

## CURRICULUM VITAE

**Dr. V.GOPIKRISHNAN, M.Sc., Ph.D.,**

Scientist C

Centre for Drug Discovery and Development

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### FIELD OF RESEARCH INTEREST:

- **Actinobacteriology:** Bioprospecting of associated actinobacteria
- Marine biofouling and antibiofilm metabolites

### PROFESSIONAL QUALIFICATIONS:

Working experience – 12 years 6 months;

Research experience – 10 years 6 months

Period	Designation and employer	Employer	Work done
Sep 2014 – till date	<b>Scientist C</b>	Centre for Drug Discovery and Development (CDDD), Sathyabama Institute of Science and Technology, Chennai	<ul style="list-style-type: none"> <li>• Bioprospecting of actinobacteria</li> </ul>
May 2010 – May 2013	<b>Project Fellow – UGC Project,</b>	Department of Microbiology, Periyar University, Salem –11. Tamil Nadu	<ul style="list-style-type: none"> <li>• Isolation of antifouling compound from marine actinomycetes</li> <li>• Anti TB, antimicrobial and anticancer activity</li> </ul>
Jun 2007 – April 2009	<b>Food Microbiologist</b>	PARIKSHAN Chennai – 34. Tamil Nadu.	<ul style="list-style-type: none"> <li>• Microbiological analysis of food samples</li> </ul>
Jan 2006 – June 2007	<b>Medical Microbiologist</b>	Dr.R.Varadarajan, Haematologist, Centre for Blood Disorders, T. Nagar, Chennai –17	<ul style="list-style-type: none"> <li>• Microbiological and Haematological analysis</li> </ul>

**ACADEMIC QUALIFICATION:**

<b>Degree</b>	<b>Branch</b>	<b>School/ Institution/University</b>	<b>Year of Passing</b>
Ph.D.,	Applied Microbiology	Department of Microbiology, Periyar University, Salem -11	2014
Diploma	Industrial Biotechnology	Annamalai University, Chidambaram	2007
M.Sc.,	Applied Microbiology	D.G.Vaishnav College, Arumpakkam, Chennai (University of Madras)	2005
B.Sc.,	Microbiology	Sri Sankara Arts & Science College, Kanchipuram. (University of Madras)	2003

**M.Sc Dissertation** : Studies on "Quantitative relationship between microbes in the rhizosphere and non-rhizosphere region soils"

**Ph.D Thesis** : Antifouling and biomedical potential of bioactive compounds isolated from marine *Streptomyces* spp. (PE7 & PM33)"

**Research Summary**

I am working in the field of actinomycete research for the past 8 years at Bioprospecting division, Centre for Drug Discovery and Development, Satyabama Institute of Science and Technology, Chennai. I have done my doctoral degree at Actinobacterial Research Lab, Department of Microbiology under the mentorship of Dr. R. Balagurunathan who is having more than 2 decades of experience in actinobacterial research. I was isolated about 200 actinobacterial cultures were isolated from marine and mangrove ecosystems of South India and investigated for antifouling and antimicrobial activities. Active metabolite purified from two potential *Streptomyces* sp PE7 and PM33 was showed promising antifouling activity against microfoulers, fungi, algae and molluscs. The taxonomic position of two actinobacterial strains PE7 and PM33 was determined based on their phenotypic, cell wall and molecular characteristics based on 16 rRNA gene sequencing. The active molecules from both the strains were identified as **Quercetin** and **Taxifolin** based on their physico-chemical and spectral properties. The active molecules also showed good antimicrobial, anti TB and anti-cancer activities. The literature survey evidenced that the Quercetin and taxifolin are mainly present in plants and they are not reported from actinomycetes in particular. **For the first time we reported the antifouling, anti TB and anti-cancer activity of Quercetin from marine actinomycetes.** The work mentioned above was submitted as thesis for my Ph.D degree from Periyar University. I wish to continue my research on "**Actinobacteria from less explored sources for bioactive metabolites**".

**RESEARCH PROJECTS**

<b>Project title</b>	<b>Funding agency</b>	<b>Amount [Rs in lakhs]</b>	<b>Project period</b>	<b>status</b>
<b>Principal Investigator</b>				
Bioprospecting of fish-associated actinobacteria for Quorum sensing inhibitors effective against microbial	DST-SERB-ECR	18.70	2016; 3 years	Ongoing

biofilms				
Diversity of Actinobacteria from the Southern Ocean and it's Biogeochemistry(CoPI)	NCPOR, MoES	38,30,200	2019-22	Ongoing
Exploring marine biofouling associated pigment producing actinobacteria for antifouling metabolites	MOEs	34,35,520/-	-	Under review
Exploring earthworm cast associated actinobacteria as biofertilizer applications	DBT	32,35,200	-	Under review

### Citation indices

Citation indices	All	Since 2012
Citations	267	253
h-index	9	9
i10-index	8	7

\*as on 03-11-2020 from google scholar

### **LIST OF PUBLICATIONS ( Total Numbers = 45)**

#### Research articles:

1. Subramanian Kumaran, Selvaraj Bharathi, Vairagkar Uttraf, Rajasekar Thirunavukkarasu, Prasanna balaji Nainangu, **Venugopal Gopikrishnan**, Pugazhvendan Sampath Renuga, Aruni Wilson, Deivasigamani Balaraman, Bioactive metabolites produced from *Streptomyces enissocaesilis* SSASC10 against fish pathogens. **Biocatalysis and Agricultural Biotechnology**, 29 (2020), 101802.
2. Elakkia., A. Annadurai., **V. Gopikrishnan** and M. Radhakrishnan. 2020. Anticorrosion performance of *Phyllanthus amarus* and *Senna auriculata* extracts- based hybrid coating. **Journal of Environmental Protection. Accepted. Scopus.**
3. Sukanthkumar Ezhakil, Vijayalakshmi Ganesan, Manigundan Kari, Bharathi Selvaraj, **Gopikrishnan Venugopal**, Jerrine Joseph, Radhakrishnan Manikkam. 2020. Anti infective potential of marine actinobacteria against carbapenem resistant *Klebsiella pneumoniae* ATCC13882. (**Research Journal of Pharmacy and Technology**). **13(8):3653-3660. [Scopus]**
4. Radhakrishnan Manikkam, Vijayalakshmi Ganesan, **Gopikrishnan Venugopal**, Suresh Arumugam, Manigundan Kaari, Jerrine Joseph. April 2020. Bioprospecting of actinobacteria from selected mangrove ecosystems, India effective against carbapenem resistant *Klebsiella pneumoniae* ATCC BAA-1705. (**Journal of Applied Pharmaceutical Science (Accepted)[Scopus]**)
5. Ayswarya, S., G. Vijayalashmi, A. Vignesh, K. Manigundan, **V. Gopikrishnan**, S. Anbarasu, Jerrine Joseph, and M. Radhakrishnan. March 2020. Antimicrobial and antitubercular activity of endophytic actinobacterium, *Streptomyces* sp. SACC 4 isolated from the mangrove plant *Rhizophora apiculata*. **Bioscience Biotechnology Research Communications. 13(3). (Web of Science)**
6. Vignesh. A, Manigundan. K, Santhosh kumar. J, Shanmugasundaram, T, **Gopikrishnan. V**, Radhakrishnan. M\*, Jerrine Joseph, Ayyasamy. P.M, Govindaraj Dev

