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Academic Qualifications: M.A. /M.Sc. /M.Phil. /Ph.D./

Course	Educational Institution
PhD (Biochemistry/Interdisciplinary Botany)	Bharathidasan University
M.Phil. (Biochemistry)	Tamil University
M.Sc. (Biochemistry)	Annamalai University

Teaching Experience: 25.6 Years,

S. No.	Designation	Institution / University	Duration
1.	Assistant Professor	Department of Biochemistry, M.I.E.T. Arts and Science College – Tiruchirappalli-7.	25.06.1995 to 01.06.2008
2.	Assistant Professor	Department of Marine Science, Bharathidasan University, Tiruchirappalli-24.	16.06.2008 to 15.06.2018
3.	Associate Professor	Department of Marine Science, Bharathidasan University, Tiruchirappalli-24.	16.06.2018 to 16.06.2023
4.	Professor	Department of Marine Science, Bharathidasan University, Tiruchirappalli-24.	17.06.2023 to Till date

Research Experience

27 years

Additional Responsibilities

1. Additional Chief Examiner
2. Coordinator of Youth Red Cross
3. Alu-mini association incharge
4. Former Oceanus club incharge
5. Coordinator for the Skill Development Programme in Government Colleges

Areas of Research

- ❖ **Biochemical Studies of Marine Resources**
- ❖ **Marine actinomycetes - Bio-active compound production, Enzyme production**
- ❖ **Microbiological Studies - Isolation and identification of MDRs, ESBL pathogens from various infected human samples**
- ❖ **Biomedical Applications - Biofilm, MDRs, ESBLs, Anti-diabetic, Wound and cancer cells (A549 cell line, MCF-7, MDA-MB 231, LNaP)**

Research Supervision / Guidance

Program of Study		Completed	Ongoing
Research	Ph.D.	11	06
	M.Phil.	32	0
Project	PG	75	4
	UG / Others	3	-

Publications Details:

International		National		Others
Journals	Conferences	Journals	Conferences	Books / Chapters / Monographs / Manuals
105	02	14	04	13

Cumulative Impact Factor (as per JCR) : 25

h-index	:	23
i10 index	:	42
Total Citations	:	1632

Journals Publications List:

1. Narayanan, M., Srinivasan, S., Gnanasekaran, C., Ramachandran, G., Chelliah, C. K., Govindhan, R., ... & **Manoharan, N.** (2024). Synthesis and characterization of marine seagrass (*Cymodocea serrulata*) mediated titanium dioxide nanoparticles for antibacterial, antibiofilm and antioxidant properties. *Microbial Pathogenesis*, 106595.
2. Gnanasekaran, C., Govindan, R., Chelliah, C. K., Govindan, R., Ranganathan, P., Muthuchamy, M., ... & **Natesan, M.** (2023). Isolation and molecular detection of endophytic actinomycetes *Nocardiopsis dassonvillei* DMS 1 (MH900216) from marine sea grasses with bacterial inactivation. *Biocatalysis and Agricultural Biotechnology*, 54, 102938.
3. Govindan, R., Gnanasekaran, C., Govindan, R., Muthuchamy, M., Quero, F., Jothi, A., **Natesan Manoharan** & Li, W. J. (2023). Anti-quorum Sensing and Anti-biofilm Effect of *Nocardiopsis synnemataformans* RMN 4 (MN061002) Compound 2, 6-Di-tert-butyl, 1, 4-Benzoquinone Against Biofilm-Producing Bacteria. *Applied Biochemistry and Biotechnology*, 1-35.
4. Rajivgandhi, G., Chelliah, C. K., Ramachandran, G., Chackaravarthi, G., Maruthupandy, M., Alharbi, N. S., **Natesan Manoharan** & Quero, F. (2023). Morphological modification of silver nanoparticles against multi-drug resistant gram-negative bacteria and cytotoxicity effect in A549 lung cancer cells through in vitro approaches. *Archives of Microbiology*, 205(8), 282.
5. Rajivgandhi, G., Kadaikunnan, S., Ramachandran, G., Chackaravarthi, G., Chelliah, C. K., Maruthupandy, M., **Natesan Manoharan** & Li, W. J. (2023). Chitosan loaded plant essential oils efficiently eradicate the multi-drug resistant bacterial infection and lung cancer cells. *Journal of King Saud University-Science*, 35(5), 102662.

