

# Curriculum vitae



## Personal Details:

Name	Dr. Sarita G. Bhat (Shenoy)
Designation	Professor and Co-Ordinator, Centre for Integrated Studies
Address –Official	Department of Biotechnology Cochin University of Science and Technology Cochin-682022
E-mail	<a href="mailto:saritagbhat@gmail.com">saritagbhat@gmail.com</a> ; <a href="mailto:sgbhat@cusat.ac.in">sgbhat@cusat.ac.in</a>
Phone (mob):	9846033486; 8281413486

## Academic Qualifications

- B.Sc. (1987) Bombay University, Bombay-(Microbiology/ Biochemistry)
- M.Sc, (1989) Bombay University, Bombay- (Biochemistry)
- Ph.D, (1993-1998) Cochin University of Science & Technology-(Microbiology)

## Professional details:

- a. Date of superannuation (as per my University norm) : 30-04-2027
- b. Awards/ Honors received
  1. Daxina award for the year 1987-77 and 88-89 for the M.Sc. Biochemistry Program by the (Royal) Institute of Science, Mumbai (under the University of Mumbai).
  2. UGC-JRF and SRF awarded (Dec, 1992 Examination)
  3. UGC-NET for Lecturer ship (1992)
  4. DBT-CTEP Travel grant for paper presentation at the 1st International Caparica Conference in Antibiotic Resistance.IC<sup>2</sup>AR 2015, held at Lisbon, Portugal from 26-28<sup>th</sup> January, 2015
  5. UGC-FRPS Midcareer award 2020

## Experience

1. Adjunct faculty at Department of Marine biology, Microbiology and biochemistry, School of Marine Sciences, CUSAT from July 1998 to May 1999.
2. Joined as Lecturer in Department of Biotechnology, CUSAT on 1<sup>st</sup> June 1999
3. Professor (CAS) w.e.f 1<sup>st</sup> June, 2014.  
>25 years of Teaching and research experience at the Department of Biotechnology, CUSAT. Job activities included teaching and mentoring the post graduate students of the Masters program in Biotechnology, Master's program in Microbiology (since 2018) The Masters' dissertation of students within the department and outside were also supervised during this period.

In addition, doctoral supervision of research scholars at at the Department of Biotechnology, CUSAT was also done. Several students working under my sole supervision as well as those with joint supervision have been awarded doctoral degrees. My team successfully introduced *C. elegans* and Zebrafish as model organisms for research purposes in the Department of Biotechnology. We have published these works in peer reviewed journals with high IF.

During these two and half decades, several projects with total worth of a few crores at have been awarded, as Principal investigator or as Co-PI. This also gave us the opportunity to collaborate with several faculty in sister departments and other institutions and publish these research outcomes.

Several post-doctoral fellows have worked with my mentorship and have expanded their research areas, going on to win prestigious 5 year grants or to move as regular faculty in other teaching institutions. We have published together in in peer reviewed journals with high IF.

### 2. Head of Department of Biotechnology

I have had the opportunity to serve three tenures as Head, Department of Biotechnology. (Head, Dept. of Biotechnology from July 2011 to Dec 2013; Since 1<sup>st</sup> Jan, 2016 to 31<sup>st</sup> Dec, 2018; from 1<sup>st</sup> Jan, 2019 to 31-12-2021). During this period, we could successfully upgrade and improve the infrastructure associated with the small animal facility; Renew our IAEC accreditation with the CAEC. An additional floor space allocated to the cell and molecular biology lab and the microbial genetics lab, is in use

today and houses more than 35 research scholars, PDFs, Interns, trainees etc. In addition, recently the Zebrafish facility was constructed and is awaiting completion.

3. Currently Co-Ordinator, Centre for Integrated Studies

From 3<sup>rd</sup> Jan, 2024, took charge of the Centre for Integrated Studies as its Co-ordinator. This involves coordinating the various Integrated M.Sc programs offered under the Faculty of sciences( IM.Sc. Physics; IM.Sc. Chemistry; IM.Sc. Biological sciences; IM.Sc. Mathematics; IM.Sc. Statistics)

4. Chairperson Board of Studies (BOS), Biotechnology, DBT, CUSAT

Nominated the chairman, Board of Studies in Biotechnology 3 times (July 2011- Dec 2013), Since 1-04-2016 to 24.03.2021; from 28.05 2021 to 27.05.2025. Instrumental in starting the new Masters in Microbiology in 20218 with the support of my colleagues. The curriculum and syllabi for the M.Sc. Biochemistry is also approved by the University

5. Member of Different academic bodies in the CUSAT

- a) Member of Faculty of Science, CUSAT, (July 2011- Dec 2013), since 1<sup>st</sup> Jan, 2016 Member of Faculty of Environmental studies, CUSAT
- b) Member of Academic Council, CUSAT (July 2011- Dec 2013), since 1<sup>st</sup> Jan, 2016 to date
- c) Member of Standing committee of Academic council, CUSAT
- d) Member of Academic committee, CUSAT
- e) Member, Board of studies in Biological and Chemical sciences under Faculty of sciences, CUSAT since June 2018.
- f) Member of BOS, Marine Biotechnology, NCAAH, CUSAT

6. Member of different academic bodies in other Universities

- a. Member of Board of Studies in Microbiology, Kannur University, Board of studies in Biotechnology, PSG college of Arts and Science, Coimbatore.
- b. DBT nominee to Institutional biosafety committee, Department of molecular medicine, Amrita University, Kochi.
- c. DBT nominee/Expert to Institutional biosafety committee, KINFRA BIONEST, Kochi
- d. Member of Research committee, Vellore Institute of Technology, CIFT, KUFOS