- Kumar, and Balagurunathan, R.2020. Microbial degradation, spectral analysis and toxicological assessment of malachite green dye by newly isolated actinobacterium, *Streptomyces chrestomyceticus* (S20). *Bioprocess and Biosystems Engineering*. 43(8):1-12 [Web of Science – IF 2.3]
7. Radhakrishnan Manikkam, Madangchanok Imchen, Manigundan Kaari, Vignesh Angamuthu, **Venugopal Gopikrishnan**, Thangavel Shanmugasundaram, Jerrine Joseph, Ramasamy Balaguranathan and Ranjith Kumavath.2020. Metagenomic Insights Unveil the Dominance of Undescribed Actinobacteria in Pond Ecosystem of an Indian Shrine. *Metagene*. 23; 100639. (Scopus)
  8. Dhanalashmi R., K. Menaka, Annam Rennita, **V. Gopikrishnan**, T. Shanmugasundaram, Jerrine Joseph and M. Radhakrishnan\*. 2019. Bioleaching of heavy metals from printed circuit board (PCB) by novel *Streptomyces sampsonii* TN10 isolated from insect nest. *Bioresources and Bioprocessing*. 6; 47. [Web of Science]
  9. Radhakrishnan Manikkama , Madangchanok Imchen , Manigundan Kaari , Vignesh Angamuthu , **Gopikrishnan Venugopal** , Shanmugasundaram Thangavel , Jerrine Joseph , Balagurunathan Ramasamy , Ranjith Kumavath.2019. Metagenomic insights unveil the dominance of undescribed Actinobacteria in pond ecosystem of an Indian shrine. *Meta Gene* 23.100639.(Accepted)
  10. Ramasamy Balagurunathan, **Venugopal Gopikrishnan**, Manikkam Radhakrishnan, Thangavel Shanmugasundaram, Ramakodi Meganathan.2019.Isolation, characterization and identification of antibiofouling metabolite from mangrove derived *Streptomyces sampsonii* PM33. *Nature Scientific Reports* (2019) 9:12975 | <https://doi.org/10.1038/s41598-019-49478-2> (IF-4.525).
  11. A. Vignesh, S. Ayswarya, **V. Gopikrishnan**, & M. Radhakrishnan. 2019. Bioactive potential of actinobacteria isolated from the gut of marine fishes. *Indian Journal of Geo Marine Sciences*.Vol. 48 (08), August 2019:1280-1285.
  12. Manisha Mohandas, Mithali Jain, G. Vijayalakshmi, **V. Gopikrishnan** and M.Radhakrishnan. 2019. Bioprospecting of actinobacteria from Andaman marine ecosystem: Isolation, antagonistic potential and taxonomy of potential strain. *Indian Journal of Geo Marine Sciences*.Vol. 48 (08), August 2019:1312-18.
  13. R. Janarthanan, **V. Gopikrishnan**, K. Kavitha,A. Murugan and R. Balagurunathan, Biodegradation of cypermethrin metabolites using terrestrial actinobacterium, *Streptomyces diastaticus* (PA2) and its GC-MS analysis, *International Journal of ChemTech Research*, 2018,11(05): 509-520.
  14. Thangavel Shanmugasundaram, Manikkam Radhakrishnan,**Venugopal Gopikrishnan**, Krishna Kadirvelu and Ramasamy Balagurunathan. In vitro antimicrobial and in vivo wound healing effect of actinobacterially synthesised nanoparticles of silver, gold and their alloy. *RSC Adv.*, 2017, 7, 51729–51743.
  15. Thangavel Shanmugasundarama, Manikkam Radhakrishnan, **Venugopal Gopikrishnan** , Krishna Kadirvelu, Ramasamy Balagurunathan. Biocompatible silver, gold and silver/gold alloy nanoparticles 1 for enhanced 2 cancer therapy: An in vitro and in vivo perspectives. *Nanoscale*, 2017, 9, 16773–16790 | (IF:7.367).
  16. **Gopikrishnan V**, Radhakrishnan M, Pazhanimurugan R, Shanmugasundaram T, Balagurunathan R. Antimicrobial, antitubercular and antiproliferative activities of quercetin isolated from the marine *Streptomyces fradiae*. *Bangladesh J Pharmacol*. 2017; 12: 333-34.
  17. Ponnuswamy Shekar, Manikkam Radhakrishnan,**Venugopal Gopikrishnan**, Arumugam Suresh.2017. Characterization and antimicrobial potential of soil actinobacterium TFA1