6. Govindan Rajivgandhi, Govindan Ramachandran, Gnanasekaran Chackaravarthi, Muthuchamy Maruthupandy, Franck Quero, Chenthis Kanisha Chelliah, **Natesan Manoharan**, Naiyf S. Alharbi, Shine Kadaikunnan, Jamal M. Khaled, Wen-Jun Li. Metal tolerance and biosorption of Pb ions by *Bacillus cereus* RMN 1 (MK521259) isolated from metal contaminated sites. *Chemosphere*, Volume 308, Part 1, December 2022, 136270.
7. Rajivgandhi, G., Kadaikunnan, S., Ramachandran, G., Chackaravarthi, G., Chelliah, C. K., Maruthupandy, M., **Natesan Manoharan** & Li, W. J. (2023). Anti-cancer ability of chitosan nanoparticles loaded plant essential oil evaluated against A549 human lung cancer cells through invitro approaches. *Journal of King Saud University-Science*, 35(4), 102598.
8. Ramachandran, G., Alharbi, N. S., Chackaravarthy, G., Chelliah, C. K., Rajivgandhi, G., Maruthupandy, M., **Natesan Manoharan** & Li, W. J. (2023). Chitosan/silver nanocomposites enhanced the biofilm eradication in biofilm forming Gram positive *S. aureus*. *Journal of King Saud University-Science*, 35(4), 102597.
9. Chackaravarthi, G., Alharbi, N. S., Gnanamangai, B. M., Ramachandran, G., Chelliah, C. K., Rajivgandhi, G., **Natesan Manoharan** & Li, W. J. (2023). Anti-biofilm efficacy of marine actinomycete mediated zinc oxide nanoparticles increased the intracellular damages in biofilm forming *K. pneumoniae*. *Journal of King Saud University-Science*, 35(4), 102642.
10. Govindan Rajivgandhi, Govindan Ramachandran, Ramachandran Vijayan, Franck Quero, Muthuchamy Maruthupandy, Naiyf S. Alharbi, Shine Kadaikunnan, **Manoharan Natesan** and Wen-Jun Li. Anti-ESBL derivatives of marine endophytic *Streptomyces xiamenensis* GRG 5 (KY457709) against ESBL producing bacteria. 34, 2022.
11. Govindan Nadar Rajivgandhi, Gnanasekaran Chackaravarthi, Govindan Ramachandran, **Natesan Manoharan**, R Ragunathan, Muhammad Zubair Siddiqi, Naiyf S Alharbi, Jamal M Khaled, Wen-Jun L. Synthesis of silver nanoparticle (Ag NPs) using phytochemical rich

- medicinal plant *Lonicera japonica* for improve the cytotoxicity effect in cancer cells. Journal of King Saud University-Science. February 2022 34(2).
12. Govindan Nadar Rajivgandhi, RTV Vimala, G Ramachandran, Chelliah Chenthis Kanisha, **N Manoharan**, Wen-Jun Li. An Overview on Natural Product from Endophytic Actinomycetes. Natural Products from Actinomycetes. April 2022 (151-165).
 13. Rajivgandhi Govindan Nadar, Gnanasekaran Chackaravarthy, Govindan Ramachandran, **Natesan Manoharan**, Siddiqi Muhammad Zubair, Naiyf S Alharbi, Ahmed S Alobaidi, Wen-Jun Li. Isolation and molecular identification of biofilm producing *P. aeruginosa* and *K. pneumoniae* from urinary tract infections patient urine sample. Journal of Infection and Public Health, 14 (12) December 2021 1875-1880.
 14. Govindan Ramachandran, Govindan N Rajivgandhi, Gnanasekaran Chackaravarthi, Chelliah C Kanisha, Muhammad Z Siddiqi, Naiyf S Alharbi, Shine Kadaikunnan, **Natesan Manoharan**. Isolation and molecular identification of extended spectrum beta-lactamase producing bacteria from urinary tract infection, Journal of Infection and Public Health, 14 (12) December 2021 1911-1916.
 15. Chackaravarthi Gnanasekaran, Ahmed S Alobaidi, Ramachandran Govindan, Chenthis kanisha Chelliah, Siddiqi Muhammad Zubair, Shanmugarathinam Alagarsamy, Naiyf S Alharbi, Shine Kadaikunnan, Rajivgandhi Govindan, **Natesan Manoharan**, Piperacillin/tazobactam and cefotaxime decrease the effect of beta lactamase production in multi-drug resistant *K. pneumoniae*, Journal of Infection and Public Health, 14 (12) December 2021 1777-1782.
 16. Ayyanar P, **Manoharan N**. Efficacy of nano-ZnO conjugated L asparaginase and its anticancer activity against HepG2. Bulltin of Environment, pharmacology and Lifescience. 10(7). June 2021.

17. Ayyanar P, **Manoharan N**. Studies on drought tolerate mediated plant growth-promotion by the application of actinobacteria isolated from marine sources. International journal of Botany studies. 5(6) 2020 pg. 203-205.
18. Shine Kadaikunnan, Naiyf S Alharbi, Jamal M Khaled, Ahmed S Alobaidi, Govindan Nadar Rajivgandhi, Govindan Ramachandran, Chackaravarthi Gnanasekaran, Chenthis Kanisha Chelliah, Khalid F Alanzi, **Natesan Manoharan**, Partially purified actinomycetes compounds enhance the intracellular damages in multi-drug resistant *P. aeruginosa* and *K. pneumoniae*, Saudi Journal of Biological Sciences, 28 (11) November 2021.
19. Muthuchamy Maruthupandy, Darlyn Riquelme, Govindan Rajivgandhi, Thillaichidambaram Muneeswaran, Wan-Seob Cho, Muthusamy Anand, **Natesan Manoharan**, Franck Quero, Dual-role of graphene/bacterial cellulose/magnetite nanocomposites as highly effective antibacterial agent and visible-light-driven photocatalyst, Journal of Environmental chemical engineering, 9(5), 2021.
20. Kanchan Puri, Arumugam Senthil Vel, **Natesan Manoharan**, Rathinam Arthur James, Ritesh Joshi. Environment Education In India: Challenges And Opportunities. Holistic Approach Environ. 11(2021) 4, pp. 122 – 127.
21. Puri Kanchan, **Manoharan N**, Arthur James. R, Senthil Vel. A, Joshi Ritesh. Fingerprints of Climate Change from the Indian Himalayan Environment: Need to Inculcate in Environment Education for Schools and Colleges. Journal of Climate Change, vol. 8, no. 1, pp. 37-43, 2022.
22. Govindan Rajivgandhi, RTV Vimala, Muthuchamy Maruthupandy, Naiyf S Alharbi, Shine Kadaikunnan, Jamal M Khaled, **Natesan Manoharan**, Wen-Jun Li. Enlightening the characteristics of biofloculant of endophytic actinomycetes from marine algae and its biosorption of heavy metal removal. Environmental Research, 200, 2021.

