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Name: **Dr V.Mahalakshmi**

Designation: Associate Professor & Head

Education: M.Sc., M.Phil., Ph.D

- B.Sc, Madurai Kamarajar

University, 1991

- M.Sc., Applied Microbiology,
Bharathiar University, 1994

• Qualified for SLET in Microbiology
in 1999.

• M.Phil – Microbiology, Annamalai
University, 2006

- Ph.D: Microbiology Bharathiar
University, 2014.

Courses taught: B.Sc- Microbial Physiology, Microbial Genetics & Molecular biology, Forensic science.

M.Sc- Microbial Genetics & Molecular biology, Virology, Research Methodology & Biostatistics, Microbial Physiology, Health research.

Research Projects: Microproject sponsored by the Research & development cell of Madras Christian College on the topic “An Inbuilt Industrial Compost Unit for Biodegradation of Plastic Wastes on the Campus”

Completed the Doctoral Programme and conferred with Ph.D degree in Microbiology on 17-11-2014 by Bharathiar University, Coimbatore. Research area: “Physicochemical, Genetic and Molecular analysis of Polyethylene degrading potential of microorganisms isolated from compost soil.”

Got qualified for the SLET exam in Microbiology conducted by Bharathidasan University in the year 1999.

Participated in the Refresher Course in Microbiology (Batch III) conducted by the University of Madras & Academic Staff College in the year 2003 and the Orientation Course Batch – 104 conducted by the University of Madras & Academic Staff College in the year 2011. Published two books on Enzyme technology and Experimental Immunology.

Resource person for the National Conference 'Biosummit' organized by the Department of Biosciences, Hindustan College on February 3rd, 2018.

Chosen for the visiting Professorship to Elmhurst College, under the MCC-Elmhurst partnership programme on October 25th, 2019.

Highlights

Featured Publication:

Authored a book chapter entitled “Survey of Nanohybrid Materials in Textile Dyes Removal” by Springer (in press)

Co-authored a book chapter entitled “Bioremediation of Pharmaceutical Pollutants through Microbial fuel cells” published by Springer on 6-10-2022.

Authored a book on ‘Experimental Immunology’ by the Yes Dee publishers, Chennai in the year 2018. ISBN: 978 93 80381 701.

doi: 10.5958/2455-7218.2022.00014.6
doi.org/10.22059/POLL.2022.347672.1591

Positions:

1. Nominated by Tamilnadu State Council for Higher Education (TANSICHE) as one of the Subject Expert Committee Members to scrutinize and revamp the UG and PG syllabus for Microbiology subject from 28-06-2022 to September 15-09-2022.

2. Panel member for M. Phil. Affiliation Committee and Staff Recruitment and Qualification Approval and Ratification Committee nominated by the University of Madras.

Prominent Recognitions:

1. Recipient of the Best Women Faculty Award for the academic year 2019-2020 by Nature Science Foundation on 11-01-2020.

2. Conferred with the Award of Excellence in the field of Biosciences by Biotechnika Info Pvt Ltd on November 7th, 2017.

3. Participated as an Item Writer in the Question Bank Workshop on Biological Sciences held in the year 2011 By Staff Selection Commission (Southern Region), Government of India.

4. Won the Award of Certificate of Merit in the Paper presentation in the International Conference on Modern Biology and Environmental Management conducted by the Department of Zoology, Vivekanandha College for Women, Trichengodu, January 28th, 2017.

4. Bagged the best oral presentation Award in the National Conference on “CONTAGION 2022- Current Trends and Challenges in Viral Mutant Variants” held on 17-09-2022, organized by the Department of Microbiology, Prof Dhanapalan College, Chennai.

Detailed CV

1. **Name:** Dr V.Mahalakshmi

2. **Education:** M.Sc., M.Phil., Ph.D.

Got qualified for the SLET exam in Microbiology conducted by Bharathidasan University in the year 1999

3. **Publications: Book Publication :**

Published a book titled "Enzyme Technology" by Shantha Publishers, Chennai, ISBN: 9788186689684 in the year 2009.

Published a book on 'Experimental Immunology' by the YesDee publishers, Chennai in the year 2018. ISBN: 978 93 80381 701.