- isolated from Talakona forest, Andhra Pradesh. *Journal of Applied Pharmaceutical Science*, Vol. 7 (03), pp. 202-206.
18. Raasaiyah Pazhanimurugan, Manikkam Radhakrishnan, Thangavel Shanmugasundaram, **Venugopal Gopikrishnan**, and Ramasamy Balagurunathan. May 2016. Terpenoid bioactive compound from *Streptomyces rochei* (M32): Taxonomy, fermentation and biological activities. **World J Microbiology and Biotechnology**, 32:161, DOI 10.1007/s11274-016-2121-5.
  19. Radhakrishnan Manikkam, Vijayalakshmi Ganesan, **Gopikrishnan Venugopal** and Jerrine Joseph. May 2016. Bioactive potential of actinobacteria isolated from certain under-studied regions in India. **Journal of Applied Pharmaceutical Science**. Vol. 6 (08), pp. 151-155.
  20. Manikkam Radhakrishnan, **Venugopal Gopikrishnan**, Ganesan Vijayalakshmi, Vanaja Kumar. 2016. In vitro antioxidant activity and antimicrobial activity against biofilm forming bacteria by the pigment from Desert soil *Streptomyces* sp D25. *Journal of Applied Pharmaceutical Science*. Vol. 6 (06), pp. 148-150.
  21. **Venugopal Gopikrishnan**, Manikkam Radhakrishnan, Raasaiyah Pazhanimurugan, Thangavel Shanmugasundaram, and Ramasamy Balagurunathan. 2016. Quercetin from marine derived *Streptomyces fradiae* PE7: Taxonomy, fermentation, antifouling activity and characterization – *J Environ Sci Pollut Res*, Springer, 23 (14), 13832-13842.
  22. Shekar, P., Sathishkumar, **Gopikrishnan, V** and Radhakrishnan, M. March 2016. HPTLC Fingerprint Profile of Antibacterial Compound Produced From Forest Soil *Streptomyces* SFA5. *Bangladesh J Pharmacology*. 11; 295-300.
  23. **Gopikrishnan, V.**, M. Radhakrishnan, R. Pazhanimurugan, T. Shanmugasundaram and R. Balagurunathan. 2016. In vitro antimicrobial activity of actinobacteria isolated from South east coast of Tamil Nadu, India. *Bangladesh J Pharmacology*. Vol 11, 190-191.
  24. Shekar Ponnuswamy, Sathishkumar Kannaiyan, **Gopikrishnan Venugopal** and Radhakrishnan Manikkam. August 2015. Antiproliferative activity of yellow pigment from forest soil *Streptomyces* sp SFA5 against breast cancer cell line MCF-7. *Bangladesh J Pharmacology*. 10; 714-715.
  25. **Gopikrishnan, V.**, M. Radhakrishnan, R. Pazhanimurugan, T. Shanmugasundaram and R. Balagurunathan. July 2015. Natural products: Potential and less explored source for antifouling compounds. *Journal of Chemical and Pharmaceutical Research*. 7(7); 1144-1153.
  26. Radhakrishnan, M., **V. Gopikrishnan**, R. Balagurunathan and Vanaja Kumar. June 2015. Effect of critical medium components and culture conditions on antitubercular pigment production from novel *Streptomyces* sp D25 isolated from Thar desert, Rajasthan. *Journal of Applied Pharmaceutical Science*. 5(6): 15-19.
  27. J. Shanthi, A. Senthil, **V. Gopikrishnan** and R. Balagurunathan. 2015. Characterization of a Potential  $\beta$ -Lactamase Inhibitory Metabolite from a Marine *Streptomyces* sp. PM49 Active Against Multidrug-Resistant Pathogens. *Appl Biochem Biotechnol* . 175:3696–3708.
  28. Radhakrishnan, M., **V. Gopikrishnan**, S. Balaji, R. Balagurunathan, and Vanaja Kumar. May 2014. Bioprospecting of actinomycetes from certain less explored ecosystems active against *Mycobacterium tuberculosis* and other non-mycobacterial pathogens. *International Scholarly Research Notices*. Volume 2014, Article ID 812974, 9 pages (<http://dx.doi.org/10.1155/2014/812974>)
  29. Radhakrishnan, M., R. Pazhanimurugan, **V. Gopikrishnan**, R. Balagurunathan and Vanajakumar. 2014. *Streptomyces* sp D25 isolated from Thar Desert soil, Rajasthan

- producing pigmented antituberculosis compound only in solid culture. *Journal of Pure and Applied Microbiology*, 8(1); 333-337 (IF. 0.054)
30. Shanmugasundaram T, M Radhakrishnan, **V. Gopikrishnan** , R Pazhanimurugan, Balagurunathan R. 2013. A study of the bactericidal, anti-biofouling, cytotoxic and antioxidant properties of actinobacterially synthesised silver nanoparticles. *Colloids Surf B Biointerfaces*. 111; 680-687. (IF : 3.55)
  31. Manikkam Radhakrishnan, **Venugopal Gopikrishnan**, Arumugam Suresh, Nagamiah Selvakumar, Ramasamy Balagurunathan and Vanaja Kumar.2013. Characterization and phylogenetic analysis of antituberculous compound producing actinomycete strain D25 isolated from Thar Desert soil, Rajasthan. *Bioinformation* 9(1): 018-022. (IF. 1.0)
  32. **Gopikrishnan.V**, R. Pazhanimurugan, T. Shanmugasundaram, M. Radhakrishnan and R. Balagurunathan. 2013. Bioprospecting of actinobacteria from mangrove and estuarine sediments for antifouling compounds. *International Journal of Innovation in Science, Engineering and Technology*. 2(7); 2726-2735. (IF. 1.6).
  33. Shanthi. J, R.Pazhani murugan, **V. Gopikrishnan** and R.Balagurunathan. 2012. Mechanism of drug resistance, characterization of plasmid-borne determinants and transformation study in *P. aeruginosa* from burn and ICU units-its susceptibility pattern. *Burns* (IF: 1.9).
  34. Pazhani Murugan, R, M. Radhakrishnan, **V. Gopikrishnan**, T. Shanmuga Sundaram, M. Sanjivkumar and R. Balagurunathan. 2013. L-asparaginase and pectinase: Production and Characterization of Enzymes from Extremophilic *Streptomyces* sp.M32. *International Journal of Advances in Pharmaceutical Research*. 4(4);1669 – 1675 (IF-0.524)
  35. Pazhani Murugan.R, **V.Gopikrishnan**, T.Shanmuga Sundaram, M. Radhakrishnan and R. Balagurunathan. 2012. Bioactive potential of actinobacteria against drug resistant pathogens. *Journal of Applied Pharmaceutical Science*. 02(05); 167-173.
  36. Vidhya. V, **V.Gopikrishnan**, M.Radhakrishnan and R. Balagurunathan. 2012. Antimicrobial activity of *Nigella sativa*, *Acorus calamus*, *Myristica fragrans* and *Hemidesmus indicus* and its synergistic effect with antibiotics. *International Journal of Current Research and Review*. 4(1);55-63.
  37. Shanthi. J, **V. Gopikrishnan** , R.Pazhani murugan and R.Balagurunathan.2012. Multidrug resistant gram negative pathogens antibiotic profile and its effective control using secondary metabolites from marine actinobacteria. *International Journal of Applied Biology and Pharmaceutical Technology*. 3(2); 16-23.
  38. Selvakumar, G. Manimekalai, **V. Gopikrishnan**, M. Radhakrishnan and R. Balagurunathan. 2011. Antibacterial effect of medicinal plants *Leucas aspera* linn and *Ocimum basilicum* linn. *Journal of Advances in Pharmaceutical Research*. 2(6); 276-280.
  39. Nithya.D, S.M. Poornima, R.Pazhanimurugan, **V.Gopikrishnan**, M. Radhakrishnan, Dhagira Bhivi and R. Balagurunathan. September 2011. Influence of Biofertilizers and irrigation systems for the growth and yield of mulberry plants. *International Journal of Plant, animal and environmental Sciences*. 1(3); 93-99.

