna Thayalan, Gopukumar Sivakumar Thangam & **Uma Eswaranpillai** (2025) Bio- Control Agents: a Sustainable Approach for Enhancing Soil Nutrients Use efficiency in Farming. In: *Bio-control Agents for Sustainable Agriculture Diversity, Mechanisms and Applications*, Volume 1, Pages 209-260. Springer Nature
3. **Uma E**, Tamil Selvi K.S and Ponmurugan K (2025) Propagation and Mass production of Mangrove microbiome as a source of plant growth promoter. In: *Mangrove Microbiome Diversity and Bioprospecting*, Volume, Pages 127-150. Springer Nature

4. Muthukumar T, Priyadharsini P, **Uma E**, Jaison S, Pandey R.R. (2014) Role of arbuscular mycorrhizal fungi in alleviation of acidity stress on plant growth. Use of Microbes for the Alleviation of Soil Stresses 1: Pages43-71. Springer
5. Muthukumar T, **Uma E**, Priyadharsini P (2013) Arbuscular mycorrhizal fungal strains and soil type influence growth, nodulation, and nutrient uptake of *Casuarina equisetifolia*. Microbiological Research in Agroecosystem Management 35-52. Springer.
6. Jaison S, **Uma E**, Muthukumar T (2011) Role of organic amendments on arbuscular mycorrhizal formation and function. In: Soil microbes and environmental health 217-237. Nova Publishers (USA)
7. **Uma E**, Jaison S, Muthukumar T (2011) Influence of organic pollutants on arbuscular mycorrhizal fungi. In: Mycorrhizal Fungi Soil Agriculture and Environmental Implications 113-132. Nova Publishers (USA)

Book Published

A national book entitled "Contemporary multi-disciplinary research trend" edited by Yadav WK, Futane GS, Sowmya HS, Padma KR, **Uma E** and Sudarshan M, Notion press India. Singapore. Malaysia, ISBN-13:978-1685861445. Publication Date-**6th October** 2021.

Conference Proceedings

1. Kamali Joshna T, **Uma E**, Shyamkumar R, Ponmurugan K (2024) Exploring the plant growth promoting and pathogen resistant properties of *Bacillus amyloliquefaciens* HSB in sustainable agriculture. 9th Asian PGPR India Chapter National Conference proceedings Beneficial Microbes for Sustainable Agriculture. Ed: P. Ponmurugan, A. Anitha, M.S. Reddy organized by Department of Botany, Bharathiar University, Coimbatore
2. Sathiyadash K, Muthukumar T, Murugan S.B, Sathishkumar R, **Uma E**, Jaison S, Muniappan V (2011). Mycorrhizal association, characterization and molecular identification and seed germination of south Indian Orchids. The 4th International Barcode of Life Conference,
3. **Uma E**, Sathiyadash K, Muniappan V, Sarahjaison and Muthukumar T (2009) Arbuscular mycorrhizal fungal associations in Zingiberaceae and Costaceae. National workshop on Biodiversity of fungi with special reference to mushrooms,
4. Sathiyadash K, **Uma E**, MuniappanV, Sarah jaison and MuthukumarT (2009) The mycorrhizal status of south Indian epiphytic orchids. National workshop on Biodiversity of fungi with special reference to mushrooms

NCBI submission

1. Kamali Joshna T, **Uma E**, Ponmurugan K, Radhakrishnan M (2025) PX457240.1 (2025) *Streptomyces diastaticus* strain ACTS1 16S ribosomal RNA gene, partial sequence-Isolation of microorganisms from Termite soil, Tirupur District
2. **Uma E**, Ponmurugan K, Shalini M, Kamali Joshna T and Lakshmi Priya P (2024) PP439591.1 *Bacillus amyloliquefaciens* strain HSB16S ribosomal RNA gene, partial sequence-Isolation of microorganisms from rhizosphere soil, Tirupur District.

