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ACADEMIC PROFILE

Director School of Biosciences, Mahatma Gandhi University 2021 August 17 onwards
Hon. Director School of Food Science and Technology, Mahatma Gandhi University
2020 onwards

Professor Microbiology 2013 onwards, School of Biosciences, Mahatma Gandhi
University, Kottayam, Kerala, India – 686 560

Coordinator, National Institute of Plant Science Technology, Mahatma Gandhi University
2015 Onwards

Associate Professor in Microbiology, 2010 onwards, School of Biosciences, Mahatma
Gandhi University, Kottayam, Kerala, India – 686 560

Reader in Microbiology, 2007 onwards, School of Biosciences, Mahatma Gandhi
University, Kottayam, Kerala, India – 686 560

Lecturer in Microbiology, 2003 onwards, School of Biosciences, Mahatma Gandhi
University, Kottayam, Kerala, India – 686 560

Lecturer in Microbiology in the Government College of Engineering,
Thiruvananthapuram (11/8/2000 to 16/12/2003).

Ph. D in Microbiology (1997) from Indian Agricultural Research Institute, (IARI) New
Delhi, India.

M.Sc. in Microbiology (1993) University of Agricultural Science, Dharwad, Karnataka

B. Sc. (Agri.) (1990) Kerala Agricultural University, Thrissur, Kerala, India

PRIZES AND SCHOLARSHIPS

1. M. Sc. Microbiology 1st rank (1993)
2. Recipient of ICAR Junior Research fellowship (1991-1993).
3. Recipient of UAS, Dharwad merit gold medal for M. Sc. in Microbiology(1993)
4. IARI Senior Research fellowship (1993-1997)

ACHIEVEMENT

Received “**Distinguished Woman in Agricultural Sciences**” Award of Venus International Foundation (4th Venus International Women Awards, 2019).

AWARD

1. Invited speaker with free registration for virtual 4th International Conference on Applied Biochemistry and Biotechnology (ABB 2021). August 9th-11th, 2021 Jinzhou, Liaoning, China/Online via MS TEAMS Organized by Bohai University,China
2. **Best paper presentation award for Smitha Vijayan at the** two day international web conference **Bio-Inventiyon’20-Recent Advances in BioSciences** on 5th and 6th of November 2020.
3. **Young Innovators Program Award (YIP) 2019** for Helseena E.H & Anubha in the National Knowledge Session organized by Kerala Development and Innovation Strategic Council (K-DISC) held on 22nd Jan 2020 at Trivandrum.
4. **Second prize for poster presentation** for Helseena E.H.at 3rd International Conference on Sustainable Globalization for the poster presentation under the title “Prospects of bacterial biopesticide *Bacillus pumilus* against pseudostem weevil”organized byOstfalia University (Germany), Saint Petersburg state University of Economics and Mahatma Gandhi University, Kottayam at Hotel Marriot, Kochi on 9th January 2020.
5. Best paper presentation award for Divya R. at the PROVECTUS PLANTAE 19 International conference on EXPLORING THE SCOPE OF PLANT GENETIC RESOURCES organized by department of botany. University of Kerala during may 22-24,2019
6. **Best paper presentation award** for **Karthika S** at the Third International Conference on Science, Engineering, Technology and Social Sciences, ICSETS-2019 for the paper titled “Fertilizer efficiency of Rhizobacteria isolated from Tomato” organized by Department of Mathematics, Kuriakose Elias College Mannanam on March 11-12, 2019.
7. **First prize for poster presentation** for **Edna Mary Varghese** at the Second International Conference on Sustainable Globalization for the paper titled

- “Characterization and Chlorpyrifos degradation by a novel isolate *Stenotrophomonas maltophilia* CPI 15 from pesticide-contaminated agricultural soil”** organized by University of Wisconsin Parkside (USA), Ostfalia University (Germany) and Mahatma Gandhi University, Kottayam at the Kochi Marriot Hotel on January 10-12, 2019.
- 8. Best paper presentation award** for DivyaR. at the National seminar SYMBIOSIS 18 for the paper titled **“Biocontrol potential of endophytic fungi *Aspergillus* sp. isolated from the medicinal plant *Lawsoniainermis* against *Fusarium oxysporum* (ITCC 7739), a rice pathogen causing basal node rot of rice”** organised by SAFI institute of advanced studies, Vazhayoor on March 15 to 16, 2018.
 - 9. Best paper presentation award** for **Smitha Vijayan** at the National conference on microorganisms in human welfare (BIOCONSORTIUM 2018) for the paper titled **“Characterization and Antioxidant, Antibacterial, Antibiofilm Efficacy of biogenic Silver-Chitosan Nanoconjugates”** organised by Department of Microbiology, Madras 78/ Christian college on February 27-28, 2018.
 - 10. Best paper presentation award** for **Tijith K. George** at the National Seminar on Plant science Technology for sustainable world at National Institute of Plant Science Technology (NIPST), M.G. University, Kottayam For the paper entitled **“comparitive study of l-asparaginase production of fungi using different indicators”** on February 25th -26th 2016.
 - 11. Best paper presentation award** for **Smitha Vijayan** at International association of chemical, biological and medicinal sciences researchers, Dubai for the paper entitled **“Synthesis, characterization and comparative antibacterial effect of silver nanoparticles and chitosan conjugated silver nanoparticles synthesized by endophytic *Colletotrichum gloeosporioides*”** on 31st December 2016.
 - 12. Best paper presentation award** for **Alan Thomas S** at International seminar on emerging trends in organic farming and sustainable agriculture for the paper entitled **Identification of tropical crop plants suitable for cultivation in Nedumbana Panchayat, Kollam district , Kerala based on the flowering plant flora of the PazhangalamMuhurthy sacred grove** on 29th to 31st December 2016