7. Other administrative/academic activities

- a) Member of Staff council, CUSAT, 2017 to 2019
- b) Ph.D thesis examiner/expert, Viva board Chairperson at NIIIST, Tvm, Goa University, Kerala University, MG University, etc

- c) Chairperson, Passing board during the tenure of HOD, Department of biotechnology, CUSAT

#### 8. Others

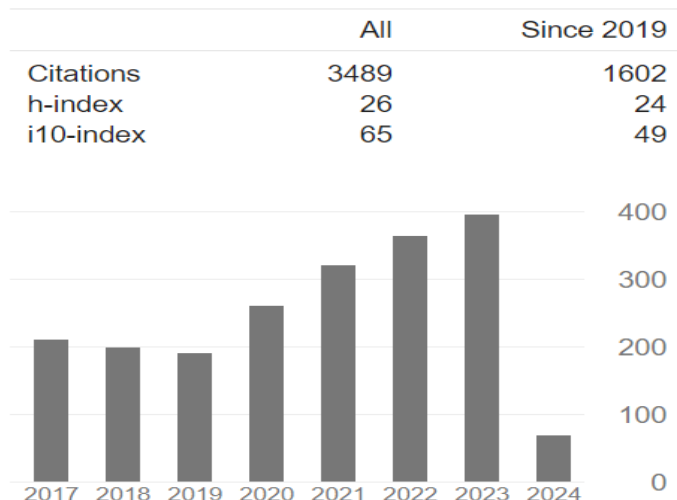
As convenor, conducted several National conferences as well as training programs in the Department of Biotechnology, CUSAT. As resource person, offered many keynote talks /invited talks at National and international conferences.

#### 9. Citations/h-index

<https://orcid.org/0000-0002-4500-3040>View this author's ORCID profile

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<http://www.scopus.com/inward/authorDetails.url?authorID=7202757341&partnerID=MN8TOARS>



#### List of Research Publications

##### 1999-2013

1. Application of bacterins and yeasts to protect the larvae of *Macrobrachium rosenbergii* from vibriosis. Varghese, V.; \*Singh, I. S. B.; Bhat, S. G. Fish and Shellfish Immunol. 2000, 10(6), 559-563. doi: 10.1006/fsim.2000.0278, IF: 4.7
2. Structural, spectral and antibiotic studies of the copper (II) complexes of 2-benzopyridine N(4)-cyclohexyl thiosemicarbazone. Joseph, M., Suni V.; \*Kurup, M.R.P.; Netaji, M.; Kishore, A.; Bhat, S.G. Polyhedron, 2004, 23, 3069-3080. <https://doi.org/10.1016/j.poly.2004.09.026> IF: 2.6

3. Production, purification and partial characterisation of a novel protease from Marine *Engyodontium alba* BTMFS10 under Solid State Fermentation. Chellappan, S.; Jasmin, C.; Basheer, S.M.; Elyas, K.K.; Bhat, S.G.; Chandrasekaran, M. Process Biochem.2005, 41, 956–961. <https://doi.org/10.1016/j.procbio.2005.10.017>, IF: 4.4
4. Structural, anti microbial and spectral studies of copper (II) complexes of 2-benzoylpyridine *N* (4)-phenyl thiosemicarbazone. Joseph, M.; Kuriakose, M.; \*Kurup, M.R.P.; Bhat, S.G. Polyhedron, 2006, 25,61-70. <https://doi.org/10.1016/j.poly.2004.09.026>, IF: 2.6
5. Multiple antibiotic resistance of *Vibrio* isolates from the coastal and brackish water areas. Manjusha, S.; \*Bhat, S.G.; Elyas K.K.; Chandrasekaran, M. Am.J. Biochem. Biotechnol. 2005, 1(4) 201-205. IF:0.32
6. Laser induced fluorescence based optical fibre probe for analyzing bacteria. Sandeep, P.M.; Rajeev, S.W.B.; Sheeba, M.; Bhat, S.G.; Nampoori, V.P.N. Laser Phys. lett. (2007) 1-5. DOI 10.1002/lapl.200710027, IF:1.7
7. Women in Science-Meeting report. Nambisan P.; Bhat, S.G. Current Science, 2008, Vol.95, No.1. IF:0.833
8. Biodegradability studies on LDPE –starch blends using amylase producing *Vibrios*. Hamza, Z. P.; Anna Dilfi K.F.; Kurian T.; Bhat, S.G. Intl. J. Polymeric Mat. 2009, Vol.58:1-10. <https://doi.org/10.1080/00914030902719386> . IF:3.2
9. Biodegradability of LLDPE-starch blends using vibrios from benthic environment .Anna Dilfi K. F.; Hamza, Z. P.; Kurian, T.; Bhat, S.G.; Int. J. Plastics Technol. 2008, Vol. 12, 1021 – 1030. IF:1.0
10. Effect of amylase producing vibrios from the benthic environments on the biodegradation of low density polyethylene –dextrin blends. Anna D.K.F.; Hamza, Z. P.; Kurian, T.; Bhat, S.G. Polymer-Plastics Technol. Engg. 2009, 48: 602-606. IF:1.481
11. Studies on biodegradability of linear low-density polyethylene-dextrin blends using vibrios from benthic environment. Hamza, Z.P.; Anna Dilfi, K. F.; Kurian, T.; Bhat, S.G. Prog. Rubber, Plastics and Recycling Technol. 2009, Vol.25 no.3. <https://doi.org/10.1177/147776060902500> IF:: 2.6
12. Molecular cloning and homology modelling of a subtilisin-like serine protease from the marine fungus, *Engyodontium album* BTMFS10. Jasmin, C.; Chellappan, S.; Sukumaran, R.K.; Elyas K.K.; Bhat, S.G.; Chandrasekaran, M. World J. Microbiol. Biotechnol. 2010, (DOI 10.1007/s11274-009-0298-6) IF:4.2