#### Book Chapter

1. Radhakrishnan Manikkam, Premalata Pati, Shanmugasundaram Thangavel, **Gopikrishnan Venugopal**, Jerrine Joseph, Balagurunathan Ramasamy, and Syed G. Dastager. "Distribution and bioprospecting potentials of actinobacteria from Indian mangrove ecosystems" is published today in the book titled Microbial Diversity:

Ecosystem Sustainability and Biotechnological Applications (Springer).Chapter 11.Page;319- 353.2019.

2. **Gopikrishnan, V**,Vignesh, A, Radhakrishnan, M, Jerrine Joseph, Shanmugasundaram, T, Mukesh Doble and Balagurunathan. R. **Microbial leaching of heavy metals from e-waste: opportunities and challenges**. Biovalorisation of Wastes to Renewable Chemicals and Biofuels. Chapter 10.2019.189-211. (Elsevier).
3. Manikkam Radhakrishnan\*, Kaari Manigundan, **Venugopal Gopikrishnan**, and Ramasamy Balagurunathan. April 2020. Screening methods for the detection of antagonistic actinobacteria: facts and problems. In: Recent Advances in Microbiology and Biotechnology. BookPI Publisher, West bengal, India (**Accepted; In Press**)
4. **Venugopal Gopikrishnan\***, Angamuthu Vignesh, Kaari Manigundan, Manikkam Radhakrishnan and Jerrine Joseph. April 2020. Actinobacteria in earthworm cast and gut : Distribution and bioactivities. BookPI Publisher, West bengal, India (**Accepted; In Press**).

#### Manual:

1. Radhakrishnan Manikkam, Balagurunathan Ramasamy **Gopikrishnan Venugopal**, Premalata Pati, Jerrine Joseph, Shanmugasundaram Thangavel.2018. **Fermentation Technology Laboratory Manual.LAP LAMBERT Publication**.

#### Magazine Articles & News Letter

1. **Gopikrishnan.V**, M. Radhakrishnan and R. Balagurunathan, 2010. Marine Actinomycetes – Potential but less tapped resource for antifouling compounds too. **ENVIS Newsletter** University of Madras, Chennai. 8 (2) : 2-5.

#### Proceedings

1. **Gopikrishnan. V** and R. Balagurunathan. 2014. **Screening of Actinobacteria from Mangrove and Estuary Sediments for its Antimicrobial Property**. Proceedings of National seminar on Current Trends in Infectomics. Feb 20-21, 2014.
2. The paper entitled “**EFFECT OF ORGANOCHLORINE PESTICIDE ON GROWTH OF ACTINOBACTERIA**”, International Conference on Biotechnological Research and Innovation for Sustainable Development (BioSD-2018) to be held in CSIR-IICT, Hyderabad from November 22–25, 2018.

#### MICROBIAL 16s rRNA SEQUENCES PUBLISHED IN GenBank

S. No	Authors	Title of the work	Sequence accession number
1	<b>V.Gopikrishnan</b> , Pazhanimurugan, R., M.Radhakrishnan,T.Shanmugasundaram, and R. Balagurunathan	Novel bioactive compounds from <i>Streptomyces sp.</i> PE7	KF537575
2	<b>V.Gopikrishnan</b> , Pazhanimurugan, R., M.Radhakrishnan,T.Shanmugasundaram, and R. Balagurunathan	Novel bioactive compounds from <i>Streptomyces sp.</i> PM33	KF537576
3	Pazhanimurugan, R.,M. Radhakrishnan, <b>V. Gopikrishnan</b> , and R. Balagurunathan	<i>Streptomyces sp.</i> Y19 16S ribosomal RNA gene, partial sequence	<i>JQ619872.1</i>

