

Curriculum Vitae

Dr. M. Ramya

Professor

Department of Genetic Engineering

SRM University

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Academic Qualifications

S.No.	Degree	Institution & University	Year	Division/Class
1	Ph.D	Bharathidasan University, Trichirappalli ,Tamil Nadu	2008	Highly Commended
2	M.Sc, Microbiology	VHNSN College, Virudhunagar affiliated to MKU, Madurai ,Tamil Nadu	1999	I University III rank Holder
3	B.Sc. Microbiology	PGP college of Arts and Science, Namakkal affiliated to Madras University, Chennai, Tamil Nadu	1997	I

Professional Experience

Total Experience: 18 Years

- 2012 – Till date

Associate Professor, Department of Genetic Engineering, SRM University, Chennai,
Tamil Nadu, India

- 2008-2012

Assistant Professor, Department of Genetic Engineering, SRM University, Chennai,
Tamil Nadu, India

- 2002 – 2008

HOD, Department of Biotechnology, Bishop Heber College, Trichy, Tamil Nadu,
India

- 2000 - 2002

Lecturer, Department of Microbiology, Bhakthavatsalam Memorial College, Chennai, Tamil Nadu, India

- 1999- 2000

Lecturer, Department of Microbiology, Srimad Andavan College, Trichy, Tamil Nadu, India

Research Guidance

PhD Guidance

Completed: 5 students

- A. Muralidharan : Construction of a salt bridge microbial fuel cell for production of electricity using sewage substrate – Year 2014
- S.Radha : Screening and characterization of high lipid accumulating microalga *Ankistrodesmus* sps from freshwater environment – Year 2015
- Gayathri Devi : Screening and characterization of alkaline protease from the metagenomic library of tannery activated sludge. – Year 2015
- Anwar Aliya Fathima : Metabolic engineering of *Clostridium acetobutylicum* for enhanced solvent production - Year 2018.
- Mary Sanitha : Approaches to develop clostridia as a plant-fermenting biocatalyst – Year 2020

On Going : 3 Students

M.Tech Guidance

Completed: 10 students

Ongoing: 1 student

Sponsored Research Projects

S.No	Title	Role	Sponsoring Agency	Period	Amount
1	Development of diagnostic method based on Loop-mediated isothermal amplification (LAMP) for rapid and early detection of Leptospirosis (Lepto/28/2013-ECD-I)	PI	ICMR Extramural	2017-2020 Ongoing	30 lakhs
2	Concurrent production of acetone, butanol and ethanol by inactivation of acidogenesis pathway in <i>Clostridium acetobutylicum</i> ATCC 824 – a marker free approach (SB/FT/LS- 294/2012)	PI	DST FAST TRACK SERB	2013-2016 completed	22 lakhs
3	Isolation of the active compounds from the plant extracts that were identified to be effective against NDM1 positive bacteria	Co-PI	ICMR Extramural	2012 -2015 Completed	44.5 Lakhs
4	Understanding the role of Vacuolar-ATPase in regulation of lipid droplet dynamics in <i>Chlamydomonas reinhardtii</i>	Mentor	DST SERB	2019-2021	19 lakhs
5	Development of antimycotics against ring infections	Mentor	BIRAC SHISTI	2018	1 lakh

6	Metabolic pathway engineering of <i>Clostridium acetobutylicum</i> for homobutanol production through strategic manipulation of solvent production pathways BT/SB0086/02/19	PI	BIRAC	2020	17.55
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List of Publications