3. **Uma E**, Ponmurugan K, Shalini M, Kamali Joshna T and Lakshmi Priya P (2024) PP301400.1 *Bacillus cereus* strain RNC 16S ribosomal RNA gene, partial sequence-Isolation of microorganisms from *Centella asiatica* root
4. **Uma E**, Ponmurugan K, Shalini M, KamaliJoshna T and Lakshmi Priya P (2024) PP301384.1 *Brevibacillus agri* strain RBC1 16S ribosomal RNA gene, partial sequence-Isolation of microorganisms from *Centella asiatica* root
5. **Uma E**, Ponmurugan K, Shalini M, Kamali Joshna T and Lakshmi Priya P (2024) PP301382.1 *Cytobacillus firmus* strain PABA16S ribosomal RNA gene, partial sequence-Isolation of microorganisms from *Centella asiatica* leaf
6. **Uma E**, Ponmurugan K, Shalini M, Kamali Joshna T and Lakshmi Priya P (2024) PP301380.1 *Bacillus thuringiensis* strain LDB516S ribosomal RNA gene, partial sequence-Isolation of microorganisms from *Centella asiatica* leaf
7. **Uma E**, Ponmurugan K, Shalini M, Kamali Joshna T and Lakshmi Priya P (2024) PP301375.1 *Pseudomonas plecoglossicida* strain CSD 16S ribosomal RNA gene, partial sequence-Isolation of microorganisms from dye effluent soil, Tirupur District
8. **Uma E**, Ponmurugan K, Shalini M, Kamali Joshna T and Lakshmi Priya P (2024) PP301373.1 *Pseudomonas putida* strain CBC1 16S ribosomal RNA gene, partial sequence-Isolation of microorganisms from dye effluent soil, Tirupur District
9. **Uma E**, Preetha R and Swathi Priya V (2022) ON680892.1 *Stenotrophomonas geniculata* strain B_02 16S ribosomal RNA gene, partial sequence-Isolation of Exopolysaccharide from marine samples
10. **Uma E**, Preetha R and Swathi Priya V (2022) ON680891.1 *Enterobacter cloacae* strain B_01 16S ribosomal RNA gene, partial sequence-Isolation of Exopolysaccharide from marine samples
11. **Uma E**, Preetha R and Swathi Priya V (2022) ON680843.1 *Bacillus subtilis* strain BCRS_107 16S ribosomal RNA gene, partial sequence-Isolation of Exopolysaccharide from agricultural soil samples
12. **Uma E**, Preetha R and Swathi Priya V (2022) ON680842.1 *Ralstonia mannitolilytica* strain BCRS_106 16S ribosomal RNA gene, partial sequence-Isolation of Exopolysaccharide from agricultural soil samples
13. **Uma E**, Preetha R and Swathi Priya V (2022) ON680841.1 *Enterobacter asburiae* strain BCCS_104 16S ribosomal RNA gene, partial sequence-Isolation of Exopolysaccharide from agricultural soil samples
14. **Uma E**, Preetha R and Swathi Priya V (2022) ON680840.1 *Stenotrophomonas maltophilia* strain BCBS_105 16S ribosomal RNA gene, partial sequence-Isolation of Exopolysaccharide from agricultural soil samples
15. **Uma E**, Preetha R and Swathi Priya V (2022) ON680893.1 *Stenotrophomonas geniculata* strain B_03 16S ribosomal RNA gene, partial sequence-Isolation of Exopolysaccharide from marine samples
16. **Uma E**, Preetha R and Swathi Priya V (2022) ON681719.1 *Enterobacter cloacae* strain B1 16S ribosomal RNA gene, partial sequence-Isolation of Exopolysaccharide from

marine samples

17. **Uma E**, Preetha R and Swathi Priya V (2022) ON681720.1 *Enterobacter cloacae* strain B2 16S ribosomal RNA gene, partial sequence-Isolation of Exopolysaccharide from marine samples
18. **Uma E**, Preetha R and Swathi Priya V (2022) ON681721.1 *Lysinibacillus macroides* strain B3 16S ribosomal RNA gene, partial sequence-Isolation of Exopolysaccharide from marine samples
19. **Uma E**, Preetha R and Swathi Priya V (2022) ON681722.1 *Enterobacter cloacae* strain B4 16S ribosomal RNA gene, partial sequence- Isolation of Exopolysaccharide from marine samples
20. **Uma E**, Preetha R and Swathi Priya V (2022) ON681723.1 *Enterobacter cloacae* strain B5 16S ribosomal RNA gene, partial sequence- Isolation of Exopolysaccharide from marine samples

Acted as a Resource Person

- Acted as “**Resource Person**” in the Corporation Government High school, Varatharajapuram, Coimbatore.
- Acted as “**Moderator**” at the International Conference on “Recent Innovations in Biological Research” held at Department of Botany, PSGR Krishnammal College for Women, Coimbatore.