13. Chaired one session at the 4th International Conference on Nanotechnology and Basic Science (ICN2016), 4-5 February 2016, Dubai. Emirates
14. Invited participation with free registration at the 4th International Conference on Nanotechnology and Basic Science (ICN2016), 4-5 February 2016, Dubai. Emirates
15. **Best paper presentation award** for Divya.R.at national level seminar Biovision 2014 at Mercy college, Palakkad during Dec.2014
16. **Young Scientist Award** for Sharrel Rebello (research student of Dr,Jisha,M,S) the paper entitled “**Role of Biosurfactants in SDS remediation**” at Swadeshi Science Congress 2008 held at RGCB, Thiruvananthapuram
17. **First Prize for poster presentation (Life Science)** forAju.K. Asok“**Structural and biochemical characterisation of biosurfactant required for the biodegradation of the anionic surfactant linear alkylbenzene sulphonate (LAS)**” at the **23rd Kerala Science Congress held on January 29-31, 2011.**

Teaching Experience (P.Glevel):

- (i) Three and a half years of experience as Lecturer in Microbiology in the Government College of Engineering, Thiruvananthapuram (11/8/2000 to 16/12/2003).
- (ii) Seventeen years of experience in the School of Biosciences, M.G.University, Kottayam, Kerala from 16/12/2003 till date.

Research experiences

Sixteen and half years of research experience

External funded Research projects undertaken (as PI):

Investigator Name: Dr.Jisha.M.S

Sl. No.	Title	Sponsor	Budget (INR)	Tenure	Role (PI/ co-PI)
1.	Bioremediation of synthetic detergents	KSCSTE File No. 216/SRSLs/2004/ CSTE Dated 04/01/2006	10,45,000	2006-09	PI
2.	Molecular characterization of phosphate solubilising bacteria isolated from rhizosphere bacteria	UGC File No. 32-	8,41,300	2007-10	PI

		574/2006(SR) Dated 07/03/2007			
3.	Molecular Basis of Sodium Dodecyl Sulphate (SDS) Bioremediation & Bioreactor Designing funded	KSCSTE Council Order No. 072/SRS/2011/CS TE Dated 31/05/2011	13,65,000	2011-14	PI
4	Characterization of endophytic diazotrophic bacteria from rice (<i>Oryza sativa</i>) and assessment of their potential biocontrol of rice sheath blight disease	UGC File No. 41- 1169/2012 (SR) Dated 26/07/2012	13,93,300	2012-15	PI
5	Bioremediation of Chlorpyrifos by autochthonous bacterial consortia	KSCSTE Revised Council Order No. 971/2017/KSCST E Dated 13/12/2017	24,52,800	2016-19	PI

Research Collaboration

- ❖ **MHRD Scheme on Global Initiative on Academic Network(GIAN)** on the topic Microbial Modeling of Pathogens in Foods and USDA-Pathogen Modeling Program's Applications in Ensuring Safety of Indian Food Supply. In collaboration with the foreign faculty **Dr. Vijay Juneja, Lead Scientist (Microbiology) at the Eastern Regional Research Center, ARS, USDA, Wyndmoor, PA, USA.**
- ❖ Rhizosphere microbiome modulation of rice (*Oryza sativa* L.), grown in acid sulphate soils of Kerala, for improved plant growth traits including nitrogen acquisition and aluminium and iron stress tolerance. In collaboration with **Dr. B. Ramakrishnan, Principal Scientist, Indian Agricultural Research Institute (IARI), New Delhi.**
- ❖ Production and evaluation of biopolymer based nanoparticles and their conjugates in suppressing soft-rot disease in ginger (*Zingiber officinale* Roscoe) caused by *Pythium myriotylum* Drechsler. In collaboration with **Dr. George Thomas, Scientist F, Rajiv Gandhi Centre for Biotechnology (RGCB), Kerala.**

PATENT

1. Patent filed TEM P/E – 1/32902/2018- CHE was entitled as “**Antitumor and antimicrobial efficacy of bioconjugate of silver nanoparticles produced by endophyte isolated from *Withaniasomnifera* (L.)**”.
2. TEMP/E1/43789/2019- CHE entitled as **Chitosan nanoparticles extracted from *Penaeus monodon* as a bio fertilizer and defence elicitor in rice**
3. TEMP/E1/43791/2019- CHE--**Development of a bacterial insecticide against Banana *Pseudostem* weevil**
4. TEMP/E1/43799/2019- CHE--1 **Qualitative assay for the detection of dihydroquercetin production from *Penicillium setosum* sp. Nov**