Book chapters:

Mahalakshmi, V., Growther, L. (2023). Survey of Nanohybrid Materials in Textile Dyes Removal. In: Ahmad, A., Jawaid, M., Mohamad Ibrahim, M.N., Yaqoob, A.A., Alshammari, M.B. (eds) Nanohybrid Materials for Treatment of Textiles Dyes. Smart Nanomaterials Technology. Springer, Singapore. https://doi.org/10.1007/978-981-99-3901-5_2

Lali, G., **Mahalakshmi, V.**, Seenuvasan, M., Sarojini, G. (2023). Recovery and Removal of Textile Dyes Through Adsorption Process. In: Ahmad, A., Jawaid, M., Mohamad Ibrahim, M.N., Yaqoob, A.A., Alshammari, M.B. (eds) Nanohybrid Materials for Treatment of Textiles Dyes. Smart Nanomaterials Technology. Springer, Singapore. https://doi.org/10.1007/978-981-99-3901-5_9.

Growther, L., **Mahalakshmi, V.** and Yoonus, P., 2022. Bioremediation of Pharmaceutical Pollutants Through Microbial Fuel Cells. In Microbial Fuel Cells for Environmental Remediation (pp. 195-210). Springer Nature Singapore. https://doi.org/10.1007/978-981-19-2681-5_11.

Gen Bank Publication:

Deposited Three Bacterial Strains in Gen Bank with the Accession numbers JQ904750 for *Bacillus megaterium* B1, JQ904749 for and JQ904748 for *Pseudomonas mediterranea* M2 in the year 2010.

Four bacterial strains with accession numbers -MH734254, MH734244, MH715277, and MH734252 in the year 2018 and two bacterial strains with accession numbers- MT780131 and MT780132 in the year 2020.

Paper publications:

- **Mahalakshmi.V.** (2012). Assessment of Physicochemically Treated Plastics. Journal of Annals of Biological Research" ISSN- No: 0976-1233.

- Abubakker Siddiq, **Mahalakshmi.V.**(2012) Analysis of Polyethylene Degrading Potential of Microorganisms Isolated from Compost Soil. International Journal of Pharmaceutical and Biological Archives 3(5):1190-1196, ISSN 0976-3333.

- Sabari, **Mahalakshmi.V** (2012). Genetic analysis of Plastic Degrading Bacterial Strains. International Journal of Pharmaceutical and Biological Archives 3(5):1174-1179, ISSN 0976-3333.

- Roshnee.J, **Mahalakshmi.V.** (2013). Evaluation of Polyurethane Degrading Potential of Microorganisms by GC-MS. Journal of Microbiology and Biotechnology Research, ISSN:2231-3168.