13. Characterization of Linear Low-Density Polyethylene/Poly(vinyl alcohol) blends and their biodegradability by *Vibrio* sp. isolated from marine benthic environment. Francis, V. S.; Subin, R.S.; Bhat, S.G.; Thachil, E.T. J. App. Polymer Sc. 2011, DOI 10.1002/app.34155 IF:3.0
14. Propyl Gallate synthesis using acidophilic tannase and simultaneous production of tannase and gallic Acid by marine *Aspergillus awamori* BTMFW032. Beena, P. S; Basheer, S.M.; Bhat, S.G.; Bahkali, A. H.; Chandrasekaran, M. Appl. Biochem. Biotechnol. 2011, DOI 10.1007/s12010-011-9162-x. IF:3.0
15. Effect of cobalt stearate and vegetable oil on UV and biodegradation of Linear Low density Poly (ethylene) –Poly(vinyl Alcohol) blends Francis, V. S.; Subin, R.S.; Bhat, S.G.; Thachil, E. T. Polymers from Renewable Resources, 2011, Vol. 2, No. 4. IF: 5.0
16. Plasmid associated antibiotic resistance in *Vibrios* isolated from coastal waters of Kerala. Manjusha, S.; \*Bhat, S.G. Inter. Food Res. J. 2011, 18: x-x) IF:1.169
17. Seasonal variation in the hydrolytic exo-enzyme profile of *Vibrio* sp. associated with the marine benthic environment of South India. Subin, R. S.; \*Bhat, S.G. Indian J. of Geo-Mar. Sc. (IJMS), 2011, Vol.40(6) p826-833. IF:0.422
18. Characterization of an extracellular alkaline serine protease from marine *Engyodontium album* BTMFS10. Chellappan, S.; Jasmin, C.; Basheer, S. M.; Kishore, A.; Elyas, K. K.; Bhat, S. G.; Chandrasekaran, M. J. Indust. Microbiol. Biotechnol., 2011, 38 (Issue 6), pp 743-752. IF:3.74
19. *Garcinia cambogia* leaf and seawater for tannase production by marine *Aspergillus awamori* BTMFW032 under slurry state fermentation. Beena, P. S.; Basheer, S.M.; Bhat, S. G.; Chandrasekaran, M. Natural Prod. Communic. 2011, Vol. 6 (12) 1933-1938. PMID: 22312743, IF:1.8
20. Isolation and Partial characterization of  $\Phi$ SP-1, a *Salmonella* specific lytic phage from intestinal contents of broiler chicken- candidate for biocontrol agent. Augustine, J.; Louis, L.; Varghese, S. M.; \*Bhat, S. G.; Kishore, A. J. Basic Microbiol. 2012, 52:1-11. DOI 10.1002/jobm.201100319. IF:3.1
21.  $\Phi$ SP-3, a *Salmonella* specific lytic phage capable of infecting its host under nutrient deprived states. Augustine, J.; Varghese, S. M.; \*Bhat, S. G. Ann. Microbiol. 2013, 63, 381-386. DOI 10.1007/s13213-012-0485-9. IF:3.0
22. Characterization of Plasmids from Multiple Antibiotic Resistant *Vibrio* sp. Isolated from Molluscs and Crustaceans. Manjusha, S.; \*Bhat, S. G. Korean J. Microbiol. Biotechnol. 2012, Vol. 40, No. 3, 197–207. <https://doi.org/10.4014/kjmb.1205.05002> IF:1.685)

23. Isolation and characterization of a solvent tolerant alkaliphilic marine bacteria. Alex, R.; \*Bhat, S.G. Int. J. Sc. Engg. Res. 2012, Vol. 3. (8). ISSN 2229-5518. IF:3.8
24. Thermostable bacteriocin BL8 from *Bacillus licheniformis* isolated from marine sediment. Smitha, S.; \*Bhat, S.G. J. Appl. Microbiol. 2012, (doi:10.1111/jam.12097) IF: 4.0
25. Highly luminescent and bio-compatible, L-citrulline capped ZnS:Mn nanocrystals for rapid screening of metal accumulating *Lysinibacillus fusiformis* bacteria. Sajimol, L.; Jayalakshmi, Alex, R.; Bhat, S.G. Luminescence: The J. of Biol. Chem. Lumin. 2013, DOI 10.1002/bio.2477, IF:2.9
26. Occurrence of potential pathogenic *Aeromonas* species in tropical seafood, aquafarms and mangroves off Cochin coast in South India. Joseph, A. V.; Subin, S. R.; Nair, H.P.; \*Bhat, S.G. Vet. World, 2013, Vol.6 No.6 , IF:1.6
27. Isolation and characterization of polyhydroxyalkanoates accumulating *Vibrio* sp. strain BTTC26 from marine sediments and its production kinetics. Subin, S. R.; Varghese, S.M.; \*Bhat, S. G. J. Scien. Indus. Res. (JSIR), 2012, Vol. 72, pp. 228-235. IF:0.587
28. Halocin SH10 production by an extreme haloarchaeon *Natrinema* sp. BTSH10 isolated from salt pans of South India. Karthikeyan P.; \*Bhat, S. G.; Chandrasekaran, M. Saudi J. Biol. Scien. 2013, <http://dx.doi.org/10.1016/j.sjbs.2013.02.002>. IF:4.4
29. Biodegradation of polyvinyl alcohol-low linear density polyethylene blended plastic film by consortium of marine benthic vibrios. Subin, S. R.; \*Bhat, S. G.; Chandrasekaran, M.; Francis, V.; Thachil, E.T. Int. J. Environ. Sci. Technol. 2013, JEST-D-12-00274R2). IF:3.2