Research Team

1. Divya R (FIP)
2. Edna Mary Varghese (ResearchScholar)
3. Helseena EH (Research Scholar)
4. Anubha S (KSCSTE JRF)
5. Sherin Varghese (Research Scholar)
6. Meenu Thampi (UGC JRF)
7. Dhanraj N D (UGC JRF)

RESEARCH AREAS

Microbial synthesis of nanoparticles

The growth of eco-friendly technologies in material synthesis is of considerable importance to expand their biological applications. A mixture of inorganic nanoparticles with well-defined chemical composition, size, and morphology has been synthesized by using different microorganisms, and their applications in many cutting-edge technology fields have been searched. The applications of these biosynthesized nanoparticles in a wide spectrum of potential areas are presented, including targeted drug delivery, cancer treatment, gene therapy and DNA analysis, antibacterial agents, biosensors, enhancing reaction rates, separation science, and magnetic resonance imaging (MRI).

Bioprospecting of endophytic microorganisms for bioactive compounds

Endophytes are the microorganisms considered as the chemical synthesizers existing inside the plant. These microorganisms are able to synthesize some bioactive compounds similar to that of plant origin. For the mass production of plant analogue compound from microbial source has very much benefit. The searching bioactive compound from the microorganisms poses also some additional advantage that of its diversities, also the applicability in the pharmaceutical field. So we are interested in exploring endophytic micro flora from medicinal plants for the identification of novel bioactive compound. Structural identification of the compound could be used for *in-silico* studies to predict ligand-receptor interactions to identify activity of the compound. Computational approaches in the drug discovery have the advantage of high speed, economical and can easily predict the drug likeness of the compound

Exploration of Plant growth promoting and Biocontrol microorganisms

Direct use of microorganisms to promote plant growth and to control plant pests continues to be an area of rapidly expanding research. They exert beneficial effect to the host by both direct and indirect mechanism. Also some of these isolates have well equipped chemical machinery to resist plant pathogens.

Biodegradation of xenobiotics

Manmade chemicals present in the nature at high concentrations polluting the environment are known as xenobiotic compounds. We should put more effort in elimination of toxic materials before our planet turn into one big bag of waste. Selection of degradative potent microorganisms and their successive adaptation to a naturally persistent compound might be a powerful means for environmental detoxification. It is necessary to select microorganisms or microbial communities capable of controlled degradation of persistent organic chemicals without their transformation to other, more hazardous compounds. Better understanding of metabolic pathways for the biodegradation of specific organic compounds as well as more thorough knowledge of degrading microorganisms will make purposeful application of biodegradation possible.

E content development

Mycorrhizae

FDP on MOOCs and e-Content development at SOCS, MGU 4-8 Feb 2019

Ph. D. Produced

1. Molecular characterization of phosphate solubilising *Gluconacetobacter* sp. and *Burkholderia* sp. isolated from rhizosphere soil of Kerala (2009)- Stephen Joseph

2. Biodegradation of anionic surfactant Sodium Dodecyl Sulphate (SDS) and Analysis of its metabolic products (2011) – Ambily P.S.
3. Bioremediation of the anionic surfactant linear alkylbenzene sulphonate (LAS) by *Pseudomonas* sp. isolated from soli (2011)- Aju K Asok.
4. Petroleum degrading potentials of single and mixed microbial culture isolated from Vembanad Lake and induction of genetic changes to derive an improved strain. (2012) – Pratibha T.R.
5. Study on *Pseudomonas fluorescens* and *Trichoderma harzianum* on biocontrol of diseases of Vanilla in Kerala state (2012) – Athul Sandeep R.
6. Molecular characterization of plasmid encoded Sodium Dodecyl Sulphate (SDS) degradation by *Pseudomonas aeruginosa* S15, biosurfactant as a contributory factor in remediation(2013) – Sharrel Rebello.
7. Isolation and molecular characterization of tannase enzyme produced from cashew testa by using *Aspergillus niger* -Vinod Viswanath2016
8. Bioprospecting Endophytic Diazotrophic *Lysinibacillus sphaericus* for Biocontrol of rice sheath blight (Shabanamol S).2016
9. Biocontrol of chilli anthracnose caused by *Colletotrichum capsici* with phosphate solubilizing *Pseudomonas aeruginosa* isolated from chilli rhizosphere. Linu M. Salim2016.
10. Isolation, molecular characterization and enzyme bioprospection of chitinolytic bacteria associated with Valanthakad mangrove ecosystem (Rishad K.S) 2017
11. Bioremediation of chlorpyrifos, an organophosphate pesticide by autochthonous bacterial consortia (Elizabeth Mary John),2017
12. *Pseudomonas taiwanensis* (MTCC 11631) mediated control of Anthurium blight caused by *Xanthomonas axonopodis* pv. *dieffenbachiae* (Dhanya S), 2017
13. Chitosan nanoparticles synthesized from *Penaeus monodon* as a plant defense elicitor against rice sheath blight pathogen *Rhizoctonia solani* (Divya K), 2018
14. Anticancer and antimicrobial potential of biogenic silver nanoparticles and its chitosan conjugate (Smitha Vijayan), 2019
15. Characterisation of antimicrobial metabolite from endophytic fungi of *Withania somnifera* (Tijith K.George),2019
16. Defense elicitation by plant probiotic *Bacillus* spp. against Fusarium wilt of tomato (Karthika),2021

