



Dr. M.Meenakshisundaram

Assistant Professor & Head of the Department

Contact

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Academic Qualifications:

M.Sc., Ph.D.,

Degree	College/ University/Board	Year of Passing/ Awarded	Major Subjects Offered	Marks Obtained (CGPA)/ Total Marks (CGPA)	Percentage /Division	Specialization
UG	Madurai Kamaraj University, Madurai.	2000	Botany	2295/3600	63-I	Plant Biotechnology
PG	Madurai Kamaraj University, Madurai.	2002	Botany	1638/2400	68. - I	Plant -Microbe interaction
Ph.D	Madurai Kamaraj University, Madurai.	2008	Botany	---	---	Microbiology

Teaching Experience: 11 Years and 7 Months (till Jan, 2020)

Sl.No.	Designation	From	To	Total
1.	Assistant Professor	15 June 2009	Till date	11 Years and 7 months

Areas of Research

1. Microbiology 2. Plant Biotechnology

Research Experience

Research Stage	Title of Thesis	University where the work is/was carried out
Ph.D	Studies on Arbuscular mycorrhizal fungi with <i>Gluconacetobacter diazotrophicus</i> and its effect on improvement of <i>sorghum bicolor</i>	Department of Botany, Thiagarajar College, Madurai.

Research Supervision / Guidance

Program of Study	Completed		Ongoing
	Ph.D.	M.Phil.	
Research	2	15	2 (Part Time)

FUNDED RESEARCH PROJECT

S.No	Funding Agency	Amount (Rs)	Topic	Period	Status
1	UGC	3, 30, 000/-	Detoxification of heavy metals by biosurfactant producing bacteria from uyyokindan river, Tiruchirappalli District	2015-2017	Completed
2	DST	9, 75, 000/-	Inspire Internship Science Camp	2018	Completed
3	DST	9, 75, 000/-	Inspire Internship Science Camp	2016	Completed
	DST	9, 75, 000/-	Inspire Internship Science Camp	2016	Completed
4	DST	9, 75, 000/-	Inspire Internship Science Camp	2015	Completed
5	DST	9, 75, 000/-	Inspire Internship Science camp	2015	Completed
6	DST	9, 75, 000/-	Inspire Internship Science Camp	2014	Completed
7	DST	9, 75, 000/-	Inspire Internship Science Camp	2013	Completed
8	IASc (Indian Academy of Sciences)	1, 43, 500/-	Science Academies Lecture Workshop on "Emerging vistas in Plant Sciences"	2017	Completed
9	IASc (Indian Academy of Sciences)	1, 85, 250/-	Science Academies Lecture Workshop on "New Frontiers in Plant Sciences and Biotechnology"	2016	Completed
10	IASc (Indian Academy of Sciences)	1, 25, 500/-	Science Academies Lecture Workshop on Modern Trends in Biological Sciences	2014	Completed
11	ICMR	40, 000/-	Workshop on Need based Value added Research Proposal writing	2014	Completed
12	CSIR	30, 000/-	National Seminar on Frontiers in Biotechnology	2013	Completed

RESEARCH PAPERS PUBLISHED:

- ❖ M.Pramila ., N. Prabhusaran., **M.Meenakshisundaram.,** J. Lalithambigai **and** P.Karthick, 2018. Evaluation of antibacterial potential of silver nitrate – *An invitro approach. Saudi Journal of pathology and microbiology.* 211-214.
- ❖ M.Pramila ., N. Prabhusaran., **M.Meenakshisundaram.,** J. Lalithambigai **and** P.Karthick, 2018. Characterization of *Azadirachta indica* mediated copper and silver nanoparticles comparative approach. *Annals of international medical and dental Research* . 4: (6) 1-6.
- ❖ M.Pramila ., N. Prabhusaran., **M.Meenakshisundaram.,** J.Lalithambigai and P.Karthick, 2018. Invitro antibacterial analysis of copper solution (microparticle) a novel anti-infective molecule for wound management. *Journal of dental and medical sciences*, 17: (7) 22-26.
- ❖ M.Pramila ., N. Prabhusaran., **M.Meenakshisundaram.,** J.Lalithambigai and P.Karthick and Ganeshkumar, 2018. An overview of factors influencing the occurrence of post operative wound infection. *World journal of pharmaceutical and medical research*, 4: (1) 57-66.
- ❖ M.Pramila ., N. Prabhusaran., **M.Meenakshisundaram.,** Prabakar, Y.K J.Lalithambigai and P.Karthick 2018. Antibacterial analysis of *ocimum sanctum* mediated silver and copper nanoparticles. *International Journal of Allied medical sciences and clinical Research*, 4: 827-837.
- ❖ M.Pramila ., **M.Meenakshisundaram.,** N. Prabhusaran., J.Lalithambigai and P.Karthick 2018. Evaluation of wound biofilm forming bacterial pathogens by crystal violet binding assay. *Asian journal of multidimensional Research*, 7: 1-18.
- ❖ M.Pramila ., **M.Meenakshisundaram.,** N. Prabhusaran., J.Lalithambigai and P.Karthick 2018. Post operative wound infection: Isolation, characterization and invitro antibiotic susceptibility analysis . *The Pharma innovation Journal*, 7 (7) 169-175.