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24. G. Rajivgandhi, M. Maruthupandy, T. Muneeswaran, G. Ramachandran, **Natesan Manoharan**, F. Quero, M. Anand, Ji-M. Song, Biologically synthesized copper oxide nanoparticles enhanced intracellular damage in ciprofloxacin resistant ESBL producing bacteria, Microb. Pathog. Accepted, December 2018.
25. G. Rajivgandhi, M. Maruthupandy, T. Muneeswaran, M. Anand, **N. Manoharan**. Antibiofilm activity of zinc oxide nanosheets (ZnO NSs) using *Nocardiopsis* sp. GRG1 (KT235640) against MDR strains of gram-negative *Proteus mirabilis* and *Escherichia coli*. Process Biochem. 67 (2018) 8-18.
26. G. Rajivgandhi, R. Vijayan, M. Maruthupandy, B. Vaseeharan, **N. Manoharan**. Antibiofilm effect of *Nocardiopsis* sp. GRG 1 (KT235640) compound against biofilm forming Gram negative bacteria on UTIs. Microb. Pathog. 118 (2018) 190-198.
27. G. Rajivgandhi, M. Maruthupandy, **N. Manoharan**. Detection of TEM and CTX-M genes from ciprofloxacin resistant *Proteus mirabilis* and *Escherichia coli* isolated on urinary tract infections (UTIs), Microb. Pathog. 121 (2018) 123–130.
28. M. Maruthupandy, G. Rajivgandhi, T. Muneeswaran, Ji-Ming Song, **N. Manoharan**. Biologically synthesized zinc oxide nanoparticles as nanoantibiotics against ESBLs producing gram negative bacteria, Microb. Pathog. 121 (2018) 224-231.
29. G. Rajivgandhi, T. Muneeswaran, M. Maruthupandy, CM. Ramakritinan, K. Saravanan, V. Ravikumar, **N. Manoharan**. Antibacterial and anticancer potential of marine endophytic actinomycetes *Streptomyces coeruleorubidus* GRG 4 (KY457708) compound against

- colistin resistant uropathogens and A549 lung cancer cells. *Microb. Pathog.* 125 (2018) 325-335.
30. HG Solanki, **N Manoharan**, AK Ray, S Avunje, AK Jangham. Interactions of physico chemical parameters with bacterial populations in earthen and lined white legged shrimp (*Penaeus vannamei*) culture ponds. *Indian Journal of Comparative Microbiology, Immunology and Infectious Diseases.* 39 (2018) 38-44.
 31. G. Rajivgandhi, G. Ramachandran, M. Maruthupandy, B. Vaseeharanc, **N. Manoharan**, Molecular identification and structural characterization of marine endophytic actinomycetes *Nocardiopsis* sp. GRG 2 (KT 235641) and its antibacterial efficacy against isolated ESBL producing bacteria, *Microb, Ptahog.* 126 (2019) 138–148.
 32. G. Rajivgandhi, R. Vijayan, M. Kannan, M. Santhanakrishnan, **N. Manoharan**, Molecular characterization and antibacterial effect of endophytic actinomycetes *Nocardiopsis* sp. GRG1 (KT235640) from brown algae against MDR strains of uropathogens, *Bioactive Materials* 1 (2016) 140–150
 33. G. Rajivgandhi, M. Maruthupandy, G. Ramachandran, M. Priyanga, **N. Manoharan**, Detection of ESBL genes from ciprofloxacin resistant Gram negative bacteria isolated from urinary tract infections (UTIs). *Front. Lab. Med.* 2 (2018) 5-13.
 34. S. Naveen Kumar, G.Rajivgandhi, **N.Manoharan**. Cytotoxicity effect of marine Sponge Alkaloid, Fascaplysin on HepG2 Hepatocellular carcinoma cell. *Fron. Lab. Med.* 2 (2018) 41-48.
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37. G. Rajivgandhi, G. Ramachandran, M. Maruthupandy, S. Saravanakumar, **N. Manoharan**. Antibacterial Effect of Endophytic Actinomycetes from Marine Algae against Multi Drug Resistant Gram Negative Bacteria. *Exam. Mar. Biol. Oceanogr.* 1 (2018) 1-8.
38. G. Ramachandran, G. Rajivgandhi, M. Maruthupandy, **N. Manoharan**. Isolation and Identification of Antibacterial Compound from Marine Endophytic Actinomycetes against Multi Drug Resistant Bacteria. *Ann. Microbiol. Immunol.* 1 (2018) 1003.
39. G. Rajivgandhi, R. Senthil, G. Ramachandran, M. Maruthupandy, **N. Manoharan**. Antibiofilm activity of marine endophytic actinomycetes compound isolated from mangrove plant *Rhizophora mucronata*, Muthupet Mangrove Region, Tamil Nadu, India. *J. Terr. Mar. Res.* 2(4): 2018:1-7.
40. P.G. Geegi, **N. Manoharan**, Antidiabetic and Antioxidant Activity of Leaves of *Aegiceras corniculatum* (L.) Blanco (Black Mangrove): An in vitro and in vivo Study, Research & Reviews: *Journal of Herbal Science*, 2018 7, 1-9.
41. R. Manikandan, A. Vijaya Anand, P. Sampathkumar, **N. Manoharan**. Protective effect of *Psidium guajava* leaf ethanolic extract against streptozotocin-induced diabetes and lipodosis in rats. *Indian J. Anim. Res.*, B-3337, 1-8
42. Jeyalakshmi Suresh Kumar, Rajangam Udayakumar, **Natesan Manoharan**, Microbiological Hazard Analysis of Ground Water in Selected Stations in Madurai, Tamil Nadu, India, *J. Theor. Experim. Biol.* 2018, 13, 75-85.