- Shresthra Verma, Abirami.S, **Mahalakshmi.V.** (2013). Anticancer and Antibacterial Activity of Silver Nanoparticles Biosynthesized by *Penicillium* spp and its Synergistic Effect with Antibiotics” in the Journal of Microbiology and Biotechnology Research, ISSN :3(3);54-71.
- **Mahalakshmi.V.**(2014). Review article on ‘Evaluation of Biodegradation of Plastics. International Journal of Innovative Research and Development.
- Selvakumari D., Deepa R., **Mahalakshmi V.**, Subhashini P., Lakshminarayan N. Anticancer activity of ZnO Nanoparticles on MCF7 (Breast cancer cell) and A549 (Lung cancer cell). ARPN Journal of Engineering and Applied Sciences, ISSN 1819-6608, Vol.10, No.12, July 2015.p.no 5418-5421.
- Abubakker Siddiq, **Mahalakshmi.V.** (2015). Enhanced Biodegradation of Polyethylene by Development of a Consortium. Journal of Advances in Applied Science Research 6-4;183-189.
- Muthuraj. K, **Mahalakshmi.V.** (2016). Preliminary Study to Enhance the Growth Rate of Bacteria. International Journal of Innovative Research and Advanced Studies: ISSN:2394-4404.
- **Mahalakshmi.V.**, Ditisha Bhagawati. (2017). Testing the Efficacy of Phytohormones of Microbial Origin in Promoting Plant Growth. Journal of Microbiology and Biotechnology Research, ISSN:2231-3168. Volume 7, Issue 1.p.no 1-8.
- **Mahalakshmi.V.** (2018). Fermentation Process of Liquid Food in Sangam Literature. Aaivusudar.pannattupanmugha Tamil. min.aaivithal, ANJAC, Sivakasi, Tamilnadu, India. Malar-1, Ethal-1.
- Sandhya.S, **Mahalakshmi.V.** (2018). A Study on Bacterial Diversity undertaken at the Madras Christian College. International Journal of Basic and Applied Research, ISSN 22493352. Vol.8, Issue 9.
- Hanumitha.S, **Mahalakshmi.V.** Abirami.S.(2018). Biosynthesis of Zinc oxide Nanoparticles using *Bacillus* species Potentiates Anticancer and Antimicrobial activity. International Journal of Trend in Scientific Research and Development, ISSN: 2456-6470. Volume 2, Issue 5, p.no 1797-1802.
- Arthi.V., **Mahalakshmi.V.**, (2018). Phylogenetic Relationship between Microbial Communities in Waste Water. IOSR journal of Environmental science, Toxicology, and Food Technology, ISSN;2319-2402.Volume 12, issue 6. p.no 57-63.
- Girish.M., Abirami.S., **Mahalakshmi.V.**(2018). Exploring the Nutritional Values of Hydrogenotrophic Bacteria as Space Food. International Journal of Scientific Research and Development, ISSN: 2455-2631.Volume 3, Issue 12.p.no 73-76.
- Arunmozhi Bharathi Achudhan., **Mahalakshmi.V.** (2021). Molecular Characterization of β -Agarase produced by *Sphingomonas paucimobilis*, a Marine Bacterium. Bacterial Empire, Scicell, Volume X No. X, e159.doi.org/10.36547/be.159.
- Nisha Jose., Kanmani Ganesh., **Mahalakshmi.V.** (2021). Preliminary Study to Exploit Bioenergy from Luminescent Bacteria. Drugs and Cell Therapies in Haematology (ISSN: 2281-4876) Volume 10 Issue 1. p.no 1914-1925.
- E.Sumithra and **Mahalakshmi.V** (2022). Synergistic Antibacterial Activity of the Probiotic Kefir with Conventional Antibiotics. Indian Journal of Natural Sciences. ISSN 0976-0997, Volume 13, Issue 71. P.no 40456-40462.
- Bilvika.S and **Mahalakshmi.V** (2022). Enhanced Expression of Lactate Dehydrogenase Genes in *Lactobacillus* using Capsaicin Enzyme. The Journal of Indian Botanical Society Vol 102(2):123-131. doi: 10.5958/2455-7218.2022.00014.6

- Thillaivendan, L., **Mahalakshmi V.** (2023). Novel Eco-Friendly Herbal Based Air Freshener Formulation as Air-Borne Fungal Repellent in Indoor Environments Through Real-Time Monitoring. *Pollution*, 9 (2), 557-566. DOI: <http://doi.org/10.22059/POLL.2022.347672.1591>
- Paul Lalremruot Pakhuongte., **Mahalakshmi Velrajan** (2024). A Novel Nanocomposite Cellulose Acetate Membrane using Green Synthesized Silver Nanoparticles for Bioremediation of Leachate. *Pollution*, 10 (1), 168-182. <http://doi.org/10.22059/POLL.2023.361606.1976>.

4. **Research Interests:** Environmental Microbiology, Molecular biology

5. **Courses taught (UG & PG for the past 5 years)**

B.Sc- Microbial Physiology, Microbial Genetics & Molecular biology

M.Sc- Microbial Genetics & Molecular biology, Virology, Research Methodology & Biostatistics, Microbial Physiology.

6. **Awards/ Honors:**

- Bagged the Best Oral Presentation Award in the National Conference on “CONTAGION 2022- Current Trends and Challenges in Viral Mutant Variants” held on 17-09-2022, organized by the Department of Microbiology, Prof Dhanapalan College, Chennai.
- Chosen for the visiting Professorship to Elmhurst College, under the MCC-Elmhurst partnership program on October 25th, 2019.
- Recipient of the Best Women Faculty Award for the academic year 2019-2020 by Nature Science Foundation on 11-01-2020
- Conferred with the Award of Excellence in the Field of Biosciences by Biotechnika info Pvt Ltd on November 7th, 2017
- Won the Award of Certificate of Merit in the Paper Presentation at the International Conference on Modern Biology and Environmental Management conducted by the Department of Zoology, Vivekanandha College for Women, Trichengodu, January 28th, 2017.