Members in other Colleges

- **Advisory Committee member of International Virtual Conference** on Biological Innovations & Computational Exploration for Pandemic Challenges (BICPAC’22) organized by Department of Biotechnology & Bioinformatics, Bishop Heber College, Trichy dated on 24th & 25th February 2022
- PSG College of Arts and Science College, Coimbatore

Reviewer in Journal

- Journal of Plant Biochemistry and Biotechnology
- Biosciences Biotechnology Research Asia
- Journal of Advances in Biology & Biotechnology
- Archives of Current Research International
- JoVE Peer Review
- Plant Science today
- Nordic Journal of Botany

Paper Presentations in Conference/Seminars

- ❖ Presented scholarly papers in conferences and seminars, contributing to knowledge exchange to a total of International -15 and National -20

Participation in Conference/Seminars/Workshops/Training Programs

- Engaged in over 25 academic and professional events, including conferences, seminars, workshops, and training programs

Participation in Faculty Development Programme

Participated in 30 National and International FDPs to strengthen subject expertise and teaching skills

- ❖ Faculty Induction Programme, Hyderabad University, Coimbatore from 01/11/2022 to 30/11/2022.
- ❖ NEP 2020 Orientation & Sensitization Programme, Malviya Mission Teacher Training Programme, Coimbatore Institute of Technology from 12/02/2024 to 21/02/2024.
- ❖ Refresher Course in Research Methodology. Ramanujan College from 24/04/2024 to 10/05/2024.

Participation in Webinar

- ❖ Participated in 22 National and International Webinars to enhance professional knowledge and skills.

Conference/Seminar/Workshop Organized

- Coordinated various academic events such as webinars, guest lectures, workshops, Institutional Visits, Community oriented activities, Awareness programmes, and International Video Conferences.

Grants

Project Title	Funding Agency	Duration	Sanction Cost	Role	Status
Develop an indigenous pilot plant for the production of polysaccharides from microorganisms	GRG Trust	2021-2023	2,00,000	PI	Completed

Membership in Professional Bodies

Name of the Professional Body	Nature of membership	Duration
Indian Science Congress Association	Life member	Life member

Indexing and Citations

H index- 12 ; I-10 Index-12; Citation-380

Contribution

- UMIS Co-ordinator (College level) since 2024 onwards
- Digilocker Co-ordinator (College level) since 2024 onwards
- IDA Award (Segment 2) Co-ordinator in 2025
- Coursera Co-ordinator (Department Level) in 2025
- Website Co-ordinator (Department Level) from 2018 to till date
- NIRF Co-ordinator (Department Level) from 2023 to till date

- ERP Co-ordinator (Department Level) from 2018 to till date
- NAAC-Criteria-I (Department Level)In-charge since 2018 onwards
- IIC Committee member (College Level) in 2021-2022
- UG and PG Admission In-charge since 2015 onwards
- M.Phil and Ph.D Admission Incharge from 2018 to 2022
- Alumni association (Department Level) In-charge in 2017-18
- Karishma Co-ordinator (Department Level) during 2022.
- Chemical In-charge (Department Level) from 2015 to 2023.
- Glassware In-charge (Deapartment Level) since 2024 onwards
- Department Association In-charge in 2020-21
- Naturalistic association (Department Level) In-charge in 2020-21
- Department BOS member In-charge in 2016-19
- Syllabus In-charge (Department Level) in 2020-23; 2022-25
- Institute Innovation Cell – member (College level) during 2023.
- Academic and Administrative Audit In-charge (Dept. level) for the period from 2019-2022.