- ❖ **M.Meenakshisundaram** and M.Pramila, 2018. An overview of factors influencing the occurrence of post operative wound infection . *World journal of Pharmaceutical and medical research*, 1:57-66.
- ❖ **M.Meenakshisundaram** and M.Pramila, 2017. Biosynthesis of iron (Fe) nanoparticles and its inhibitory effect on *Pseudomonas aeruginosa* biofilm. *Indian Journal of Applied Research*, 7: (8)251-259.
- ❖ **M.Meenakshisundaram** and M.Pramila, 2017. Detoxification of heavy metals by microbial biosurfactants *International Journal of Current Microbiology and Applied Sciences*, 6: (3)402-411.
- ❖ **M.Meenakshisundaram** and M.Pramila, 2016.Ecofriendly synthesis and characterization of silver Nanoparticles from *Azadirachta indica* and *Ocimum Sanctum* leaf extract. *International Journal of Scientific Research & Development*, 4: 2331-0613
- ❖ **M.Meenakshisundaram** , M.Pramila and R.Rameswari, 2016. Isolation and Screening of biosurfactant producing bacteria from uyyokondan river, Tiruchirappalli District, Tamil Nadu. *International Journal of Advanced Research*, (1) 170-176.
- ❖ R.Rameswari and **M.Meenakshisundaram**, 2015. Counts of indicator bacterial assemblages and concentration of trace metal and physiochemical analysis of oil polluted water and sediment samples from automobile garage in Tiruchirappalli city, India. *Int Research Journal of Env Science*, 4 (10): 1-10.
- ❖ R.Rameswari and **M.Meenakshisundaram**, 2015. Microbiological and physiochemical analysis of petroleum and diesel oil contaminated samples from motor mechanic workshop in trichy city, Tamilnadu, india. *Journal of Environmental science, computer science and technology*, 4:834-842.
- ❖ M.Pramila and **M.Meenakshisundaram**, 2015. An insilico approach to treat Halistosis disease using mint compound-Benzydamine. *International Journal of Pharma Biosciences*, (6) 2: 1197-1207.
- ❖ R.Rameswari and **M.Meenakshisundaram**, 2015. Characterization of PHA accumulating *Bacillus* sp associated with petroleum and diesel oil contaminated soil using traditional techniques. *International Journal of Advanced Research*, 3 (4) 226-232.

- ❖ **Meenakshisundaram, M and Bharathiraja, C.** 2014. Isolation and Molecular identification of Hydrocarbon degrading bacteria from oil contaminated soils from Tamil Nadu. *Indian Journal Applied Research*, 4: (7) 2249-2255.
- ❖ Subash, N., **Meenakshisundaram, M.**, Sasikumar, C and Unnamalai, N. 2013. Mass cultivation of *Trichoderma harzianum* using agricultural waste as a substrate for the management of damping off disease and growth promotion in chilli (*Capsicum annum*). *International Journal of Pharmacy and Pharmaceutical Sciences*, 6(5)188-192.
- ❖ Rameshwari, R and **Meenakshisundaram, M.**2013. A Review on downstream processing of Bacterial thermoplastic Polyhydroxyalkonate. *International Journal of Pure Applied Bioscience*, 2 (2) 68-80.
- ❖ Ramesh, P., Rajendran, A and **Meenakshisundaram, M.** 2013. Green synthesis of Zinc oxide nanoparticles using flower extract *Cassia auriculata*. *Journal of Nanoscience and Nanotechnology*, 2: (1) 41-45.
- ❖ R.Rameswari and **M.Meenakshisundaram.** 2013. A Review on bacterial polyhydroxyalkonate . *International Journal of Recent scientific Research*, 4: (11) 1781-1788.
- ❖ **M.Meenakshisundaram** and C.Bharathiraja.2013. Isolation of wood rot fungi from Maruthamali Hills Western Ghats area of south India, *International Journal of Current Microbiology and Applied Sciences*, 2: (9) 215-218.
- ❖ Bharathiraja, C., Anbalagan, S., Kannan, S., **Meenakshisundaram, M.**, Krishnan, M., Jean Francois Picimbon. 2013. Intra Populational Genetic diversity in the Tobacco Armyworm *Spodoptera Litura* (Lepidoptera: Noctuidae), *Asian Journal of Biochemical and Pharmaceutical research*, 2: (3) 100-113.
- ❖ Bharathiraja, C., Sukirtha, R., **Meenakshisundaram, M.**, Anbalagan, S., Krishnan, M and Baburaj, S.2013. *In vitro* micropropagation and somatic induction of *Tribulus terrestris* from nodal explants, *International Journal of Biology, Pharmacy and Allied Sciences*, 2 (4) 903-914.
- ❖ Sivaranjani, K and **Meenakshisundaram, M.**2013. Biological synthesis of silver nanoparticles using *ocimum basilicum* leaf extract and their antimicrobial activity, *International Research Journal of Pharmacy*, 4 (1) 225-229.