43. Kanchan puri, **N. Manoharan**, Senthil vel, R. Arthur James, Ritesh Joshi. Consciousness of children towards detrimental enforcement of environment. NEbio. March 2021 Volume 12(1): 14-16.
44. Kanchan puri, **N. Manoharan**, Senthil vel, R. Arthur James, Ritesh Joshi. Pro-Environmental Attitude and Behaviour of Rural Students A Case Study From Bhopal, Madhya Pradesh, India. I.J.S.N., VOL.11 (2) 2020: 39-40.
45. Kanchan puri, **N. Manoharan**, Senthil vel, R. Arthur James, Ritesh Joshi. Assessing Behaviour and Attitude of School Students towards Environmental Issues - A Case Study from Delhi, India. An Int. J. of Education and Applied Social Science: Vol. 11, No. 1, pp. 25-29, April 2020
46. G. Geegi, **N. Manoharan**. Phytochemical screening and hypoglycemic effect of leaves of *aegiceras corniculatum* (L.) blanco (black mangrove) in streptozotocin-induced diabetic rats. 2018, 1412-1427.
47. T. Jayalakshmi, **N. Manoharan**, P. Santhanam, S. Ananth, S. Dinesh Kumar¹, R. Nandakumar and M. Kaviyarasan, Water quality and proximate composition of zooplankton of Muthukkuda coast of Palk Bay, southeastern India. J. Mar. Biol. Ass. India, 59 (1), 2017.
48. P. Ayyanar, R. Murugan, **N. Manoharan**. Protective role of solanum nigrum linn leaf methanol extract on male wistar albino rats against n-nitrosodiethyl amine induced hepatocarcinoma, 2018, 4, 365-373.
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52. R.Vijayan, **N. Manoharan**, Structural Elucidation of *Chlamydia trachomatis* MIP Mutants and Modeling the Interactions with Native Inhibitors. *Journal of Marine Biosciences*, 1 (1), 50–62, 2015
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89. JM Khaled, SA Alyahya, CC Kanisha, NS Alharbi, S Kadaikunnan, **N Manoharan**, Anti-biofilm activity of LC-MS based Solanum nigrum essential oils against multi drug resistant biofilm forming P. mirabilis, Saudi Journal of Biological Sciences 28 (1), 302-309.

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91. Jeyalakshmi Suresh Kumar, **Natesan Manoharan**, Rajangam Udayakumar, Study on isolation and characterization of cyanobacteria from high tds ground water from madurai district, tamilnadu, india, International Journal Of Scientific & Technology Research, ISSN 2277-861687, Volume 8, Issue 10, October 2019.
92. Kalaiyarasan Vijayakumar , Vijaya Anand Arumugam , Manikandan Ramasamy , **Manoharan Natesan** , Sampathkumar Palanisamy , Nargis Begum Thajuddin , Hepatoprotective effects of *Psidium guajava* on mitochondrial enzymes and inflammatory markers in carbon tetrachloride-induced hepatotoxicity, Pages 2041-2050 | Accepted 24 Oct 2020, Published online: 20 Nov 2020.
93. Jeyalakshmi Suresh Kumar, **Natesan Manoharan**, Rajangam Udayakumar, Application of water quality index (wqi) forground water quality interpretation, International Journal Of Innovative Technology And Exploring Engineering (IJITEE), ISSN: 2278-3075, Volume-8 Issue-12, October 2019.
94. GN Rajivgandhi, G Ramachandran, JL Li, L Yin, **N Manoharan**,Molecular identification and structural detection of anti-cancer compound from marine Streptomyces akiyoshiensis GRG 6 (KY457710) against MCF-7 breast cancer cellsJournal of King Saud University-Science 32 (8), 3463-3469, 2020.
95. NS Alharbi, SA Alyahya, G Ramachandran, CK Chelliah, S Kadaikunnan, **N Manoharan**, Screening of anti-oxidant and anti-bacterial metabolites from brown algae Turbinaria ornata for inhibits the multi-drug resistant P. aeruginosa, Journal of King Saud University-Science 32 (8), 3447-345.