4	Pazhanimurugan, R., M. Radhakrishnan, <b>V. Gopikrishnan</b> , T. Shanmugasundaram, and A. Balagurunathan	Novel bioactive compounds from <i>Streptomyces</i> sp. M32 of Western Ghats Hill soils, Tamil Nadu, India	JX073034.1
5	Radhakrishnan, M., Manishamohan Das, Mithali Jain, <b>V. Gopikrishnan</b> , G. Vijayalakshmi and A. Suresh	<i>Streptomyces</i> sp AMA37 16s rRNA partial sequence	KU999997
6	Radhakrishnan, M., Gurugnana Soundarya, <b>V. Gopikrishnan</b> , G. Vijayalakshmi and A. Suresh	<i>Streptomyces</i> sp SACC 63 16s rRNA partial sequence	KX068224
7	Radhakrishnan, M., Raja Rajeswari, <b>V. Gopikrishnan</b> , G. Vijayalakshmi and A. Suresh	<i>Streptomyces</i> sp SACC78 16s rRNA partial sequence	KX343939
8	Gopikrishnan, V., <b>M. Radhakrishnan</b> , G. Vijayalakshmi, S. Ayswarya, A. Suresh and Jerrine Joseph	Isolation and characterization of actinobacterial strain LA34 isolated from agricultural soil, Lucknow	KY077815
9	Vaishnavi, M., Thania Smalli, <b>M. Radhakrishnan</b> , V. Gopikrishnan, Manigundan	<i>Streptomyces</i> sp S45 isolated from Sabarimala forest, Kerala	
10	<b>Radhakrishnan, M.</b> , Vignesh, A., Gopikrishnan, V., Manigundan, K., Jerrine, J., Shanmugasundaram, T. and Balagurunathan, R	Dye degrading <i>Streptomyces</i> sp. S20 from Sabarimala forest, Kerala, India	MH021965
11	Vaishali,R., Ruchi,P., Gopikrishnan,V., Vignesh,A., <b>Radhakrishnan,M.</b> , Manigundan,K., Jerrine, J., Shanmugasundaram,T. and Balagurunathan, R.	Bioactive <i>Streptomyces</i> sp. SFA1 isolated from marine fish	MH021966
12	Madhubalan, R., Saravanan, T., Vignesh, A., Gopikrishnan,V., Manigundan, K., <b>Radhakrishnan,M.</b> , Jerrine, J., Shanmugasundaram,T. and Balagurunathan, R.	Metal tolerant <i>Streptomyces</i> sp. APS1 from Pichavaram mangrove sediment, Tamilnadu, India	MH021961
13	Menaka, R., Dhanalakshmi, K., Vignesh, A., Gopikrishnan, V., Manigundan, K., <b>Radhakrishnan, M.</b> , Jerrine, J., Shanmugasundaram, T. and Balagurunathan, R.	Heavy metal accumulating <i>Streptomyces</i> sp. TN10 from Termite Nest	MH021968
14	Lokeshwari, S., Vijayalashmi, G., Manigundan, K., Gopikrishnan, V., <b>Radhakrishnan,M.</b> , Jerrine, J., Shanmugasundaram, T. and Balagurunathan, R.	Bioactive <i>Streptomyces</i> sp. Y18 from Yelagiri forest soil, Tamilnadu, India	MH021969
15	Gopikrishnan,V., Vignesh,A., <b>Radhakrishnan,M.</b> , Manigundan,K., Jerrine,J., Shanmugasundaram,T. and Balagurunathan,R.	Bioactive <i>Streptomyces</i> sp. IM20 from Indian Mackerel fish	MH021963
16	Ayswarya,S., <b>Radhakrishnan,M.</b> , Manigundan,K., Gopikrishnan,V., Vijayalashmi, G., Vignesh, A.,	Siderophore producing <i>Streptomyces</i> sp. APS29	MH021962



	Jerrine,J., Shanmugasundaram,T. and Balagurunathan, R.	from Pichavaram mangrove sediment	
17	Shivani,K., Vijayalashmi,G., Selvakumar,M., Manigundan,K., Vignesh,A., Ayswarya,S., Gopikrishnan,V., <b>Radhakrishnan,M.</b> , Jerrine,J., Shanmugasundaram,T. and Balagurunathan, R.	<i>Streptomyces</i> sp. T25 isolated from dye contaminated soil, Tamil Nadu	MH021967
18	Ayswarya,S., Manigundan,K., Gopikrishnan,V., <b>Radhakrishnan,M.</b> , Jerrine,J., Shanmugasundaram,T. and Balagurunathan, R.	Siderophore producing endophytic <i>Streptomyces</i> sp. MEA11 isolated from the mangrove plant <i>Rhizophora apiculata</i>	MH021964
19	Vijayalakshmi,G., Ayswarya,S., Vignesh,A., Manigundan,K., Gopikrishnan,V., Jerrine,J., <b>Radhakrishnan,M.</b> , Shanmugasundaram,T. and Balagurunathan,R.	Antimicrobial activity of <i>Streptomyces</i> sp. E6 isolated from Estuarine sediment	MH171652
20	Yasaswini, Pooja, Manigundan.K, Vignesh,A.,, Gopikrishnan,V., <b>Radhakrishnan,M.</b> , Jerrine,J Shanmugasundaram,T. and Balagurunathan,R.	Bioactive <i>Streptomyces</i> AN5 from ANT nest	MH229953
21	Vijayalakshmi,G., Ayswarya,S., Vignesh,A., Manigundan,K., Gopikrishnan,V., <b>Radhakrishnan,M.</b> , Jerrine,J., Shanmugasundaram,T. and Balagurunathan,R.	Antifungal <i>Streptomyces</i> sp. C27 from forest soil, Karnataka	MH229954
22	<b>Radhakrishnan,M.</b> ,Sasidhar., Syed G Dastager., Vijayalakshmi,G., Ayswarya,S., Vignesh,A., Manigundan,K., Gopikrishnan,V., Jerrine,J., Shanmugasundaram,T. and Balagurunathan,R.	Antifungal <i>Streptomyces</i> LA34 from agricultural soil, Lucknow.	MH229955
23	Ajith kumar, Vignesh kumar, Vignesh, Gopikrishnan, Manigundan, <b>M. Radhakrishnan</b> , Jerrine,J., Shanmugasundaram,T. and Balagurunathan,R	Dye degrading <i>Streptomyces</i> PP3 from dye contaminated soil Thirupur, Tamilnadu, India.	MH229956

#### **WORKSHOP/TRAINING PROGRAMME PARTICIPATION [ Total Numbers = 10 ]**

1. Participated in workshop on “**ANALYTICAL & PREPARATORY HPLC TECHNIQUES**” held on 12 – 13 November, 2018 at Department of Microbiology, Periyar University, Salem.
2. Participated in Certificate course on “**Patent Drafting**” conducted by IPR Cell Sathyabama University Technology Business Incubator at Col. Dr. Jeppiaar Research Park, Sathyabama University, Chennai, Tamilnadu during 21,22 & 28<sup>th</sup> July, 05,12 & 19<sup>th</sup> August, 2017,(6 days).
3. Participated in a workshop DBT Sponsored “**Animal cell culture and Molecular biology techniques**” organized by Centre for Ocean Research, Sathyabama University, Chennai. On 24<sup>th</sup> – 26<sup>th</sup> April, 2017.
4. Participated in a workshop DBT sponsored **National seminar cum workshop on Genomics and Proteomics-2017** organized by Organized by Bioinformatics Infrastructure Facility & Department of Biotechnology, Alagappa University, Karaikudi – 630 003, TN on Feb 8 – 10, 2017.
5. **Organized** a organize a one day workshop on “**Spirulina Cultivation**” on 30th September 2015 at Sathyabama University, R & D Centre.
6. Participated a workshop titled “**Marine corrosion and surface engineering**” organized by CAS in Marine Biology, Annamalai University, Parangipettai and Department of Civil and

Structural Engineering, Annamalai University in collaboration with National Corrosion Council of India, Karaikudi & CSIR-CECRI, Karaikudi on 24.11.2011 to 26.11.2011.