Ongoing Ph. D. programmes:

1. Bioactive metabolites from endophytic microorganisms isolated from selected medicinal plants in Kerala (Divya.R),2015
2. Isolation and characterization of potential microbial herbicide from rhizosphere soil (Anubha S.) 2017
3. Development of a bacterial insecticide against banana pseudostem weevil (Helseena E.H.) 2017
4. Rhizosphere microbiome modulation of Rice (*Oryza sativa* L.) for improved plant functional traits (Edna Mary Varghese) 2018

5. Invitro screening and Charaterization of Mycoendophytes with bioactive compounds as potent anticancer agents (Sherin Varghese) 2018
6. Growth Promotion and Stress Tolerance exhibited by Plant Associated Microorganisms (Meenu Thampi) 2018
7. Developing Polyethylene and Polystyrene Degrading Consortium Using Bacteria from Mangrove Soil and Strategy for efficient In-situ Degradation (Dhanraj N D) 2019

M. Phil. Dissertations Supervised till date:

1. The ecology of phosphate solubilizing microorganisms isolated from rhizosphere soil (Aju K. Asok, 2005).
2. Effect of detergents on soil microflora . (Shinimol S., 2006).
3. Bioremediation of SDS- biosurfactants and alkylsulphatases as contributory factors in remediation. (Sharrel Rebello, 2007)
4. Response of cowpea [*Vigna unguiculata* (L.) Walp] to phosphate solubilizing bacteria isolated from rhizosphere. (Linu M. Salim, 2007)
5. Transformation of GUS gene in cowpea [*Vigna unguiculata* (L.) Walp] by *Agrobacterium tumefaciens* (Remya R.S., 2007)
6. Plasmid- mediated Sodium Dodecyl Sulphate degradation by *Pseudomonasaeruginosa* S7 (Deepthi Eldo, 2008)
7. Biodegradation of Quinalphos an organophosphorus insecticide by *Pseudomonas* sp. (Ambily M. Nair, 2009)
8. Studies on the diversity of endophytic fungi from Rice (*Oryza sativa*) and their antagonistic activity against *R. solani*. (Divya R., 2010)
9. Bioactive metabolite from *Aphylllophrales* sp. an endophytic fungus isolated from *Breguirea cylindrica* (Abhilash Babu V.S., 2012).
10. Biocontrol of bacterial blight of anthurium by plant growth promoting pseudomonas sp. (Divya K., 2013).
11. Characterization of bioactive metabolites of endophytic fungi *Fusarium solani* isolated from *wthania somnifera* (Salini T.S., 2014).
12. Isolation and identification of Endophytic fungi *Fusarium solani* from *wthania somnifera* for the production and Characterization of its bioactive metabolites (Aswani P. 2015).
13. Production, Optimization & Purification of L-Asparaginase from endophytic *Fusariumsolani* isolated from *Withania sominifera* (Ruma, 2016).
14. *Pseudomonas aeroginosa H6* isolated from rhizosphere as a potent bioherbicide candidate for weed control (Smisha Lawrance, 2017).
15. Biodegradation of Chlorpyrifos, an Organophosphate pesticide by a soil bacterial consortium (Shalu Sivadas, 2018)
16. Characterization of bioactive metabolites of endophytic fungus *Aspergillus flavus* isolated from *Lawsonia inermis* L. against *Fusarium oxysporum*. (Sunitha, 2019)
17. Plant Growth Promoting Rhizobacteria mediated Induction of Systemic Resistance (ISR) in tomato (Remya M, 2020)