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30. Halophiles and halozymes from tannery effluent as well as food grade table salt crystals. Manjula, R.; Karthikeyan, P.; Cikesh, P.C.; Bindiya, E.S.; \*Bhat, S. G.; Chandrasekaran, M. J. Pure Appl. Microbiol., 2014, Vol. 8 No. 1. IF:0.8
31. Community genomics involving culture independent approach for assessing the phylogenetic diversity of mangrove sediment. Vincent, H.; Nair, H. P.; \*Bhat, S. G. Indian J. Appl. Res., 2013, Vol 3(10), 29-32. (ISSN No. 2249-555X)
32. Culture independent analysis of the soil microbiome to assess microbial diversity of mangrove soil. Nair, H. P.; Vincent, H.; \*Bhat, S. G. Biogenetics J., (2013), 1(1): 1-4.
33. Effect of iron oxide on the photodegradation of linear low density polyethylene –dextrin blend. Kurian, T.; Anna Dilfi, K.F.; Subin R. S.; Bhat, S. G. IPI Journal. 2013, Vol 18(4) 16-20. IF-

34. Biocompatible polyhydroxybutyrate(PHB) production by marine *Vibrio azureus* BTK33 under submerged fermentation. Subin, R. S.; \*Bhat, S. G.; Chandrasekaran, M. Ann. Microbiol. 2014, DOI:10.1007/s13213-014-0878-z. IF:3.0
35. Application of  $\Phi$ SP-1 and  $\Phi$ SP-3 as a therapeutic strategy against *Salmonella Enteritidis* infection using *Caenorhabditis elegans* as model organism. Augustine, J.; Mridula V G.; \*Bhat, S. G. FEMS Microbiol. Lett. 2014, DOI: 10.1111/1574-6968.12493, IF:2.1
36. Induction of temperate vibriophage  $\hat{\Phi}$  KNM4 from the environmental non O1 *Vibrio cholerae* by various biotic and abiotic agents. Linda L.; Augustine, J.; \*Bhat S.G. Int. J. Sc. Res. 2014, DOI: 10.15373/22778179. IF-
37. Melanin producing *Pseudomonas stutzeri* BTCZ10 from marine sediment at 96 m depth (Sagar Sampada cruise #305).Kurian, N. K.; Nair, H. P.; \*Bhat, S. G. Int. J. Curr. Biotechnol. 2014, 2(5):6-11. IF:3.508
38. Appraisal of extraction protocols for metagenomic DNA from fish gut microbiota. Tina K.J.; Bindiya, E.S.; Subin, R.S.; \*Bhat, S. G. Int. J. Advanc. Innov. Res. 2014.vol. 3(6) 7-13. IF:0.349
39. Antibacterial potential of *Luprop stritidis*-the nuisance rubber plantation pest from Western Ghats of India. Bindiya, E.S.; Alex, R.; Cikesh, P.C.; Karikeyan, P.; \*Bhat, S. G.; Chandrasekaran, M. Int. J. Advanc. Innov. Res. 2014,vol. 3(6) 7-13. IF:0.349
40. Diversity characterization of biofilm forming microorganisms in food sampled from local markets in Kochi, Kerala, India. Laxmi, M.; \*Bhat, S. G. Int. J. Recent Scien. Res. 2014, Vol.5, issue 6, pp1070-1075. DOI : 10.15373/22778179.
41. Bioactive potential of proteins from deep sea organisms. Bindiya, E.S.; Karikeyan, P.; Cikesh, P.C.; Subin, R.S.; Tina, K.J.; Chandrasekaran, M.; \*Bhat, S. G. Fish. Technol. 2014, 51;194-198. IF:0.426
42. Bioactive protein from *Loligo* sp. with antimicrobial property. Cikesh, P.C.; Karthikeyan, P.; Bindiya, E.S.; Subin, R.S.; Tina, K.J.; Chandrasekaran, M.; \*Bhat, S. G. Fish. Technol. 2014, 51; 247-251. IF:0.426
43. Evaluation of five in situ lysis protocols for PCR amenable metagenomic DNA from mangrove soils. Nair, H. P.; Vincent, H.; \*Bhat, S. G. Biotechnol. Reports, 2014, 4: 134–138. <https://doi.org/10.1016/j.btre.2014.09.008> IF:6.9
44. Physico chemical characterization of a T5-like *Salmonella* phage  $\Phi$ SP-3. Augustine, J.; \*Bhat, S.G. J. Microbial Biotechnol. Food Sc.2014, 4 (2) 102-107. doi: 10.15414/jmbfs.2014.4.2.102-107. IF:1.381