ii. **Presentations:**

- “Microbial Degradation of Cellulose in Sugar Mill Effluents in the X Southern Regional Conference on Microbial inoculants conducted by AVVM. Sri b Pushpam College, Poondi, on 10th& 11th December 1996.
- “Biodegradation of Petroleum Products” in the Indian Association of Applied Microbiologists (IAAM), Hosur, 2006.
- “Biodegradation of plastics” in IAAM, held at SRM College, Chennai and bagged the II Best Paper Award.
- “Assessment of Plastic Degradation by Fungal Isolates” in the National Seminar on Environmental Monitoring. Issues and challenges”, organized by the Department of Geography, Madras Christian College on 9th February 2011.
- Assessment of Polyethylene Degrading Potentials of Microorganisms isolated from Compost Soil” in the National Conference conducted by Prathyusha Institute of Technology & Management on Aug 2nd& 3rd 2012.

iii. **Resource Persons:**

- Served as a resource person and delivered a video conference lecture on “Teaching Infused with Ethical Perceptions” in the FDP program on “Classroom Management

in this Digital Era” organized by the Department of Microbiology, Hindusthan College, Coimbatore on 4-12-2023.

- Served as an External Expert in the Staff Recruitment Panel for recruitment of staff in Life sciences conducted by Bharath Institute for Higher Education on 07-08-2023.
- Nominated by Tamilnadu State Council for Higher Education (TANSICHE) as one of the Subject Expert Committee Members to scrutinize and revamp the UG and PG syllabus for Microbiology subject from 28-06-2022 to September 15-09-2022.
- Served as a Subject Expert in the Staff Recruitment Panel for recruitment of staff in Life sciences conducted by Bharath Institute for Higher Education on 16-09-2022.
- Resource person for Microbiology Department Association inauguration “The Pasteurians” on the topic “Outcome-based education in research” at Hindusthan College on 13-08-2021.
- Resource person for the Value-added Course on “Molecular basis of Plant-Microbe Interaction” offered by the School of Agriculture and Biosciences, Karunya Institute of Technology & Sciences on 05-06-2020.
- Observer for the International Science Symposium on “HIV and Infectious Diseases”, organized by YRG Care and Sri Ramachandra Institute for Higher Education and Research from October 12th to 14th, 2019.
- Delivered a Guest lecture on “Microbiology of Food Safety” on 13th June, 2019 organized by the PG and Research Department of Microbiology at Hindusthan College of Arts and Science, Coimbatore.
- Delivered a Guest lecture on “Microbiological standards for Food Safety” organized by the School of Biosciences and Technology, VIT Vellore on 25th, March 2019.
- Served as a Resource Person for the Microbiology Department Forum Inauguration “Microzeal 2018” at C.S.I. Ewart Women’s Christian College, Melrosapuram on 24th, October, 2018.
- Served as a Subject Expert for the Board of Studies in Microbiology in reputed colleges in Chennai.
- Resource person for the National Conference 'Biosummit' organized by the Department of Biosciences, Hindusthan College on February 3rd, 2018.
- Item writer/Examiner in the Question bank workshop for Microbiology subject conducted by Tamilnadu Public Service Commission (TNPSC) from 19-09-2016 to 25-09-2016.
- Delivered a lecture on “Hybridoma Technology” at The Standard Fireworks Rajaratnam College, Sivakasi on September 9th, 2015.
- Item Writer in the Question Bank Workshop on Biological Sciences held in the year 2011 By Staff Selection Commission (Southern Region), Government of India.

Jury in social media:

- Participated as a jury in a talk show on the theme “Pros and cons of Food Security Act” on 10th, December, 2016 conducted by Kalaignar TV.
- Participated as a jury in a talk show on the theme “Whether Packed Foods are Safe or not” conducted by Kalaignar TV in July 2015.

7. Administrative Positions:

- I. Panel Member for M. Phil. Affiliation Committee nominated by the University of Madras
- II. Panel Member of the University Staff Recruitment and Qualification Approval and Ratification Committee nominated by the University of Madras.
- III. Served as a Chairman of the Undergraduate University Board of Examinations from December 2006 to December 2007.
- IV. Currently Examiner in PG Board of University Examinations.
- V. Chairman of the End Semester Examinations in MCC from Nov 2008 to December 2017 and from April 2020 onwards.
- VI. Member of the Board of Examiners to adjudicate Ph.D thesis in the Bharathiar University, Coimbatore.
- VII. Served as the Course Supervisor for the PGDMLT course offered by the School of Continuing Education of Madras Christian College from 2008 to 2019.