M. Sc. Dissertations Supervised till date:

1. Effect of UV mutation on strain improvement of *Azotobacter* sp. Isolated from rhizosphere soil (Shabanamol S., 2005).
2. Antagonistic effect of *Trichoderma* sp. against *Phytophthora* - the root pathogen of black pepper (*Pepper nigrum* L) (Mary Jose, 2006).
3. Toxic effects of sodium lauryl sulphate to grass carp (*Ctenopharyngodon idella*). (Susmi T.S., 2007)
4. Antagonistic potential of *Pseudomonas fluorescence* and Control of bacterial blight of Anthrium caused by *Xanthomonas axonopodis*. Pv. Dieffenbachiae (Dhanya D.R., 2008)
5. Toxic Effects of Linear Alkylbenzene Sulphonate (LAS) on Grass Carp (*Ctenopharyngodon idella*) (Ratheesh K.K., 2008)
6. Characterisation of Biosurfactant produced by Linear Alkylbenzene sulphonate (LAS) degrading *Pseudomonas aeruginosa*. (Shanida Beegum S.U., 2009)
7. Kerosene Degradation potential of *Pseudomonas aeruginosa* isolated from Vembanad Lake. (Navas E.A.,2009)
8. Partial purification and analysis of alkyl sulphatase enzyme required for the biodegradation of sodium dodecyl sulphate (SDS) (Elizabeth Mary John,2011)
9. Isolation and characterization of endophytic bacteria from rice (*Oryza sativa*) (Shinilkumar S.,2011).
10. Characterisation of novel plant growth promoting *Ascomycetes* endophytic fungi from mangrove plant *Breguirea cylindrica* (Tijith K. George, 2012).
11. Characterisation of endophytic diazotrophic *Lysinibacillus sphaericus* and *Bacillus cereus* from cultivated rice (*Oryza sativa*) (Uma Unnikrishnan, 2012).
12. Characterisation of *Acinetobacter baumannii* from mangrove plant *Breguirea cylindrica* (Bichu Das J., 2012).
13. *In situ* bioremediation of chlorpyrifos by *Klebsiella* sp. isolated from agricultural soil (Krishnasree N., 2013)
14. Bioremediation of synthetic anionic surfactants using microbial consortia (Nikitha P., 2013).
15. Comparative analysis of bioactive potential of plant extract and endophytic bacterial extract of *Sida cordifolia* (Devi R., 2014)
16. Synthesis and characterization of silver nanoparticles by *Escherichia coli* and *Fusarium oxysporum* and its antimicrobial activity (Liya C.Kurian, 2014)
17. Antifungal activity of endophytic *Lysinibacillus sphaericus* KJ 872548 and identification of volatile antifungal compound 1, 2 benzene dicarboxylic acid butyl 2 ethyl hexyl tallate against *Rhizictonia solani* (Sajna)
18. Bioremediation of chlorpyrifos using bacterial consortium (Aghina Surya G.J., 2015)
19. Antibacterial, antioxidant and phytochemical evaluation of *Withania somnifera* (L.) Dunal (Reshma Sajeve, 2015)
20. Spectroscopic and docking analysis of a convective compound withasomnine from *Withania somnifera*(Anju Tomy 2015)
21. Extracellular biosynthesis of silver nanoparticles by endophytic *Fusarium* sp. isolated from *Withania somnifera*; its characterization, optimization, antimicrobial and cytotoxic studies (Aswathy Anand, 2015)

22. Antibacterial and Cytotoxicity studies of Biofabricated Silver nanoparticles synthesised by endophyte *Colletotrichum gloeosporioides* isolated from *Withania somnifera*(L.) (Noufal.N, 2016)
23. Exploitation of marine macroalgae : biogenic compounds and its bioactive potential (Aleena Benny, 2016)
24. Herbicidal activity of *Pseudomonas aeruginosa* H6 isolated from Rhizosphere soil.—Smruthy M, 2016).
25. Identification of tropical crop plants suitable for cultivation at Kollam district, Kerala based on the flora of Pazhangalam Muhurthy sacred grove (Alan Thomas S, 2016)
26. Development of biocontrol agent against white rust disease of Amaranthus sp.(Anila Maria Isac, 2016)
27. Comparative Analysis of soil health in Organic and conventional farms(Anto Joseph, 2016)
28. Molecular Characterisation Of L-Asparaginase Producing Bacteria From Medicinal Plants (Anubha S, 2016)
29. Organic combinations to augment soil health (Chippy Vijayan, 2016)
30. Biodegradation of glyphosate herbicide by soil bacteria (Drisya Mohan,2016)
31. Evaluation of insecticidal activity of Bacillus species (Helseena E.H., 2016)
32. Bioactive potential of taxol extracted from endophytic funfi *Collectotrichum gloeosporioides* of *Withania somnifera* (L) (Ajeesha V.A., 2017)
33. Microbial synthesis of chitosan nanoparticles and its application in treatment of industrial effluents (Akhila V.A., 2017)
34. Toxicity study of Chlorpyrifos, an organophosphate pesticide (Akhil K.P., 2017)
35. Bioremediation of Chlorpyrifos, an organophosphate pesticide using soil bacteria (Meenu Muralidharan, 2017).
36. Isolation of potential rhizobacteria for biological control of tomato diseases (Ebeena KS, 2017).
37. Isolation, screening and identification of biosurfactant producing bacteria from hydrocarbon contaminated soil (Reshma S Nair, 2017).
38. Biocontrol activity of diazotrophic rice endophyte *Lysinibacillus sphaericus* against phytopathogens (Rinumol KS, 2017).
39. The antagonistic, phosphate solubilizing endophytic fungus *Colletotrichum gloeosporioides* (Seetha TS, 2017)
40. Evaluation of insecticidal activity of *Bacillus* species against banana root borer (*Cosmopolites sordidus*) (Geethumol KM, 2018)
41. Isolation, screening and identification of soil microorganisms with herbicidal activity (VidhyaDevi B, 2018)
42. Growth enhancement of tomato using rhizobacterial isolates (Anisree PA, 2018)
43. Biodegradation of Chlorpyrifos, an organophosphate pesticide using endophytic bacteria isolated from rice (*Oryza sativa* L.) plants (Reshma Prakash, 2018)
44. Growth tolerance of endophytic bacteria isolated from tea (*Camellia sinensis*) leaves towards Chlorpyrifos, an organophosphate pesticide (Khena Krishnan P., 2018)
45. Comparative evaluation of chemical and biologically synthesized nanoparticles (Prabha Chandrasekharan, 2018)
46. Plant growth promoting traits of rhizobacterial isolates on tomato (*Solanum lycopersicum*) (Nayana J, 2018)
47. *In silico* study of antibacterial compounds from endophytic fungi (akhil joy, 2018)