45. Trypsin Inhibitor from Edible Mushroom *Pleurotus floridanus* Active against Proteases of Microbial Origin. Ali, P.P.M.; Sapna, K.; Mol, K.R.R.; Bhat, S.G.; Chandrasekaran, M.; Elyas, K.K. Appl. Biochem. Biotechnol. 2014,173 (1), 167-178. <https://doi.org/10.1007/s12010-014-0826-1> IF:3.0
46. Lipase production by immobilized marine *Bacillus smithii* BTMS11 and its potential application in waste water treatment. Epraim, D. P.; \*Bhat, S. G. Chandrasekaran, M. Int. J. Curr. Biotechnol. 2014, 2(12):1-8.
47. Biocontrol of *Salmonella* Enteritidis in spiked chicken cuts by lytic bacteriophages  $\Phi$ SP-1 and  $\Phi$ SP-3. Augustine, J.; \*Bhat, S.G. J. Basic Microbiol. 2014, 54, 1–4. doi: 10.1002/jobm.201400257 IF:3.1
48. Bacteriophage insensitive mutants of *Salmonella* Enteritidis. Mridula, V. G.; Augustine, J.; \*Bhat, S.G. Curr. Res. Microbiol. Biotechnol. 2015, 3(1): 557-560. IF:3.5
49. Characterization of Deep Sea Fish Gut Bacteria with Antagonistic Potential, from *Centroscyllium fabricii* (Deep Sea Shark). Bindiya, E.S., Tina, K.J., Raghul, S.S. *et al. Probiotics & Antimicro. Prot.* 7, 157–163 (2015). <https://doi.org/10.1007/s12602-015-9190-x> IF:5.4
50. Evaluation of anti-inflammatory property of melanin from marine *Bacillus* spp. BTCZ31. Kurian, N. K.; Nair, H.P., and \*Bhat, S. G. Asian J. Pharmaceut. Clinical Res. 2015 , Vol 8, Issue 3. IF:0.51
51. Amplification and sequence analysis of phaC gene of polyhydroxybutyrate producing *Vibrio azureus* BTKB33 isolated from marine sediments. Subin, R. S.; \*Bhat, S.G., Chandrasekaran, M. Ann. Microbiol. 2016, 66:299–306. DOI 10.1007/s13213-015-1109-y. IF:3.2
52. Melanin and bacteriocin from marine bacteria for biocontrol of biofilm forming food pathogens. Laxmi, M.; Kurian, N. K.; Smitha, S.; \*Bhat S.G. Indian J. Biotechnol. 2016. Vol.15, pp392-399. IF:0.324
53. Laxmi, M., Bhat, S.G. Characterization of pyocyanin with radical scavenging and antibiofilm properties isolated from *Pseudomonas aeruginosa* strain BTRY1. *3 Biotech* 6, 27 (2016). <https://doi.org/10.1007/s13205-015-0350-1> IF:3.1
54. Bindiya ES, Bhat SG. Marine bacteriocins: a review. *J Bacteriol Mycol Open Access*. 2016;2(5):140-147. DOI: [10.15406/jbmoa.2016.02.00040](https://doi.org/10.15406/jbmoa.2016.02.00040) IF:2.8

55. Confocal and SEM imaging to demonstrate food pathogens-biofilm biocontrol by pyocyanin from *Pseudomonas aeruginosa* BTRY1. Laxmi, M.; Anju TR., \*Bhat, S. G. Int. J. bioassays (2017): 5218-5223. <http://dx.doi.org/10.21746/ijbio.2017.01.007>.
56. Molecular cloning and characterization of a halotolerant  $\alpha$ -amylase from marine metagenomic library derived from Arabian Sea sediments. Harisree P. Nair, Helvin Vincent, Rinu Madhu Puthusseri, Sarita G. Bhat. 3 Biotech, (2017) Accepted for publication. (Impact factor: 0.992) 3 Biotech (2017) 7: 65. doi:10.1007/s13205-017-0674-0 IF:3.1
57. 16S rDNA-based bacterial diversity analysis of Arabian Sea sediments: A metagenomic approach. Harisree P. Nair, Rinu Madhu Puthusseri, Helvin Vincent, Sarita G. Bhat. (2017) Ecological Genetics and Genomics (accepted) (Elsevier\_) <https://doi.org/10.1016/j.egg.2017.09.001> IF:1.9
58. Isolation, purification and characterization of a pH tolerant and temperature stable proteinaceous protease inhibitor from marine *Pseudomonas mendocina*. K. Sapna, P. P. Manzur Ali, K. R. Rekha Mol, Sarita G. Bhat, M. Chandrasekaran & K. K. Elyas (2017) Biotechnol Lett DOI 10.1007/s10529-017-2424-0 , IF:2.72
59. Infectivity Criteria for use of  $\phi$ SEP2 and  $\phi$ SEP3 as Bio-control Agents. Sritha KS, Shemymol KA, Bhat SG (2017) J Bacteriol Mycol Open Access 5(4): 00140. DOI: 10.15406/jbmoa.2017.05.00140 IF: 2.8
60. Photoprotection and Anti-Inflammatory Properties of Non-Cytotoxic Melanin from Marine Isolate *Providencia Rettgeri* Strain BTKKS1. Kurian N. K, Bhat S. G. Biosci Biotech Res Asia 2017;14(4).DOI : <http://dx.doi.org/10.13005/bbra/2594> IF: 0.5
61. Food, Cosmetic and biological applications of characterized dopa-melanin from *vibrio alginolyticus* strain btkks3. Kurian N. K, Bhat S. G. (2018) Appl. Biol.chem. (2018) 61, pages163–171, DOI :10.1007/s13765-018-0343-y IF:3.45
62. Genomics of *Salmonella* Phage  $\Phi$ stp1 - Candidate Bacteriophage For Biocontrol. Sritha K.S. & Sarita G. Bhat . 2018. Virus Genes (2018). <https://doi.org/10.1007/s11262-018-1538-3> IF: 2.0
63. Modelling and Computational Sequence Analysis of a Bacteriocin Isolated from *Bacillus licheniformis* strain BHT8. Jaya Gupta , Bindhya ES and Sarita G Bhat, 2018. Int. J Computational Biol. 2018;Volume 7 (Issue 1): Page 29-34. <http://ijcb.in/ijcb/v1/index.php/ijcb/article/download/103/93> IF: 1.7
64. Data on the characterization of non-cytotoxic pyomelanin produced by marine *Pseudomonas stutzeri* BTCZ10 with cosmetological importance. Kurian N. K, Bhat S. G.