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97. V Kalaiyarasan, VA Arumugam, M Ramasamy, **Manoharan N**, S Palanisamy, Hepatoprotective effects of *Psidium guajava* on mitochondrial enzymes and inflammatory markers in carbon tetrachloride-induced hepatotoxicity Drug Development and Industrial Pharmacy, 1-10.
98. S Tian, K Saravanan, RA Mothana, G Ramachandran, G Rajivgandhi, **N Manoharan**, Anti-cancer activity of biosynthesized silver nanoparticles using *Avicennia marina* against A549 lung cancer cells through ROS/mitochondrial damages, Saudi Journal of Biological Sciences 27 (11), 3018-3024.
99. G Rajivgandhi, A Stalin, CC Kanisha, G Ramachandran, N Manoharan, Physiochemical characterization and anti-carbapenemase activity of chitosan nanoparticles loaded *Aegle marmelos* essential oil against *K. pneumoniae* through DNA fragmentation assay, Surfaces and Interfaces 23, 100932.
100. **N Manoharan**, HG Solanki, AK Ray, Role of pond lining in dynamics of Sulphur recycling bacteria in pacific white Shrimp, *Penaeus Vannamei* grow out culture ponds, Indian Journal of Comparative Microbiology, 2021.
101. TN Almanaa, NS Alharbi, G Ramachandran, CK Chelliah, G Rajivgandhi, **N Manoharan**, Anti-biofilm effect of *Nerium oleander* essential oils against biofilm forming *Pseudomonas aeruginosa* on urinary tract infections, Journal of King Saud University-Science 33 (2), 101340, 2021.

102. GN Rajivgandhi, NS Alharbi, S Kadaikunnan, JM Khaled, CC Kanisha, **N Manoharan**, Identification of carbapenems resistant genes on biofilm forming *K. pneumoniae* from urinary tract infection, *Saudi Journal of Biological Sciences* 28 (3), 1750-1756, 2021.
103. JS Kumar, **N Manoharan**, R Udayakumar, Study on Isolation and Characterization of Cyanobacteria from High TDS Ground Water from Madurai District, Tamilnadu, India.
104. **N Manoharan**, Antiaflatoxic efficacy of the Marine alga *Gracilaria corticata* J Agardh, Tiruchirappalli.
105. AKU Begam, **N Manoharan**, J Sirajudeen, AA Jameel, Effect of some indian traditional plants on few common pathogens.
106. G Rajivgandhi, M Maruthupandy, G Ramachandran, M Priyanga, **N Manoharan**, *Frontiers in Laboratory Medicine*.
107. SS Kumar, D Asokan, PS Kumar, S Kalavathy, **N Manoharan**, Salubrious effect of *Tridax procumbens* on paracetamol hepatotoxicity *Indian Journal of Pharmaceutical Sciences* 63 (1), 64.
108. **N Manoharan**, P Sampathkumar, B Dheeba, S Sheikabdulla, Potential Hepatoprotective Effect of Aqueous Extract of *Gracilaria corticata* in AFB₁ Induced Hepatotoxicity in Wistar Rats Asian Network for Scientific Information, Pakistan.
109. GN Rajivgandhi, CC Kanisha, G Ramachandran, **N Manoharan**, Phytochemical screening and anti-oxidant activity of *Sargassum wightii* enhances the anti-bacterial activity against *Pseudomonas aeruginosa*, *Saudi Journal of Biological Sciences*, 2021.
110. D Ma, CK Chelliah, NS Alharbi, S Kadaikunna, JM Khaled, KF Alanzi, **N Manoharan**, Chrysanthemum morifolium extract mediated Ag NPs improved the cytotoxicity effect in A549 lung cancer cells *Journal of King Saud University-Science* 33 (1), 101269, 2021

- 111.GN Rajivgandhi, G Ramachandran, CC Kanisha, JL Li, L Yin, **N Manoharan**., Anti-biofilm compound of 1, 4-diaza-2, 5-dioxo-3-isobutyl bicyclo [4.3. 0] nonane from marine *Nocardiosis* sp. DMS 2 (MH900226) against biofilm forming *K. pneumoniae*Journal of King Saud University-Science 32 (8), 3495-3502, 2020.
- 112.HG Solanki, **N Manoharan**, TK Vyas, G Rajivgandhi, K Patel, PK Patil, Isolation and characterisation of sulphur oxidising bacterial isolates from two different pacific white shrimp, *Penaeus vannamei* culture systems, IJCS 8 (6), 39-45, 2020.
- 113.PG Geegi, **N Manoharan**, In silico screening of phytochemicals identified from *aegiceras corniculatum* (L.) blanco for its anti-diabetic activity, 2019.
- 114.HG Solanki, **N Manoharan**, AK Ray, S Avunje, AK Jangham, Interactions of physico chemical parameters with bacterial populations in earthen and lined white legged shrimp (*Penaeus vannamei*) culture pondsIndian Journal of Comparative Microbiology, 2018.
- 115.G Rajivgandhi, R Senthil, G Ramachandran, M Maruthupandy, **N Manoharan**., Journal of Terrestrial and Marine Research, 2018.
- 116.N Manoharan, S Ganesh, E-Resources For Development And Research In Marine Studies, 2011.
- 117.SS Kumar, D Asokan, PS Kumar, S Kalavathy, **N Manoharan**, Salubrious effect of *Tridax procumbens* on paracetamol hepatotoxicity.Indian Journal of Pharmaceutical Sciences 56 (1), 64, 1994.
- 118.VA Anand, S Kalavathy, M Chenniappan, SP Kumar, **N Manoharan**, ...Pragmatic Aspect of C-Reactive Protein Alone and in Combination with Lipid Profile in Patients with Coronary Artery Disease. J. Med. Sci 8 (8), 743-746, 2008.