48. Chitosan nanoparticle formulation as a germination elicitor of *Solanum melongena* and *Solanum lycopersicum* (Sonumol Varghese, 2018).
49. Isolation and characterization of IAA producing endophytic microorganisms from phyllosphere of rice (Aiswarya V M, 2019).
50. Efficiency of Plant growth Promoting rhizobacteria on growth enhancement of Tomato (Anjaly V T, 2019).
51. screening for a potential microbial herbicide against weeds of paddy (Anulekshmi S Kumar,2019).
52. Optimization Of Chlorpyrifos Degradation By Assembled Bacterial Consortium And Its Antibiotic Susceptibility Profiling (Chippy Suresh,2019).
53. Evaluation of insecticidal activity if Lysinibacillus Sphaericus Against Aleurotrachelus Trachoides (Solanum Whitefly) (Devika K. V, 2019).
54. Biocontrol Of Weeds Using Soil Bacteria (Indu V, 2019).
55. Characterization Of Antifungal Metabolites From Bacillus Species Pkdn31 (Megha Das,2019).
56. Evaluation Of Plant Growth Promoting Attributes Of Tomato Associated Rhizobacteria (Revathy K.V,2019).
57. Role Of Acc Deaminase Producing Soil Microorganisms On Managing Abiotic Stress In Crop Plants (Sudheesh K.Subash,2019).]
58. Effect Of Chlorpyrifos Pesticide And Bioremediating Bacterial Consortium On Soil Microbial Activity (Vidhya.K,2019).
59. Extraction And Evaluation Of Compounds In The Lysinibacillus Sphaericus Against Banana Pseudostem Weevil(Bpw) Odoiporus Longicollis Oliv (Aswathy M.V,2019).
60. Evaluation of Insecticidal activity of Cellulosimicrobium sp. Against Melon Fly, Bactrocera cucurbitae in Coccinia Granis (Sofiya Eldhose,2019).

List of Publications

<https://scholar.google.com/citations?user=uHdJ-rkAAAAJ&hl=en>

orcid id: <https://orcid.org/0000-0002-1788-3802>

Web of Science ID: <https://publons.com/researcher/AAR-3472-2021/>

Scopus Author ID: 6505659251

2021

1. Sherin Varghese, C.S. Akshaya, M.S. Jisha (2021), Unravelling the bioprospects of mycoendophytes residing in *Withania somnifera* for productive pharmaceutical applications, Biocatalysis and Agricultural Biotechnology 37 (2021) 102172
2. Edna Mary Varghese, Shalu Sivadas, Chippy Suresh, Devikrishna U., Vidhya K. Akhil K. P. & Jisha M. S (2021). Biodegradation of Chlorpyrifos by an optimized Bacillus consortium isolated from pesticide-contaminated soils of Kerala, India. *International Journal of Pest Management* TTPM.<https://doi.org/10.1080/09670874.2021.1973690>

3. Edna Mary Varghese., Aswani P. & Jisha M. S. Strategies in Microbial Degradation Enhancement of Chlorpyrifos – A Review based on the Primary Approaches in Soil Bioremediation. *Biocatalysis and Biotransformation* (IF 1.863)
4. Shabanamol S, Meenu Thampi, , Sajana P , Sherin Varghese, Karthika S , Tijith K George and **Jisha M S*** Characterization of the major antifungal extrolite from rice endophyte *Lysinibacillus sphaericus* against *Rhizoctonia solani*, *Archives of Microbiology*. (IF 2.552)