7. Participated a workshop titled “**Luciferase Reporter Phage Assay**” organized by NIRT, Chennai on 7.9.2010 to 9.9.2010.
8. Participated a workshop titled “**Techniques in Marine Pharmacology**” organized by CAS in Marine Biology, Annamalai University, Parangipettai on 19.3.2010 to 20.3.2010.
9. Participated **Cytogenetics** training programme in Adyar Cancer Institute trained for a period of one week from 04.05.2009 to 09.05.2009 in Department of Cytogenetics.
10. Participated **Electron Microscopy** training programme in Adyar Cancer Institute trained for a period of one week from 11.05.2009 to 16.05.2009 in Department of Electron Microscopy.

#### **SEMINARS / CONFERENCES / SYMPOSIA [Total Numbers = 35 ]**

**Oral paper presentation** : 16 (Best paper award: 1)

**Poster Presentation** : 7

#### **Papers presented in seminars and conferences**

##### **International**

1. Presented the paper entitled “**Bioprospecting of insect nest associated actinobacteria with special reference to antimicrobial and anti HIV activity**”, International Workshop on Biology and Applications of Actinomycete, held in University of Mysore from 31st October and 1st November 2019.
2. Presented the paper entitled “**Symbiotic actinobacteria: an emerging resource for natural drug discovery**”, International Conference on “Extremophilic Microbes for Sustainable Development in Agriculture, Environment and Health EMAEH 2018” organized by Department of Microbiology, Periyar University, Salem held during December 19-21, 2018”.
3. Presented the Poster the paper entitled “**EFFECT OF ORGANOCHLORINE PESTICIDE ON GROWTH OF ACTINOBACTERIA**”, International Conference on Biotechnological Research and Innovation for Sustainable Development (BioSD-2018) to be held in CSIR-IICT, Hyderabad from November 22–25, 2018.
4. Presented the Poster the paper entitled “**Exploring natural resources for Quorum Sensing Inhibitors (QSI) for biofilm control: Current status and future prospects**”, International Conference on Novel Antibiotic Resistance Breakers and Diagnostic Biomarkers (ICARB-2017) from December 22-23, 2017 Organized by Crescent University, Chennai.
5. Presented the Poster the paper entitled “**Bioprospecting of actinobacteria from insect nest with special reference to antimicrobial activity**”, 58th Annual Conference of Association of Microbiologists of India (AMI-2017) & International Symposium on “Microbes for Sustainable Development: Scope & Applications” (MSDSA-2017) from November 16-19, 2017 at Babasaheb Bhimrao Ambedkar (A Central) University, Lucknow.
6. Presented the paper entitled “**Taxifolin from marine derived *Streptomyces sampsonii* PM33: Taxonomy, fermentation, antifouling activity and characterization**” in the International Conference and Expo on Biotechnology and Healthcare (BIOHE-2017), at Professor Jayashankar Telangana State Agricultural University, Hyderabad, India, on 26 and 27, October 2017.
7. Presented the Poster the paper entitled “**Antimicrobial potential of *Streptomyces* isolated from mangrove ecosystem of Andaman Island**” in the International Conference

on Recent Trends in Biosciences (ICRTB - 2016), at Alagappa University, Karaikudi on April 07 -09,2016.

8. Presented the paper entitled “**Studies on microbial siderospores**” in the International Conference on Food Safety and Environmental Health by MDT College, Tirunelveli and Alagappa University, in Kaniya kumari on 16-18. 2. 2012.
9. Presented the Paper entitled “**Antibiofilm activity of terpenoids from the medicinal plant *Andrographis paniculata***” in the International seminar on **Medicinal Plants and Herbal Products** held at Sri Venkateshwara University, Tirupathi on December 27-29, 2010 (**Best Paper award**).
10. Presented the paper entitled “**Bioplastics from marine bacteria, *Carnobacterium sp***” International Conference on Aquatic Microbiology ( Status, challenges and Opportunities) held at CAS in Marine Biology, Annamalai University during 2-4, September 2010.

### National

1. Presented the poster the paper entitled “**Bioprospecting potential of fish – associated actinobacteria: current status and future prospects**” in National Symposium on Recent Advances in Marine Sciences “RAMS - 2017” Centre for ocean research, Sathyabama University, Chennai on 13th & 14th September 2017.
2. Presented the paper entitled “**Antimicrobial, anti TB and anticancer activity of Quercetin isolated from marine actinobacterium, *Streptomyces fradiae*PE7**” in DBT sponsored National conference on New Trends in Biomedical and Pharmaceuticals Application of Marine Natural Products” at Centre for ocean research, Sathyabama University, Chennai on August 10-11,2016.
3. Presented the paper entitled “**Antimicrobial and anticancer activity of bioactive compound isolated from estuarine *Streptomyces* species PE7-C**” in 12th IAAM National conference Global Trends and Challenges in Biosciences at Dr MGR Janaki College of Arts & Science, Chennai on December 5-6, 2014.
4. Presented the paper entitled “**Screening of Actinobacteria from Mangrove and Estuary sediments for its Antimicrobial Property**” in National Conference on Infectomics held at Department of Microbiology, Periyar University, Salem -11 on February 21-22, 2014.
5. Presented the paper entitled “**Field experiment studies on the Antifouling property of actinobacterial compound isolated from marine *Streptomyces fradiae* (PE7)**” in the 11<sup>th</sup> IAAM National Conference held at PSG college of Arts and Science, Coimbatore on November 29-30<sup>th</sup> 2013.
6. Presented the paper entitled “**Bioactive potential compound from *Streptomyces sp. (TK1)* against enteric pathogens**” in the 10<sup>th</sup> IAAM National Conference on “Exploring the potentials of Microbes for Bioscience, Biotechnology & Medicine” held at SRM University, Chennai on December 17-18<sup>th</sup> 2012.
7. Presented the paper entitled on “**Potential enzymes from Actinobacteria – An overview**” in the National conference on “Enzymes and Biocatalysis. The Versatile Actors: Current trends and future perspectives (NSEB 2012)” in organized by Department of biochemistry, Periyar University, Salem on 05 and 06, January 2012.
8. Presented the paper entitled “**Evaluation of marine actinomycetes for the development of aquaculture probiotics**” in Second National Conference on Bioprospecting of Marine Resources with Special Reference to Marine Natural Products and Drug Discovery by