1. Shivakumar Renuka Dharani, Ramachandran Srinivasan, Reghunathan Sarath, Mohandass Ramya (2020) ,Recent progress on engineering microbial alginate lyases towards their versatile role in biotechnological applications, *Folia Microbiologica* , <https://doi.org/10.1007/s12223-020-00802-8>
2. Venkatesh Varsha, Sitaraman Aishwarya, Sarma Murchana, Gattuboyena Naveen, **Mohandass Ramya**, Pasupathi Rathinasabapathi (2020), Correction pen based paper fluidic device for the detection of multiple gene targets of *Leptospira* using Loop Mediated Isothermal Amplification, *Journal of Microbiological Methods*, Vol. 174 ,pp. 105962, <https://doi.org/10.1016/j.mimet.2020.105962>
3. Mary Sanitha, Anwar Aliya Fathima, Andrew C Tolonen, **Mohandass Ramya**, (2020) Engineering *Clostridium acetobutylicum* to utilize cellulose by heterologous expression of a family 5 cellulase, *Biofuels*, pp 1-6 DOI: [10.1080/17597269.2020.1746123](https://doi.org/10.1080/17597269.2020.1746123)
4. RS Dharshini, AA Fathima, SR Dharani, M Ramya,(2020) Utilization of Alginate from Brown Macroalgae for Ethanol Production by *Clostridium phytofermentans*, *Applied Biochemistry and Microbiology*, Vol 56 ,pp 173-178 , DOI: 10.1134/S0003683820020040
5. Srinivasan R , Chaitanyakumar A, Subramanian P, Mageswari A, Gomathi A, Aswini V, Sankar AM , **Ramya M**, Gothandam KM(2019), Recombinant engineered phage-derived enzybiotic in *Pichia pastoris* X- 33 as whole cell biocatalyst for effective biocontrol of *Vibrio parahaemolyticus* in aquaculture , *Int J Biol Macromol*. Nov 9. pii: S0141-8130(19)34750-6. doi: 10.1016/j.ijbiomac.2019.11.042.
6. Radha S, Renuka Dharani S, Gayathri Devi S& **Ramya M** Screening and characterization of high lipid accumulating microalga *Ankistrodesmus* sp. from freshwater environment, *Indian Journal of Experimental Biology* Vol. 57, December 2019, pp. 931-936

7. Monica, N. , Rathinasabapathi, P. and **Ramya, M.** (2019), Development of real-time loop-mediated isothermal amplification (RealAmp) method for sensitive and rapid detection of pathogenic and nonpathogenic *Leptospira*. Lett Appl Microbiol, 68: 196-203. doi:[10.1111/lam.13108](https://doi.org/10.1111/lam.13108). (Impact Factor 1.4)
8. Mary Sanitha, Anwar Aliya Fathima & **Mohandass Ramya** (2019), Microbial diversity analysis of wood degrading microbiome and screening of natural consortia for bioalcohol production, Biofuels, doi:[10.1080/17597269.2018.1532751](https://doi.org/10.1080/17597269.2018.1532751).(Impact Factor 0.7)
9. Kumar T, Xavier N, **Ramya M**(2019) A High-Performance Liquid Chromatography Method for Determination of Genotoxic Impurity Hydroxylamine in Drug Substances. J Chromatogr Sci. 1;57(1):63-70. doi: 10.1093/chromsci/bmy082. (Impact Factor 1.0)
10. **Ramya M**, Kayalvizhi M, Haripriya G, Rathinasabapathi P. (2018), Detection of microcystin-producing cyanobacteria in water samples using loop-mediated isothermal amplification targeting *mcyB* gene. 3 Biotech. 8(9):378. doi: 10.1007/s13205-018-1402-0. (Impact Factor 1.4)
11. Kamath Mukund Manali, Rex Arunraj, Gautham Ramakrishnan, **Mohandass Ramya**, (2018) Development of sensitive and specific multiplex PCR method for the detection of microcystin producing cyanobacteria in Spirulina food supplements. Food Science and Biotechnology P1-6 doi: 10.1007/s10068-018-0476-0 (Impact Factor 0.78)
12. Ramakrishnan GS, Fathima AA, Ramya M. (2017) A rapid and efficient DNA extraction method suitable for marine macroalgae. 3 Biotech. 7(6):364. doi: 10.1007/s13205-017-0992-2. (Impact Factor 1.4)
13. C Kavyasudha, **M Ramya**, M Parani ,(2017) Quantitative and qualitative evaluation of three commercial probiotic products from India, Research Journal of Biotechnology 12 (12), 69-74.(Impact factor 0.3)
14. Thangarathinam Kumar, **Mohandass Ramya**, Viswanathan Srinivasan and N Xavier (2017), A Simple and Direct LC-MS Method for Determination of Genotoxic Impurity Hydroxylamine in Pharmaceutical compounds, Journal of Chromatographic Science, 21: 1-7 doi: 10.1093/chromsci/bmx019. (Impact factor 1.0)