- ❖ Subash, N., **Meenakshisundaram, M.**, Unnamalai, N and Sasikumar, C.2013. Effect of *Trichoderma harzianum* to control damping off disease and capsicum annum growth promotion in chilli, *International Journal of Pharma Biosciences*, 4 (2) 1076-1082.
- ❖ Subash, N., **Meenakshisundaram, M** and Sasikumar, C. 2013. In vitro evaluation of different strains of *Trichoderma harzianum* as biocontrol agents of chilli, *International Journal of Biology, Pharmacy and Allied sciences*, 2 (2)495-500.
- ❖ Subash, N., Viji, J., Sasikumar, C and **Meenakshisundaram, M.** 2013.Isolation, media optimization and formulation of *Trichoderma harzianum* in agricultural soil, *Journal of Microbiology and Biotechnology Research*, 3 (1) 61-64.
- ❖ **M.Meenakshisundaram** and K.Santhaguru. 2012. Biocontrol potential of Fluorescent pseudomonas against wilt off tomato caused by *Fusarium oxysporum*. *International journal of science innovations and Discoveries*, (2) 152-163.
- ❖ **M.Meenakshisundaram** and R.Vasanthi. 2012. Optimization of Pectinase enzyme production by using sour orange peel as substrate in solid state fermentation. *Asian Journal of biochemical and pharmaceutical Research*, 1: (2) 16-26.
- ❖ **M.Meenakshisundaram**, and K.Santhaguru. 2011. Studies on association of Arbuscular Mycorrhizal fungi with *Gluconacetobacter diazotrophicus* and its effect on improvement of *Sorghum bicolor* (L.). *International journal of current scientific research*, 1 (2) 23-30.
- ❖ **M.Meenakshisundram**, K.Santhaguru and K.Rajendran. 2011. Effects of Bioinoculants on quality seedlings production of *Delonix regia* in tropical nursery condition. *Asian Journal of Biochemical and Pharmaceutical research*, 1 (1) 97-107.
- ❖ **M.Meenakshisundarm** and K.Santhaguru.2010. Isolation and nitrogen fixing efficiency of a novel endophytic diazotroph *Gluconacetobacter diazotrophicus* associated with *Saccharum officinarum* from southern districts of Tamilnadu. *International journal of Biological and Medical research*, 1 (4) 298-300.