Book Chapters Published:

1. Govindan Nadar Rajivgandhi, RTV Vimala, Govindan Ramachandran, **Natesan Manoharan**, Industrial Requirements and Other Techno-functional Traits of Probiotics, Advances in Probiotics, Academic Press.519-533 (2021).
2. Govindan Nadar Rajivgandhi, RTV Vimala, Govindan Ramachandran, **Natesan Manoharan**, Wen Jun-Li, Soil Microbiome, Microbiome-Host Interactions, CRC Press. 397-405 (2021).
3. Govindan Nadar Rajivgandhi, RTV Vimala, S Sridharan, Govindan Ramachandran, **Natesan Manoharan**. Pharmaceutical application of extremozymes, Microbial Extremozymes. January 2022 pg. (125-134).
4. RTV Vimala, G Rajivgandhi, S Sridharan, M Jayapriya, G Ramachandran, C Chenthis Kanisha, **N Manoharan**, Wen-Jun Li. Biosynthesis and Characterization of Gold Nanoparticles from Actinobacteria. Methods in Actinobacteriology. 2022 (713-716).
5. RTV Vimala, G Rajivgandhi, S Sridharan, M Jayapriya, G Ramachandran, C Chenthis Kanisha, **N Manoharan**, Wen-Jun Li. Biosynthesis and Characterization of Silver Nanoparticles from Actinobacteria. Methods in Actinobacteriology. 2022 (709-712).
6. RTV Vimala, G Rajivgandhi, S Sridharan, M Jayapriya, G Ramachandran, C Chenthis Kanisha, **N Manoharan**, Wen-Jun Li. Sporicidal Activity of Extracellular Green-Synthesized Nanoparticles by Actinobacteria. Methods in Actinobacteriology. 2022 (729-732).
7. RTV Vimala, G Rajivgandhi, S Sridharan, M Jayapriya, G Ramachandran, C Chenthis Kanisha, **N Manoharan**, Wen-Jun Li. Antimicrobial Activity of Extracellular Green-Synthesized Nanoparticles by Actinobacteria. Methods in Actinobacteriology. 2022 (717-720).

8. RTV Vimala, G Rajivgandhi, S Sridharan, M Jayapriya, G Ramachandran, C Chenthis Kanisha, N Manoharan, Wen-Jun Li. Antibiofilm Activity of Extracellular Green-Synthesized Nanoparticles by Actinobacteria. Methods in Actinobacteriology. 2022 (721-724).
9. RTV Vimala, G Rajivgandhi, S Sridharan, M Jayapriya, G Ramachandran, C Chenthis Kanisha, N Manoharan, Wen-Jun Li. Cytotoxic Activity of Extracellular Green Synthesized Nanoparticles by Actinobacteria. Methods in Actinobacteriology. 2022 (725-728).

Funded Research Projects

Completed Projects

S. No	Agency	Period		Project Title	Budget (Rs. In lakhs)
		From	To		
1	UGC	2010	2013	“Pharmacological Alteration of Aflatoxin induced Hepatocellular Carcinoma and Treatment of Fucoidan and Coral Calcium”	10.41
2	MHRD-RUSA 2.0	2021	2023	“Biopharmaceutical Potentials of Marine Actinomycetes”	7.86

Events organized in leading roles

Number of Seminars / Conferences / Workshops / Events organized: 04

1. National Conference on “Explorations of the natural bio active compounds from the Marine resources” 10th&11th Feb 2011.

2. National Conference on “Marine environmental challenges and coastal zone management strategy” 11th&12th Feb 2012.
3. National Virtual conference on “Marine Bioprospecting and its Role in Challengeable Diseases – 21 (MBC - D21)” on October 11&12, 2021
4. National Seminar on “Recent Science Scenario in Blue Biotechnology (RSSBB-22)” on 23 &24th March 2022

Events Participated (optional)

Conferences / Seminars / Workshops: 60

1. Presented in two days national conference on “Biotechnological Innovations for Socioeconomic development” on 1st & 2nd March 2018 conducted by P.G. & Research Department of Biotechnology, J.J. College of Arts & Science (Autonomous), Pudukkottai, Tamilnadu.
2. Presented the paper entitled “Potential Bio-active Compound for Challengeable disease” in the National Seminar on “Challenges and Advances in Microbiology(CAM-2018)” held during 1st&2nd Feb 2018 organized by Department of Microbiology, Faculty of Science, Annamalai University, Tamil Nadu.
3. Participated in Science Academies’ Lecture workshop on “**Perspectives in Climate change and Biodiversity**” organized by Department of Environmental Science, Periyar University, Salem – 636 011 during Oct 03&04, 2018.
4. Participated in the one-day national workshop on “**Utilizing internet Resource in Class room Instruction**” organized by Department of Education, CDE, Bharathidasan University, Trichy-24 during Jan 12, 2018.