- (2018) [Volume 18](#), June 2018, Pages 1889-1894; <https://doi.org/10.1016/j.dib.2018.04.123>, IF: 1.2
65. Inferences of gut bacterial diversity from next-generation sequencing of 16S rDNA in deep sea blind ray - *Benthobatis moresbyi*. Tina Kollannoor Johny, Raghul Subin S. Bindiya E.S. Sarita G. Bhat, 2018. Ecological Genetics and Genomics. [doi.org/10.1016/j.egg.2018.07.001](https://doi.org/10.1016/j.egg.2018.07.001) , IF: 1.9
  66. Data of bacterial diversity of the deep sea shark, *Centroscyllium fabricii*, Tina K J; Bindiya E S; Raghul S S; Sarita G Bhat (2018). Metabarcoding Data in Brief, <https://doi.org/10.1016/j.dib.2018.10.062> IF: 1.2
  67. Comparative analysis of metagenomic DNA extraction methods from gut microbiota of zebrafish (*Danio rerio*) for downstream next-generation sequencing. D’Rose V, Johny TK, Bhat S. 2019 J App Biol Biotech. Volume: 7, Issue: 1; p 11-15; DOI: [10.7324/JABB.2019.70103](https://doi.org/10.7324/JABB.2019.70103) IF: 1.06
  68. BaCf3: highly thermostable bacteriocin from *Bacillus amyloliquefaciens* BTSS3 antagonistic on food borne pathogens 3 Biotech. Bindiya E S, Tina K J, Raghul S S, Sarita G Bhat 2019. ISSN: 2190-572X (Print) 2190-5738 (Online)(2019), 9:136 <https://doi.org/10.1007/s13205-019-1639-2> IF: 3.1
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22. Chandini C Mohan, Sarita G. Bhat, Nano Innovation Challenge, NANOFEST 2023, organized by International and Inter University Centre for Nanoscience and Nanotechnology (IIUCNN) & School of Nanoscience and Nanotechnology (SNSNT) in Collaboration with Business Innovation and Incubation Centre (BIIC) on 09th OCTOBER 2023 (Nano Innovation Award for third best idea)
23. Bindiya. E. S, Swathikrishna. R. K, Sarita. G. Bhat, Comparative Genomic Analysis Of The Non-Dairy Probiotic *Bacillus Safensis* SDG14 With Selected Dairy And Non-Dairy Probiotics With Emphasis On Enzymes In Leloir Pathway, Conference abstract in the proceedings of 35th Kerala Science Congress
24. Parvathy Rajesh, Sarita Ganapathy Bhat (2023). "Application of Lytic Phages against MDR *E.coli* isolated from Antibiotic Stress environment" in the book of abstracts of "4th International Conference on Bacteriophage research and Antimicrobial Resistance" (ICBRAR-2023).

#### Number of Books Published (Edited)

- i. Proceedings of the National Symposium on Emerging Trends in Biotechnology, 1-2 September 2011, Ed. Sarita G.Bhat. Published by the Directorate of Public relations and Publications for the Department of Biotechnology, Cochin University of Science and Technology, Kochi-682022, Kerala, India. ISBN-978-93-80095-30-1
- ii. Proceedings of the National Symposium on Emerging Trends in Biotechnology, 12-13 December 2012. Ed. Sarita G Bhat and Padma Nambisan. Published by the Directorate of Public relations and Publications for the Department of Biotechnology, Cochin University of Science and Technology, Kochi-682022, Kerala, India. ISBN-978-93-80095-39-4.
- iii. Proceedings of the National Symposium on Emerging Trends in Biotechnology, 22-23 January 2014. Ed. Sarita G Bhat and Padma Nambisan. Published by the Directorate of Public relations and Publications for the Department of Biotechnology, Cochin University of Science and Technology, Kochi-682022, Kerala, India. ISBN-978-93-80095-47-9.
- iv. Microbial bioproducts Ed. Sarita G Bhat and Padma Nambisan. Published by the Directorate of Public relations and Publications for the Department of Biotechnology, Cochin University of Science and Technology, Kochi-682022, Kerala, India. ISBN-978-93-80095-51-6.

#### Ph.D supervision/awarded

I. A. Ph.Ds awarded for work carried out under my guidance-18

1. Studies on ribotyping, integron genes and pathogenicity of marine vibrios-Bernard Rajeev S.W. (Awarded 2008)
2. Purification and characterization of Vibriophage isolated from Mangalavanam mangroves-Archana Kishore. (Awarded 2008)
3. Studies on isolation and molecular characterization of plasmids from Vibrios-Manjusha S. (Awarded 2008)
4. Characterization of polyhydroxyalkanoates accumulating vibrios from marine benthic environments and production studies of polyhydroxyalkanoates by *Vibrio* sp. BRKB33-Raghul Subin S (Awarded February 2013)
5. Physicochemical and molecular characterization of bacteriophages  $\phi$  SP-1 and  $\phi$  SP-3, specific for pathogenic *Salmonella* and evaluation of their potential as biocontrol agent. Jeena Augustine (awarded April 2013)
6. Integron study, molecular typing and characterization of *Salmonella* serotypes isolated from seafood and poultry- Siju M Varghese (awarded Oct, 2014)
7. Characterization and Pathogenicity of *Vibrio cholerae* and *Vibrio Vulnificus* from Marine environments- A Vijaya Joseph (awarded Oct, 2014)
8. Characterization of Bacteriocins from *Bacillus Licheniformis* strain BTHT8 and *Bacillus subtilis* BTFK 101 isolated from Marine sediment- Smitha S. (April, 2015)
9. Characterization and Applications of two protease enzymes obtained by culture dependent and culture independent approaches from Mangalavanam mangroves. – Helvin Vincent (May 2015)
10. Differential induction, isolation, physicochemical and molecular characterization of temperate phages of environmental *Vibrio cholerae* as evidence of phage mediated horizontal gene transfer-Linda Louis (Feb, 2016)
11. Metagenomics of marine and Mangrove sediments: Phylogenetic diversity and characterization of amylase obtained by functional screening-Harisree P. Nair (May, 2016)
12. Melanin from Marine Bacteria: Characterization, Production and Applications-Noble-K Kurian(May-2016)
13. Strategies for controlling biofilm using bioagents: use of Pyocyanin, rhamnolipids, melanin and phages -Laxmi M. (June-2016)