- ❖ **M.Meenakshisundaram** and K.Santhaguru, 2009. Impact of *Glomus fasciculatum* and *Gluconacetobacter diazotrophicus* on alleviation of drought stress in *Sorghum bicolor* (L) Monech. *Journal of cell and Tissue Research*, 9 (3) 1957-1962.
- ❖ **M.Meenakshisundaram**, V.Kumarasamy and K.Santhaguru, 2009. Evaluation of grain legume rhizobia from semi arid regions of Tamil Nadu. *Electronic journal of Environmental sciences*, 2: 69-72.
- ❖ P.Kamalakaran, **M.Meenakshisundaram** and S. Chandrasekaran. 2008. Ecological studies on herbaceous vegetation in two dry deciduous forests in dindigul districts of Tamil Nadu. In: Forest biodiversity, vol 1, K.Mutuchelian; S.Kannaiyan, and A.Gopalam (Eds) Associated publishing company, New Delhi, pp 112-125.
- ❖ **M.Meenakshisundaram** and K.Rajendran, 2007. Microbial inoculants for quality seedlings production of Neem (*Azadirachta indica*) in tropical nursery conditions. *Journal of Non Timber Forest Products*.14 (4): 255-260
- ❖ **M.Meenakshisundaram** and K.Santhaguru.2005. Interaction between AM fungi and *Gluconacetobacter diazotrophicus* on infection, growth total nitrogen, phosphorus and soluble sugars and chlorophyll content in leaves of *S.bicolor*. *Journal of Soil Biology and Ecology*, **25**: 231-234.
- ❖ K.Senthilvadelan, **M.Meenakshisundaram** and K. Santhaguru, 2004. Arbuscular mycorrhizal diversity of tree-legumes in the soils of Sirumalai Hills. *Journal of Range management of Agroforestry*, **25**(2): 173-176.
- ❖ **M.Meenakshisundaram** and K.Santhaguru, 2006. Interactive effects of AM fungi and *Gluconacetobacter diazotrophicus* on alleviation of drought stress in *S.bicolor* (L) Monech. *Proceeding of National seminar on Current Trends in Biotechnological Application*, Thiagarajar College.Madurai.
- ❖ P.Muthumanickam, **M. Meenakshisundaram** and K.Santhaguru, 2006. Biocontrol basis of plant growth promotion by *fluorescent pseudomonads* and it's infested in *Lycopersicum esculentum*. *Proceeding of National seminar on Current Trends in Biotechnological Application*, Thiagarajar College.Madurai.

NATIONAL CONFERENCES / SYMPOSIUMS / WORKSHOPS PARTICIPATED

NATIONAL CONFERENCES :

- ❖ Presented research paper on “**Biosynthesis of silver Nanoparticles from *ocimum sanctum***” on DST Sponsored **National Conference on Emerging Trends and New Challenges in Biotechnology – Advances in Biomaterials and applications** held on 31st January, 2018, organized by Dept of Biotechnology, M.G.R.College, Hosur.
- ❖ Presented research paper on “**Detoxification of heavy metals by microbial Biosurfactants**” on DST Sponsored National Conference on Emerging Trends and New Challenges in Biotechnology held on 2nd -3rd, February, 2017, organized by Dept of Biotechnology, M.G.R.College, Hosur,
- ❖ Participated ICMR Sponsored **National seminar on Emerging Trends in Control of vectors and vector borne diseases** held on 29th-30th September, 2016, organized by PG & Research Department of Zoology, Nehru Memorial College (Autonomous), Puthanampatti, Tiruchirappalli.
- ❖ Participated one day Faculty Development Programme on “**Sustenance/Enhancement of quality in Higher education**” held on 5th August 2015, organized by Nehru Memorial College (Autonomous), Puthanampatti, Tiruchirappalli.
- ❖ Participated one day Faculty Development Programme on **Impact of Research on Teaching in Higher Education** held on 11th June 2014, organized by Internal quality Assurance cell of Nehru Memorial College (Autonomous), Puthanampatti, Tiruchirappalli
- ❖ Presented research paper on “Isolation and Identification of Polyaromatic Hydrocarbon degrading bacteria from oil contaminated soils of Tamil Nadu” on **National Conference on Innovations, Implementations and Controversies of Animal Biotechnology** held on 20th & 21st March, 2014, organized by Dept of Animal Science, School of Life Sciences, Bharathidasan University, Tiruchirappalli.