15. Kamath Mukund Manali, Rex Arunraj, Thangarathinam Kumar, **Mohandass Ramya**(2016), Detection of microcystin producing cyanobacteria in the Spirulina dietary supplements using Multiplex HRM Quantitative PCR, Journal of Applied Phycology ,1-6 . (Impact Factor 2.4)
16. Kumar Thangarathinam, **Mohandass Ramya**, Arockiasamy Xavier SJ(2016) Stability Indicating Related Substances HPLC method for Droxidopa and Characterization of Related Substances Using LC-MS and NMR, Journal of Chromatographic Science,54(10) 1761-1770. doi: 10.1093/chromsci/bmw136. (Impact factor 1.0)
17. Selvaraju Gayathri Devi, Anwar Aliya Fathima, Mary Sanitha, Sellamuthu Iyappan, Wayne R Curtis, **Mohandass Ramya** (2016), Expression and characterization of alkaline protease from the metagenomic library of tannery activated sludge" , Journal of Bioscience and Bioengineering. 122(6) 694-700. DOI information: 10.1016/j.jbiosc.2016.05.012. (Impact factor 2.0)
18. Anwar Aliya Fathima, Mary Sanitha, Kumar Thangarathinam, Sellamuthu Iyappan and **Mohandass Ramya** (2016), Direct utilization of waste water algal biomass for ethanol production by cellulolytic *Clostridium phytofermentans* DSM1183, Bioresource Technology, 202:253-6. (Impact factor 5.6)
19. Trevor R Zuroff, Andrew C Tolonen, **Mohandass Ramya**, Wayne R Curtis (2015), Physiology, genomics, and pathway engineering of an ethanol tolerant strain of *Clostridium phytofermentans*. Applied and Environmental Microbiology, Aug 15; 81(16):5440-8. (Impact Factor 3.6)
20. S Gayathri Devi and **M Ramya** (2015), PCR- RFLP based Bacterial Diversity Analysis of a Municipal Sewage Treatment Plant. Journal of Environmental Biology, Vol. 36, 1113-1118. (Impact Factor 0.5)
21. Gayathri Devi S, Aliya Fathima A, Radha S, Rex Arunraj, Wayne R. Curtis, **Ramya M** (2015), A rapid and economical method for efficient DNA extraction from diverse soils suitable for metagenomic applications, Plos One, July 13, 2015 DOI: 10.1371/journal.pone.0132441. (Impact Factor 3)

Conference Presentations

Sl. No	Name of the Conference	National / International	Title of Paper
1	Clostridium XV Conference at Technical University of Munich, Friesing, Germany from 17.9.2018 – 20.9.2018	International	Expression of heterologous pyruvate decarboxylase in <i>C.acetobutylicum</i>
2	4th International Conference on the Genetics, Physiology and Synthetic Biology of Solvent- and Acid-forming Clostridia, held at Dartmouth College in Hanover, New Hampshire, USA August 28-30 th 2016	International	Expression of Cellulolytic Genes from <i>Clostridium phytofermentans</i> DSM18823 in Non Cellulolytic <i>Clostridium acetobutylicum</i> DSM792
3	1 st International Conference on Bioresource Technology for Bioenergy, Bioproducts and Environmental Sustainability 23- 26 th October ,2017, Spain	International	Bioconversion of alginate from brown algae into ethanol using <i>Clostridium phytofermentans</i>
4	56 th Annual Conference of AMI,2015, New Delhi	National	Concurrent production of acetone, butanol and ethanol by inactivation of acidogenesis genes
5	Indian Genetics Congress, SRM University 2015, Chennai	National	Molecular Characterization of Metagenomic Protease
6	International conference on New Horizons in Biotechnology NHBT,2011,Trivandrum	International	Biodegradation of Chlorpyrifos by the Bacterial isolate

Awards, Honors & Fellowships

- Received DST, SERB International Travel Grant to attend International conference on Clostridium XV at Friesing, Germany from 18-20 September 2018.
- Received Bioenergy Award for Cutting Energy Research (B- ACER) for the year 2016 supported by INDO-US SCIENCE & TECHNOLOGY FORUM and DBT, India to carry out research at The Pennsylvania State University, USA for four months.
- Collaborated with Department of Chemical engineering, Pennsylvania State University, under Faculty Development Programme supported by SRM University for five months in the year 2013(Jan to May).
- Mentor – Metabolic Engineering of *Clostridium acetobutylicum* - DST Inspire Fellowship – DST,India (2013-2016) – 13 lakhs
- Mentor – SHRISTI Innovation Grant – Characterization of antimicrobial components from medicinal plants – SHRISTI . India (2018-2019) – 1 Lakh
- Cleared State Level Eligibility Test for Lectureship in the year 2000.

Patent Filed:

Patent Application No. **201741034859** dated 2nd October 2017

Title: "GENETICALLY MODIFIED *Clostridium acetobutylicum* AND PRODUCTION OF SOLVENTS THEREFROM"