School of Marine Sciences, Dept of Ocenagraphy, Alagappa University, Thondi, Ramnad, Tamil Nadu on 25-27 August 2010.

9. Presented the paper in the “**Antibiofilm activity of terpenoids from the medicinal plant *Andrographis paniculata***” in **8<sup>th</sup> Annual conference of Indian Association of Applied Microbiologists on Hidden Treasures of Microbial World, MICROPLEXUS 2010**” held at Department of Biotechnology, Bharathidasan University during 24-25, September 2010.
10. Participated and presented a poster paper titled “**Antibiofilm activity of terpenoids from the medicinal plant *Andrographis paniculata***” in National symposium on “Antituberculosis drug discovery: Current Status and Future Prospects” organized by Department of Bacteriology, Tuberculosis Research Centre [ICMR], Chennai on 30<sup>th</sup> October 2010.
11. Presented the Paper entitled “**Isolation and characterization of biofouling bacteria and its invitro inhibition by marine actinobacteria**” in the Extremo’s 2010, National Symposium on Recent trends in Microbial Technology organized by Department of Microbiology, Periyar University on 21<sup>st</sup> and 22<sup>nd</sup> October 2010.

### **Participation in seminars and conferences**

#### **National**

1. Participated in National symposium on “Changing paradigms in clinical research and clinical trials on drug validation” organized by the school of Bio and Chemical Engineering, School of pharmacy and centre for laboratory animal technology and research, held on 18<sup>th</sup> and 19<sup>th</sup> November, 2019.
2. Participated in National Conference on “SMART SUMMIT – 2017” (Science, Medicine, Agriculture, Research and Technology) & Award Ceremony on PEARL Foundation Educational Excellence to Higher Education in India 2017 held at Madurai on Sunday 10th December, 2017.
3. Participated in SYMBOSIUM ON “Global Impact on Emerging Zoonotic and Vector Borne Diseases” (ZOODIS 17) held at Adhiparasakthi College of Arts and Science. G.B. Nagar, Kalavai, on 27<sup>th</sup>, SEPTEMBER 2017
4. Participated in International conference on Food, Energy and Water Microbiology on 21 -23<sup>rd</sup>, December, 2016 Organized by Department of Microbiology, Periyar University, Salem -11.
5. Participated in International Seminar On “Challenges In Commercialization Of Viral Rapid Diagnostics And Therapeutics” 8<sup>th</sup> March, 2016 Organized by the Centre for Drug Discovery and Development, Sathyabama University, Chennai – 600 119.
6. Participated in 13th IAAM National conference on “Sustainability, Challenges and Advances in Biological Sciences” on December 18.12.2015 to 19.12.2015 at Muthyammal College of Arts and Sciences, Rasipuram.
7. Participated in the National Seminar on “Application of Mammalian Cell culture in Translational Research” on 30<sup>th</sup> October 2015 Organized by the Centre for Drug Discovery and Development, Sathyabama University, Chennai – 600 119.
8. Participated in National seminar on “**Current innovations and recent trends in cancer biology (CJRJCB-2011)**” organized by Department of biochemistry, Periyar University, Salem on 24<sup>th</sup> October 2011.
9. Participated in the National Seminar **9<sup>th</sup> National Conference of Indian Association of Applied Microbiologist (IAAM) on Current Trends in Microbial Technology** during October 14<sup>th</sup>-15<sup>th</sup>, 2011.
10. Participated in the National Seminar on **Beating the bugs, what is new?** Organized by

Department of Microbiology, Sri Ramachandra University, Chennai on 16<sup>th</sup> July, 2011.

11. Participated in the National Seminar on **Current Trends in Viral Diseases and its Diagnosis** Organized by Department of Microbiology, Periyar University during 3-4 March 2011.
12. Participated in National Seminar on **Microbiology and its impacts on Environmental Protection in Relation to Health and Geological Sustainability** held on 11<sup>th</sup> – 12<sup>th</sup> December 2009 at SRM Arts and Science College, Chennai.
13. Participated in National Seminar on **Disease Control Priorities in India** on 8.1.2009 to 10.1.2009 at D.G.Vaishnav College, Chennai.
14. Participated in National Seminar on **Recent Trends in Microbial Biotechnology Dated** on 29.12.2003 to 30.12.2003 at Sri Sankara Arts and Science College, Kanchipuram.
15. Participated in National Seminar on **Recent Trends in Microbial Biotechnology Dated** on 30.1.2001 to 31.1.2001 at Sri Sankara Arts and Science College, Kanchipuram.

#### **Guest Speaker**

1. Plenary talk on Actinobacteria - **A paramount source of biologically important metabolites** at AMPLCOS Department of Biotechnology K.S.Rangasamy College of Arts and Science (Autonomous), Tiruchengode, Namakkal on 27<sup>th</sup> and 28<sup>th</sup> February 2019.
2. Special lecture on **Bioprospecting of Actinobacteria** at Department of Biotechnology, Padamavani College of Arts and Science College for Women, Salem on 19<sup>th</sup> July 2019.
3. Special lecture on **“Opportunities, Challenges and Future Directions in Microbiology”** at Department of Microbiology, Dg Vaishnav College, Arumbakkam, Chennai on 1 August 2019.
4. Special lecture on **“Challenges and opportunities of Microbiology and Biotechnology”** at Department of Biosciences, Hindustan College of Arts and Science, Coimbatore through ZOOM in online on 6 May 2020.