14. Comprehensive molecular approaches to explore Bacteriophage Insensitive Mutants (BIMs) generated by phage infections in *Salmonella* Enteritidis S37 and S49-Mridula VG. (Feb, 2017)
15. Bacteriocins BaCf3 and BpSI14 with anticancer and antibiofilm potential from probiotic *Bacillus amyloliquefaciens* BTSS3 and *Bacillus pumilus* SDG14 isolated from gut of marine fishes: Enhanced Production, Purification and Characterization. Bindiya E.S. (July, 2018)
16. Metagenomics of *Sardinella longiceps* gut microbiome and expression of l-asparaginase contig (Tina KJ) Jan 2021
17. Salmonella lytic phages and recombinant endolysin LyspStp1 as antibacterial biocontrol agent (Sritha KS) April, 2021
18. Bacteriophages as arsenal against biofilm forming MDR non-cholera Vibrios and *in-silico* prediction of endolysins to augment protein engineering, (Nandita M.) (July 2021)

B. Ph.Ds awarded under joint guidance with Dr. M. Chandrasekaran (retd)-6

19. Bioremediation of hydrocarbons by *Lysinibacillus fusiformis* BTTS10. Roselin Alex (Awarded October, 2013)
20. Isolation, Purification, characterization and application of proteinaceous protease inhibitor from marine bacterium *Pseudomonas mendocina* BTMW 301. Sapna K. (awarded Dec, 2013)
21. Studies on Halocin production by haloarchaea *Natrinema* sp. BTSH10.-P. Karthikeyan (awarded April, 2014)
22. Protease production by haloarchaea *Natrinema* sp. BTSH10 isolated from salt pan of South India. - R. Manjula (June 2015)
23. Lipase Production by immobilized marine *Bacillus smithi* BTMS11- Doles PE (Sept, 2016)
24. Studies on treatment of the effluent of a commercial flight kitchen using conventional activated sludge –(Sajan VL)August, 2018

II. Current Ph.D research supervision with broad area of research

	Name of Student	Reg. no.	Main supervisor	Co-supervisor	Publications	Remarks
1	Honey G*, CSIR-fellow	5086	Dr. Sarita G Bhat	-	1 + 1 commun.	Writing thesis

2	Rinu Madhu P#, U-JRF	5061	Dr. Sarita G Bhat	-	4 + 1 commun.	Writing thesis
3	Sumi Menacherry U-JRF (f.t)	6184	Dr. Sarita G Bhat	-	-	
4	Parvathy Rajesh (DST-Inspire fellow)(f.t)	6255	Dr. Sarita G Bhat	-	-	
5	Nivedya Mohan CSIR-JRF(f.t)	6366	Dr. Sarita G Bhat	Dr. Abhitha K., PSRT	1 commun.	
6	Sisira VS welfare fellowship (f.t)	6706	Dr. Sarita G Bhat	Dr. Parvathi A	-	
9	Anmiya Peter U-JRF	6097	Dr. Abhitha K., PSRT	Dr. Sarita G Bhat	3+ 1 commun.	Writing thesis
10	Aiswarya U-JRF		Dr. Sreeja Narayanan -DBT- Welcome Thrust fellow-DBT	Dr. Sarita G Bhat	1 commun.	

#Meta-omic insights into the response of Mangalavanam and Puthuvypin mangrove sediment microbiomes to heavy metal pollution. Rinu Madhu P. Reg #5061 writing thesis

\* Bacterial diversity of biofilm in implanted urinary catheters and development of catheter polymer with reduced biofilm formation. Honey G, Reg # 5086 writing thesis

### Completed and ongoing projects

Projects(s) completed by Investigator.					
S. No	Title of Project	Funding agency	Amount (Rs)	Principle investigator(PI) /Co-PI	Duration From To
1	Screening of marine microbes for bioactive compounds from backwaters and near shore waters of Kerala and Lakshadweep islands	CSIR (Co-I)	15,29,000	Dr. M. Chandrasekaran- PI.  Dr.Sarita G Bhat- Co-I	2001-2004
2.	Molecular cloning and expression of alkaline protease gene from marine fungus	DBT, New Delhi (Co-I)	25,96,464	Dr. M. Chandrasekaran-PI. Dr. Sarita G Bhat- Co-PI Dr.Elyas KK-CoPI	2002-2005
3.	Screening of marine microbes for bioactive compounds from backwaters and near shore waters of Kerala and Lakshadweep islands, (Phase II)	CSIR, (Co-I)	12,00,000	Dr. M. Chandrasekaran- PI.  Dr.Sarita G Bhat- Co-I	2004-2008
4.	Role of benthic Vibrios in the mineralization process in the marine environments No, MoES/11-MRDF/1/29/P/ 06 dated 5.12.2006	DOD-MoES (PI )	18,02,263	Dr.Sarita G Bhat- PI Dr. M. Chandrasekaran- Co-I.	2006-2011