5. Participated in an International seminar on “Global Warming and its impact on women and environment” organized by Department of Women Studies, Bharathidasan University & Kudumbam NGO, Trichy-24 during Jan 24, 2018.
6. Participated in Science Academies’ Lecture workshop on “**Conservation and Protection of Bio resources**” organized by Department of Botany, Bharathidasan University, Trichy-24 during Jan 24&25, 2018.
7. Participated in the national seminar on “Bio prospecting and Conservation of Bio resources” organized by Department of Zoology, Kongunadu Arts and Science College, Coimbatore during Feb 09, 2018.
8. Participated in the International seminar on ‘Emerging Trends in Biological Research (ETBR 2018)’ organized by Department of Biotechnology, Jamal Mohamed College (Autonomous), Trichy-20 during Mar 3, 2018.
9. Participated in the UGC-Sponsored Two Day Workshop for Academic Administrators on “**Institutional assessment and Accreditation**” Bharathidasan University, Trichy-24 during Mar 12 &13, 2018
10. Participated in the lecture Workshop on “**PLANT TISSUE CULTURE AND PHYTOCHEMISTRY**” organized by Department of Botany, Bharathidasan University, Trichy-24 during Mar 21, 2018.
11. Presented the paper entitled “Potential Bio-active Compounds from Cuttlefish for Challengeable disease” in the National Conference on “Innovations in Biotechnology(NCIB-2017)” held during 14th&15th Dec 2017 organized by School of Biotechnology, Madurai Kamaraj University, Tamil Nadu.

Other Training Programs

1. Participated the Winter School on “**Technological Advances in Mariculture for Production Enhancement and Sustainability**” organized by the Mariculture Division of ICAR-Central Marine Fishries Research Institute (CMFRI), Kochi during Jan 5 to 25, 2016
2. Participated in the Workshop on “**Synthetic Biology**” held on 26th-28th July 2018 at Bio-incubator, Indian Institute of Technology Madras - Research Park, Chennai.

Membership Assigned

Professional Bodies

Society of Biological chemists (India)

Marine Biological Association

Association of Chemistry Teachers

Hong Kong chemical biological & environmental engineering society

Society for Biotechnology (India)

Indian Association of Applied Microbiologists

Indian society of Geography

Academic Bodies (such as Board of Studies etc.,)

1. Board of Studies in Department of Marine Science, Holy Cross college & Rajah Serfoji Government Arts College.
2. Board of studies member in Department of Biotechnology, Jamal Mohmed college, Trichy
3. Board of Studies member in Government arts college, Kumbakonam.
4. Examiner in UG, PG & M.Phil

Resource persons in various capacities

Number of Invited / Special Lectures delivered: 29

Last two year data only included

S. No	Title	Year	College
1	“Conservation and sustainable development of Marine Science”	Mar 2018	School of marine Science, Alagappa University, Thondi.
2	“Marine Pharmaceuticals future and prospects”	Mar 2018	Government Arts College (Autonomous), Kumbakonam
3	“Diseases and Genetic Engineering”	Feb 2018	Vinayaga College of Arts & Science, Ulundurpet
4	“Fish Pathogens-Isolation and characterization”	Feb 2018	Department of Zoology, Government College for Women (Autonomous), Kumbakonam.
5	Bioactive compounds from Marine Actinomycetes	Feb 2019	Department of Zoology & Human Genetics and Molecular biology, Bharathiyar University,

			Coimbatore-641046.
6	Recent trends in Nano science for Drug Discovery from Natural Products	October 2019	Arunai Engineering College, Tiruvannamalai.
7	Therapeutic applications of Marine Actinomycetes	Jan 2019	P.G. Department of Zoology, Jamal Mohamed College, Trichy.
8	Bio Pharmaceutical Potential of Marine Resources	Mar 2020	Mary Matha College of Arts and Science, Theni.
9	Marine Resources	Feb 2020	Hindusthan College Arts and Science
10	Biopharmaceutical from Marine Organisms	Feb 2019	Department of Biochemistry, Bharathiyar University, Coimbatore.
11	Marine Molecular Impact on Biotherapeutic application	March 2019	Shanmugha Industries arts and science college, Tiruvannamalai.
12	Research Methodology for marine science and technology	Nov 2019	AMET University
13	Exploring Ocean for New Drug Development	July 2019	MIET arts and science college, Trichy.

14	Marine secondary metabolites Vs drug development	October 2019	Arunai Engineering College, Tiruvannamalai.
15	Metagenomics	Feb 2020	AMET University
16	Marine Biodiversity and conservation	June 2020	Tamil University, Thanjavur.
17	Prospect of Biochemistry	July 2022	Shrimathi Indira Gandhi college, Trichy

Others

1. Articles published in Newspapers / Magazines : xx
2. Products developed : xx
3. No. of PhD Thesis evaluated : 25
4. No. of PhD Public Viva Voce Examination conducted : 17

5. Published NCBI submission in NCBI

1. Mohankumar, N., **Manoharan, N.** *Klebsiella pneumoniae* strain MNVD 16S ribosomal RNA gene, partial sequence, Accession no: PP348123.1, Feb- 2024.
2. Mohankumar, N., **Manoharan, N.** *Escherichia coli* strain MNVRK 16S ribosomal RNA gene, partial sequence. Accession no: PP231029.1, Feb- 2024.
3. Mohankumar, N., **Manoharan, N.** *Shigella sonnei* strain MNVRK 16S ribosomal RNA gene, partial sequence. Accession no: PP231018.1, Feb- 2024.