#### **Programmes Organized:**

1. Organized a **one day workshop on “Spirulina Cultivation” on 30th September 2015 at Sathyabama University, R & D Centre, Chennai.**
2. Organized a one day National seminar on **“Recent Trends in Food Microbiology” on 19<sup>th</sup>, July 2017 at Co.Dr.Jeppiaar Research Park, Sathyabama University, Chennai.**
3. Organized a one day **"National seminar on NABL Accreditation: Scope and Process" on 12<sup>th</sup> April 2019** in our Training Hall, Col. Dr. Jeppiaar Research Park, Sathyabama Institute of Science and Technology, Chennai.
4. Organized a 6 days Internship Program on the topic of **"Bioinstrumentation and Bioprospecting"** from 13<sup>th</sup> to 16<sup>th</sup> June 2019 in our Centre for Drug Discovery and Development (CDDD), Col.Dr.Jeppiaar Research Park, Sathyabama Institute of Science and Technology, Chennai.
5. Organized a 3 days Internship Program on the topic of "" from 13<sup>th</sup> to 16<sup>th</sup> June 2019 in our Centre for Drug Discovery and Development (CDDD), Col.Dr.Jeppiaar Research Park, Sathyabama Institute of Science and Technology, Chennai.
- 6.

#### **Award:**

1. Award and certification of appreciation for research publication in high impact factor journal on 2 August, 2016.

2. Received Best thesis Award in PhD given by PEARL Foundation Educational Excellence to Higher Education in India 2017 held at Madurai on 10th December, 2017

### SUBJECTS HANDLED [for both UG & PG students]

•General and Applied Microbiology, Industrial Microbiology & Biotechnology, Immunology & Medical Microbiology, fermentation Technology and bioinstrumentation

### PROJECTS GUIDED [ $n=7$ ]:

S. No	Name	Project title	Year
<b>B.Tech Project</b>			
1.	Vigneshkumar.R Ajithkumar.K	Bioremediation of azo dye (remazol red f3b) by using <i>streptomyces maritimus pp3</i>	2017-18
2.	Madhu Balan.R Saravanan.T	Bioremediation of heavy metals from soil by using <i>streptomyces rhizophilus aps 1</i>	2017-18
3.	Vaishali.R, Ruchi Pathak	Explore actinobacteria from different fish gut associated actinobacteria for antimicrobial activity against carbapenem resistant <i>K. Pneumoniae</i>	2017-18
4.	Haritha	Bioactive potential of actinobacteria against food borne pathogens	2018-19
<b>M.Tech</b>			
1.	Ms.Elakkiah	Anticorrosion properties of medicinal plants	2018-19
2.	Ms.Mahashree	Explorations of fish gut associated actinobacteria for its antimicrobial and antiquorum sensing properties	2018-19
3.	Mrs.Saisangeetha	Anticorrosion properties of medicinal plants	2018-19

### Ph.D.,

Name of the student	Designation & Project	Title of the Ph.D work
Mr.A.Vignesh	Research Assistant	Bioremediation of dyes by using actinobacteria

### MEMBERSHIP:

**Life Member** : Indian Association of Applied Microbiologists (IAAM) (No. LM 148)

### Collaboration

National Collaborators	Institute	Field of Research
<b>Dr. R. Balagurunathan</b> Professor & Head	Department of Microbiology Periyar University Salem – 600 011. Tamil Nadu	Actinobacteria and bioactive metabolites
<b>Dr. S.T. Somasundaram</b> Associate Professor	CAS in Marine Biology Annamalai University, Parangipettai, Tamil Nadu	Protein chemistry
<b>Dr. K. Sivakumar</b> Assistant Professor	CAS in Marine Biology Annamalai University, Parangipettai, Tamil Nadu	Marine actinobacterial systematic
<b>Dr. Govindaraj Dev Kumar</b> Assistant Professor	Food Safety Microbiology, University of Georgia, Center for Food Safety, Griffin, GA. US	Exploring bioactive compounds for Food safety

<b>Sadhana Ravishankar, Ph. D.</b> Associate Professor	School of Animal & Comparative Biomedical Sciences, Joint Faculty Member, Department of Nutritional Sciences, Chair, UA Food Safety Consortium, Member, University of Arizona Tucson, AZ US	Bioprospecting of bioactive compounds against food borne pathogens
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### PERSONAL DETAILS

Date of Birth : 2<sup>nd</sup> June 1983; Age: 37  
 Father's Name : Mr. K. Venugopal  
 Nationality : Indian  
 Marital status : Married  
 Languages known : English & Tamil  
 Residential Address & Address for communication : 45, Mandapam Street, Pillaiyar Palaiyam, Kanchipuram – 631501, Tamilnadu, India

### References:

<b>Dr. R. BALAGURUNATHAN</b> , M.Sc., M.Phil., Ph.D., Professor & Head Department of Microbiology Actinobacteriology Research Laboratory Periyar University Salem - 11, Tamilnadu, India <b>Mobile:</b> 94434 46325 <b>Email:</b> <a href="mailto:rbalaguru@yahoo.com">rbalaguru@yahoo.com</a>	<b>Dr. R. VARADHARAJAN</b> MD.,DCH Consultant haematologist and Oncologist No-100 Habibullah Road T.Nagar, Chennai-17 <b>Mobile :</b> 9940119052
<b>Dr. S.T. SOMASUNDARAM</b> , M.Sc., Ph.D., Associate Professor CAS in Marine Biology Faculty of Marine Sciences Annamalai University Parangipettai – 608 502. Tamil Nadu. <b>Mobile:</b> 98947 98605 <b>Email:</b> drstscas@yahoo.com	<b>Dr. M. RADHAKRISHNAN</b> , M.Sc., M.Phil., Ph.D., Scientist 'E' Centre for Drug Discovery and Development Sathyabama University Jeppiaar Nagar Rajiv Gandhi Road Chennai – 600 119. Tamil Nadu <b>Email</b> : <a href="mailto:mrkactinos@yahoo.com">mrkactinos@yahoo.com</a> <b>Mobile</b> : +91 90475 13606