5.	Isolation, characterization and application of protease inhibitors from marine microorganisms" No: BT/PR7906/AAQ/03/ 281/ 2006 Dated 07-03-2007; No. BT/PR7906/AAQ/ 03/281 /2006 dated	DBT (PI)	34,00,000	Dr.Sarita G Bhat- PI Dr.Elyas KK-CoPI	2007-2011
6	Screening and Isolation of Potential bioactive molecules from the Deep sea organisms No.MoES/10-MLR/2/2007 dt 13.02-2008	MoES (Co-PI)	1,37,32,500	Dr.Sarita G Bhat- PI Dr. M.Chandrasekaran Co-PI.	2007-2012
7	Whole genome analysis of marine microbial community for novel feed enzymes F. No. 41-527/2012/(SR) dated 17-July, 2012	UGC PI	14,40,800	Dr.Sarita G Bhat- PI	July 2012- Dec 2015
8	Screening and Isolation of Potential bioactive molecules from the Deep sea organisms including bacteria No.MoES/10-MLR/2/2012 dt 13.02-2008	MoES-PI	87,50,000	Dr.Sarita G Bhat- PI Dr. M. Chandrasekaran- Co-PI.	2012-2016
9.	Salmonella lytic bacteriophages for application as biocontrol agents F.No.009/SRSHS/2012/ CSTE dated 20 <sup>th</sup> Nov, 2013	KSCSTE (Govt. of Kerala) PI	17,40,600	Dr. Sarita G Bhat- PI	2014-2017
10	Riverine biodiversity monitoring with reference to mangroves in comparison with pre-flood data	Kerala State Biodiversity Board	2,40,000/-	Dr. Sarita G Bhat -PI Dr .Sreekanth P.M-CoPI	20-12.2018 to 30.6.2019
11	Metagenomic analysis of soil microbial diversity in post flood mangroves	Kerala State Biodiversity Board	6,95,000/-	Dr. Sarita G Bhat -PI Dr .Bindiya E.S –Co-PI	20-12.2018 to 30.6.2019
12	Development of Antibacterial Catheters for Preventing Nosocomial Infections from Therapeutically Modulated Natural Rubber Latex Formulation	DBT- BIOCARE	54,00,000/-	Dr. Sailaja G. S Dr. Sarita G Bhat Dr. Ajith Vengellur	2016-2019
13	Characterization of gonadotropin releasing hormone and kipeptin systems in the catfish: <i>Heteropneustess fossilis</i> : crosstalks and interactions in the control of gonadotropin secretion	DST	49,85,000/-	Dr. K.P Joy PI Dr. Sarita G Bhat Co PI	2017-2020
14	Search for novel anticancer Secondary metabolite from endophytic fungi of selected	DBT	41,784,00/- (IISc)+ 30,732,00/-	Dr. Jayabhaskaran (IISc) Dr. Sarita G. Bhat (CUSAT)	2017-2021



	marine algae and evaluation of their mechanism of action		(DBT, CUSAT)		
Projects(s) being pursued by Investigator.					
15	Probiotic modulation of immune response, gut diversity and gut-brain axis in inflammatory/stress models of <i>Danio rerio</i> (zebrafish)	UGC-FRPS Mid-career award project	10,0000/-	Dr. Sarita G Bhat PI	2021-24
16	"Menstrual cup for plastic free periods and environment	KSCSTE	17,17,000/-	Dr. Abhita k, PI, PSRT Dr.Sarita G Bhat, Co-PI	2022-2025
17	Application of bacterial pigments as dietary supplements as well as therapeutic modules for inflammation	RUSA 2.0	35,80,000/-	Dr. Sarita G Bhat PI Dr. Ajith Vengellur, Co-PI Dr. Baby Chakrapani , Co-PI	2023-2025
18	"Development of a decentralized technique for the bioremediation of plastic waste using plastic eating insects larvae"	DBT Recommender, Dec 2023	About 30,85000 + Overheads for three years	Dr. Suja Devipriya-PI Dr. Sarita G Bhat CoPI	2024-2027

#### Post-doctoral research Mentoring

##### a) Name of Post-doctoral fellows (completed)

- i. Dr. Deepa Narayanan UGC-Kothari PDF
- ii. Dr. Sreeja Narayanan UGC-Kothari PDF
- iii. Dr. Priji Prakasam N-PDF
- iv. Dr. Chitra Pushpam KSCSTE-PDF
- v. Dr. Toshvin Johnson (Nigeria) FICCI-RLF (6m)
- vi. Dr. Subha Pillai CUSAT-PDF
- vii. Dr. Sreekanth P.M. CUSAT-PDF discontinued after 1 year
- viii. Dr. Tripti Raghavendra DBT-RA
- ix. Dr. Jiya Jose ICMR-RA
- x. Dr. Bindiya ES CUSAT-PDF
- xi. Dr. Suja E. ICMR-RA

##### b) Name of Post-doctoral fellows (ongoing)

- i. Dr. Sapna Keshav CUSAT-PDF
- ii. Dr. Chandini C. Mohan UGC-Kothari PDF
- iii. Dr. Tripti Raghavendra CM's Nava Kerala PDF
- iv. Dr. Bindiya ES RUSA 2.0 RA

#### Memberships of professional bodies, Editorship of Journals, etc

- Life Member of the Society for Biotechnologists (India).
- Member of the Indian Society for Technical education (ISTE)

- Life Member of the Association for the promotion of DNA Fingerprinting and other DNA technologies (ADNAT)
- Life member of the Association of Fisheries Technologists
- Life Member of the Biotech Research Society, India (BRSI)
- Life member of Society for Bacteriophage research and therapy (SBRT)

Dr. Sarita G Bhat  
Professor

Cochin-22  
Date:27<sup>th</sup> Feb 2024