4. Mohankumar, N., **Manoharan, N.** *Myroides odoratimimus* strain MNDBR 16S ribosomal RNA gene, partial sequence. Accession no: PP094768.1, Jan- 2024.
5. Mohankumar, N., **Manoharan, N.** *Staphylococcus epidermidis* strain MNRD1 16S ribosomal RNA gene, partial sequence. Accession no: OQ674699.1, Mar- 2023.
6. Mohankumar, N., **Manoharan, N.** *Bacillus subtilis* strain MNDS1 16S ribosomal RNA gene, partial sequence. Accession no: OQ674792.1, Mar- 2023.
7. Mohankumar, N., **Manoharan, N.** *Bacillus cereus* strain MNKS1 16S ribosomal RNA gene, partial sequence. Accession no: OQ711827.1, Sep- 2023.
8. Mohankumar, N., **Manoharan, N.** *Priestia aryabhattai* strain MNDM1 16S ribosomal RNA gene, partial sequence. Accession no: OR584251.1, Sep- 2023.
9. Mohankumar, N., **Manoharan, N.** *Lysinibacillus macroides* strain MNDM2 16S ribosomal RNA gene, partial sequence. Accession no: OR661842.1, Oct- 2023
10. G. Rajivgandhi, **N. Manoharan.** Isolation of ESBL producing Gram Negative bacteria from Urinary Tract Infections in Tiruchirappalli District, Tamil Nadu, India. *Proteus mirabilis* BDUMS 1. 16S ribosomal RNA gene, partial sequence - Accession no: KY617768, Feb- 2017.
11. G. Rajivgandhi, **N. Manoharan.** Isolation of ESBL producing Gram Negative bacteria from Urinary Tract Infections in Tiruchirappalli District, Tamil Nadu, India. *Proteus mirabilis* BDUMS 2. 16S ribosomal RNA gene, partial sequence - Accession no: KY617769, Feb- 2017.

12. G. Rajivgandhi, **N. Manoharan**. Isolation of ESBL producing Gram Negative bacteria from Urinary Tract Infections in Tiruchirappalli District, Tamil Nadu, India. *E.coli* BDUMS 3. 16S ribosomal RNA gene, partial sequence. - Accession no: KY617770, Feb-2017.
13. G. Rajivgandhi, G. Logeshwaran, **N. Manoharan**. Isolation of marine endophytic actinomycetes from various algae, Mandapam, Rameshwaram, Tamil Nadu, India. *Nocardiopsis* sp.GRG 1. 16S ribosomal RNA gene, partial sequence - Accession no: KT235640, Jun-2015.
14. G. Rajivgandhi, G. Logeshwaran, **N. Manoharan**. Isolation of marine endophytic actinomycetes from various algae, Mandapam, Rameshwaram, Tamil Nadu, India. *Nocardiopsis* sp. GRG 2. 16S ribosomal RNA gene, partial sequence - Accession no: KT235641, Jun-2015.
15. G. Rajivgandhi, G. Logeshwaran, **N. Manoharan**. Isolation of marine endophytic actinomycetes from various algae, Mandapam, Rameshwaram, Tamil Nadu, India. *Nocardiopsis* sp. GRG 3. 16S ribosomal RNA gene, partial sequence - Accession no: KT235642, Jun-2015.
16. G. Rajivgandhi, **N. Manoharan**. Isolation of marine endophytic actinomycetes from various algae, Mandapam, Rameshwaram, Tamil Nadu, India. *Streptomyces coeruleorubidus* GRG 4. 16S ribosomal RNA gene, partial sequence - Accession no: KY457708, January-2017.
17. G. Rajivgandhi, **N. Manoharan**. Isolation of marine endophytic actinomycetes from various algae, Mandapam, Rameshwaram, Tamil Nadu, India. *Streptomyces xiamenensis* GRG 5. 16S ribosomal RNA gene, partial sequence - Accession no: KY457709, January-2017.

18. G. Rajivgandhi, **N. Manoharan**. Isolation of marine endophytic actinomycetes from various algae, Mandapam, Rameshwaram, Tamil Nadu, India. *Streptomyces akiyoshiensis* GRG 6. 16S ribosomal RNA gene, partial sequence - Accession no: KY457710, January-2017.
19. R. Senthil, G. Rajivgandhi, P. Arulkanna, G. Ramachandran, **N. Manoharan**, Isolation of marine actinomycetes from various marine sources, Mandapam, Rameshwaram, Tamil Nadu, India. *Nocardiopsis* sp. strain DMS2. 16S ribosomal RNA gene, partial sequence - MH9002260, Sep-2018.
20. R. Senthil, G. Rajivgandhi, P. Arulkanna, G. Ramachandran, **N. Manoharan**, Isolation of marine actinomycetes from various marine sources, Mandapam, Rameshwaram, Tamil Nadu, India. *Nocardiopsis dassonvillei* strain DMS1 16S ribosomal RNA gene, partial sequence-Accession No: MH900216, Sep-2018.
21. S. Ganesan, **N. Manoharan**, Isolation of *Bacillus anthracis* strain BDMS4 from marine sources, Accession No: JQ060962.1, 2015.
22. S. Ganesan, **N. Manoharan**, Isolation of *Streptomyces fradiae* strain BDMS2 from marine sources, Accession No: JQ060962.1, 2015.
23. S. Velsamy, **N. Manoharan**. Isolation of *Pseudomonas aeruginosa* strain GVS2 (KC893552.1)
24. S. Velsamy, **N. Manoharan**. Isolation of *Pseudomonas aeruginosa* strain GVS1 (KC893551.1)

****Social Interests and Initiatives / Articles in News papers etc can also be included**

1. Gaja Cyclone relief programme in AArukaattu thurai, Nagapattinam District, 2018.

S.No	Title	Author's Name	Publisher	Year of Publication
1	Biochemical aspects of Bioactive compounds from natural resources	Dr. N. Manoharan	Advances in Biosciences-2012 (ISBN no. 978- 81-908597-2-1)	2012