2020

5. Divya, K., Thampi, M., Vijayan, S., Varghese, S., & **Jisha, M. S. (2020)**. Induction of defence response in *Oryza sativa* L. against *Rhizoctonia solani* (Kuhn) by chitosan nanoparticles. *Microbial Pathogenesis*, 24 Sep 2020, 149:104525 ((IF 3.738) <https://doi.org/10.1016/j.micpath.2020.10452>)
6. John, E. M., Varghese, E. M., & **Jisha, M. S (2020)**. Plasmid-Mediated Biodegradation of Chlorpyrifos and Analysis of Its Metabolic By-Products. *Current Microbiology*, 77(10), 3095-3103. (Impact factor – **2.188**) DOI 10.1007/s00284-020-02115-y
7. Rishad, K. S., Varghese, S., & **Jisha, M. S. (2020)**. Sequence analysis and docking performance of extracellular chitinase from *Bacillus pumilus* MCB-7, a novel mangrove isolate. *Enzyme and Microbial Technology*, 109624. (Impact factor – **3.493**)
8. Karthika, S., Varghese, S., & **Jisha, M. S. (2020)**. Exploring the efficacy of antagonistic rhizobacteria as native biocontrol agents against tomato plant diseases. *3 Biotech*, 10 (7), 1-17. (Impact factor – **2.406**).
9. Vijayan, S., Divya, K., Varghese, S., & **Jisha, M. S. (2020)**. Antifungal Efficacy of Chitosan-Stabilized Biogenic Silver Nanoparticles against Pathogenic *Candida* spp. Isolated from Human. *BioNanoScience*, 1-9. (Impact factor – **1.17**) .DOI 10.1007/s12668-020-00781-7
10. Shabanamol S, Edna Mary Varghese, Meenu Thampi, Karthika S, Sreekumar J & **Jisha M S (2020)**: Enhancement of Growth and Yield of Rice (*Oryza sativa*) by Plant Probiotic Endophyte, *Lysinibacillus sphaericus* under Greenhouse Conditions,

Communications in Soil Science and Plant Analysis,51(2):1-15.DOI: [10.1080/00103624.2020.1751190](https://doi.org/10.1080/00103624.2020.1751190). (Impact factor – **0.760**)

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4. Dhanraj. N. D, Meenu Thampi , Jisha. M. S. (2020). Impact Of Plastics on Plant Growth, Agricultural Crops and Possible Remedies, In: Life of Plants in the Changing Environment. Cambridge Scholars Publishing or Xpress Publishing. (Submitted).
5. MeenuThampi, Edna Mary Varghese, Jisha M S (2020).*Bacillus* sp.facilitated Abiotic Stress Mitigation in Rice. Bacilli and Agrobiotechnology .published by the Springer Nature Switzerland AG.(Submitted).
6. Helseena E H, Aju K Asok, Jisha M S (2020). Bioprospecting of Bacillus as agricultural inputs for plant growth promotion and protection- A methodological Review **Bacilli and Agrobiotechnology** published by the Springer Nature Switzerland AG.(Submitted).
7. Divya K, Sherin Varghese, Jisha M.S (2020), Chitosan Nanoparticles: A Novel Antimicrobial Agent, Nanobiotechnology in Diagnosis, Drug Delivery, and Treatment, First Edition. Edited by Mahendra Rai, Mehdi Razzaghi-Abyaneh, and Avinash P. Ingle. Published by John Wiley & Sons Ltd.
8. Smitha Vijayan and Jisha M. S (2020), Chitosan Conjugate of Biogenic Silver Nanoparticles: A Promising Drug Formulation with Antimicrobial and Anticancer Activities, Nanobiotechnology in Diagnosis, Drug Delivery, and Treatment, First Edition. Edited by Mahendra Rai, Mehdi Razzaghi-Abyaneh, and Avinash P. Ingle. Published by John Wiley & Sons Ltd.

9. Elizabeth Mary John, Shabanamol S., Jisha M.S.,(2015)"Pesticide Degradation: Practical Approaches, Environmental Science and Engineering series, published by Studium Press LLC, USA.
10. Sharrel Rebello, Aju K. Asok, Sathish Mundayoor, Jisha M.S. (2013).Surfactants: chemistry, toxicity and remediation. Pollutant Diseases, Remediation and Recycling. Environmental Chemistry for a Sustainable World. 4:277-320.Published by Springer link
11. Sharrel Rebello, Aju K. Asok, Elizabeth Mary john. Jisha M.S. (2013).Anionic surfactant toxicity and remediation:a methodological review In:*Environmental Microbiology: Techniques and Applications*. Reference book. Bulbul scientific services
12. Shabanamol S; Fathima P.A; Jisha M.S. (2013) Exploring UV mutation as a method of strain improvement for increased pesticide tolerance and nitrogenase activity

Book Published

1. Seminar proceedings of two day international web conference **Bio-Inventiyon'20-Recent Advances in BioSciences** on 5th and 6th of November 2020.
2. Plant Science technology for sustainable development.SKJ publishers. ISBN.978-93-82845-00---3
3. Dr. Jisha.M.S.(2013). *Environmental Microbiology: Techniques and Applications*. Reference book. Bulbul scientific services. ISBN 978-81-923850-7-5
4. Seminar proceedings of National Seminar on Plant science Technology for sustainable world at National Institute of Plant ScienceTechnology (NIPST), M.G. University, Kottayam on February 25th -26th 2016 **ISBN : 978-81-930000-8-3**

In seminars

1. Sherin Varghese &, **Jisha M.S** (2020)" Unravelling the ecofriendly strategies of soil bacteria for biological control of weeds in rice fields at **at the** two day international web conference **Bio-Inventiyon'20-Recent Advances in BioSciences** on 5th and 6th of November 2020.
2. Akshaya CS &, **Jisha M.S** (2020)" Characterization Of Secondary Metabolites From Mycoendophytes Associated With Withania Somnifera As Potent Therapeutics **at the**