- ❖ Participated one day Seminar on **Examinations Reforms**, organized by the internal quality Assurance of cell of Nehru Memorial College (Autonomous), Trichy, held on 16 Feb 2012.
- ❖ Participated one day Seminar on **Examinations Reforms**, organized by the internal quality Assurance of cell of Nehru Memorial College (Autonomous), Trichy, held on 15 March 2012.
- ❖ Participated **Faculty Developmental Programme on Higher Education**, organized by the internal quality Assurance of cell of Nehru Memorial College (Autonomous), Trichy, held on 21 January 2012.
- ❖ Participated one day National seminar on **Modern Tools in Biotechnology**, organized by school of Biotechnology & Genetic Engineering, Bharathiar University, Coimbatore held on 22nd Feb 2008.
- ❖ Presented research paper entitled Interactive effects of AM fungi and *Gluconacetobacter diazotrophicus* on alleviation of drought stress in *S.bicolor* (L) Monech, on National seminar on **Current trends in Biotechnological application**, Thiagarajar College, Madurai held on 20th - 21 July, 2006.
- ❖ Presented research paper entitled Biocontrol basis of plant growth promotion by *fluorescent pseudomonads* and its infested *Lycopersicum esculentum*, on National seminar on Current trends in Biotechnological application, Thiagarajar College, Madurai held on 20th - 21 July 2006.
- ❖ Presented research paper entitled Ecological studies on herbaceous vegetation in two dry deciduous forests in Dindigul districts of Tamil Nadu, presented research paper on National conference on Forest biodiversity resources: Exploitation, Conservation and Management, CBFS, Madurai Kamaraj University, Madurai, 21-22nd March 2006.
- ❖ Presented research paper entitled Interaction between AM fungi and *Gluconacetobacter diazotrophicus* on infection, growth, total nitrogen, phosphorus and soluble sugars and chlorophyll content in leaves of *S.bicolor*, presented research paper on VIII National Symposium on Soil biology in human welfare, Ponnaiyah Ramajeyam College, Thanjavur, 5th- 7th Oct 2005.
- ❖ Presented research paper entitled “Biofertilizers the need of the hour” presented research paper on National Seminar Vivekananda College, Madurai on 29th 2002.

WORKSHOPS PARTICIPATED:

- ❖ Participated Two day Science Academies Lecture workshop on **“Recent trends in Microbiology and Biotechnology** organized by Dept of Microbiology, MGR College, Hosur held from 30 -31st January, 2018
- ❖ Participated Two day workshop on **“Innovative Curriculum Designing**, organized by Nehru Memorial College (Autonomous), Puthanampatti, Trichy, on 24th-25th November, 2017.
- ❖ Participated Two day workshop on **“Group Monitoring workshop for Inspire organizers”**, organized by Srivenkateswara University, Tripathi on 26th-27th August, 2017.
- ❖ Participated one day Faculty Development Programme on **“Effective Teaching**, organized by Nehru Memorial College (Autonomous), Puthanampatti on 12th June
- ❖ Participated Two-Day state level Training Program on **“Administrative Skill Development”**, organized by Nehru Memorial College (Autonomous), Puthanampatti, Trichy during Feb 23-24, 2017.
- ❖ Participated three days DST Sponsored National level workshop on **“Data Science Research –Biological Management”**, organized by Dept.of. Botany, Jamal Mohamed College, Trichy , during Jan 23-25th 2017.
- ❖ Participated in the National workshop on **Gas chromatographic techniques**, organized by Dept of Microbiology, Algappa University, Karaikudi during Dec 21, 2016.
- ❖ Participated Training programme on **Writing Research Proposals**, for College Teachers organized by School of Biological Sciences, Madurai Kamaraj University, Madurai, during May 21-30, 2012.
- ❖ Participated one day Training programme on **“Revisiting Examination system in the current scenario”** organized by the Nehru Memorial College (Autonomous) on 19th March 2016.
- ❖ Participated Training programme on **Autumn School in Biotechnology**, for College teachers organized by Plant Genetic Engineering lab, Department of Biotechnology, Bharathiar University, Coimbatore, during Sep 26-30, 2011

- ❖ Participated in the National level workshop **on Mycorrhizal techniques** organized by Dept.of. Botany & Microbiology, A.V.V.M.Sripuspham College, Poondi, Thanjavur, during March 13th 2007.
- ❖ Participated in the National Workshop on **“Advanced techniques in Molecular biology”** organized by Dept.of Biotechnology, J.J. College, Pudukkottai, Thanjavur, during 02th - 12th February 2005.
- ❖ Participated in the National Workshop on **“IPR and Patent awareness”** organized by Dept. of Biotechnology, J.J. College, Pudukkotai,Thanjavur sponsored by Department of Science and Technology. Held at Dept.of. Biotechnology, J.J College, Pudukkotai, Thanjavur, During 19th February 2005.

ADDITIONAL RESPONSIBILITIES

1. Served as **Head of the Department** of Botany, Nehru Memorial College from 12th June 2015 to till date.
2. Served as the **Chairman of the Board of Studies in Botany --- PG programme** of Nehru Memorial College from 2018 onwards.
3. Served as the **Chairman of the Board of Studies in Botany --- UG programme** of Nehru Memorial College from 2018 onwards.
4. Served as the **Coordinator** of the Self finance section from 2018 to till date
5. Served as the **Associate Dean of Research** from 2018 to till date