- two day international web conference **Bio-Inventiyon'20-Recent Advances in BioSciences** on 5th and 6th of November 2020.
3. Aiswarya P &, **Jisha M.S** (2020) Modified chilli plants produce N - Acyl Homoserine Lactone exhibit enhanced resistance to fungal pathogen **at the** two day international web conference **Bio-Inventiyon'20-Recent Advances in BioSciences** on 5th and 6th of November 2020.
 4. Namitha S Kumar &, **Jisha M.S** (2020). Exploring culturable Rhizosphere Microbiome of Rice, grown in Acid Sulphate Soils for Plant growth promotion and Aluminium and Iron stress tolerance. **at the** two day international web conference **Bio-Inventiyon'20-Recent Advances in BioSciences** on 5th and 6th of November 2020.
 5. Smitha Vijayan &, **Jisha M.S** (2020). Bioactive potential of taxol extracted from the endophytic fungi *Colletotrichum gloeosporioides* isolated from *Withania somnifera* (L.) **at the** two day international web conference **Bio-Inventiyon'20-Recent Advances in BioSciences** on 5th and 6th of November 2020.
 6. Sherin Varghese, Smitha Vijayan, **Jisha M.S** (2020) "Anticancer drug formulation with biogenic silver nanoparticle (Bio-AgNP) / chitosan conjugate (Ch/Bio-AgNP)". Oral presentation for National seminar on New Frontiers In Material And Environmental Sciences (NFMES 2020) held at Sacred Heart College, Thevara, Kochi on 28th – 29th January 2020.
 7. Helseena E. H and Jisha **M S** (2020) "Insecticidal Activity of *Lysinibacillus sphaericus* against banana pseudostem weevil (BPW) *Odoiporus longicollis* Oliv." Poster Presentation in Kerala Science Congress, 2020 held at Palakkad on 25th -27th January 2020.
 8. Helseena E. H and **Jisha M S** (2020) Presented a paper on "Bacterial Biopesticide formulation against pseudostem weevil of Banana (BPW) *Odoiporus longicollis* Oliv." Presented paper in the national Seminar on Current Trends and Advances in Biological Sciences(CTAB-2020) Organised by Post graduate department of Botany and Biotechnology, Bishop Moore College, Mavelikkara, Kerala From 5th to 7th February 2020.
 9. Anubha S, **Jisha M S** (2020) Poster presentation on *Citrobacter* sp as a novel bioherbicide

isolated from soil at 3rd International Conference on Sustainable Globalization organized by Ostfalia University (Germany), Saint Petersburg state University of Economics and Mahatma Gandhi University, Kottayam at Hotel Marriot, Kochi on 9th January 2020.

10. Meenu Thampi, Kruthika Bhai R, Aiswarya V M and **Jisha M S** (2019). Isolation and Characterization of IAA producing endophytic microorganism from selected drought tolerant plants in Kerala. Oral Presentation at International Conference on Advanced Innovation in Science Engineering and Technology (ICAISSET-2019) Organized by Sree Ayyappa College, Eramallikkara and TECHOWN on 8th and 9th November, 2019.
11. Karthika S , Athulya **Jisha MS** (2019). Identification of antifungal metabolites produced by *Bacillus* sp PKDL10 against tomato phytopathogens. Oral Presentation at International Conference on Advanced Innovation in Science Engineering and Technology (ICAISSET-2019) Organized by Sree Ayyappa College, Eramallikkara and TECHOWN on 8th and 9th November, 2019.
12. Meenu Thampi, Kruthika Bhai R, Aiswarya V M and **Jisha M S** (2019). Isolation and Characterization of IAA producing endophytic microorganism from selected drought tolerant plants in Kerala. Oral Presentation for Symposium on Endophytes and their applications in Agriculture on Sep 24-26, 2019.
13. Edna Mary Varghese, Shalu Sivadas and **Jisha.M.S** (2019) Biodegradation of chlorpyrifos pesticide using autochthonous *Bacillus* consortium. Oral presentation for 31th Kerala Science Congress on February 2-3, 2019.
14. Karthika S., Nayana J. and **Jisha.M.S** (2019) *In vitro* evaluation of plant beneficial attributes of Tomato associated Rhizobacteria. Oral presentation for 31th Kerala Science Congress on February 2-3, 2019.
15. Sherin Varghese, Smisha Lawrance, Edna Mary Varghese, **Jisha M S** (2019) “Biological control of weeds using *Pseudomonas aeruginosa* H6 as an efficient bioherbicide for Sustainable Agriculture” Poster presentation at Second International Conference on Sustainable Globalization on January 10-12, 2019.
16. **Jisha M.S** (2018) Role of Plant microbiomes in sustainable agriculture. Key Note Address for Second International Seminar on “Emerging trends in organic farming and sustainable agriculture” organised by Inter University Centre for Organic Farming and

Sustainable Agriculture (IUCOFSA), Mahatma Gandhi University at CMS College Kottayam on 22-24 April 2018.

17. Edna Mary Varghese, Aswani P. and **Jisha M.S** (2018) *In situ* Biodegradation studies of Chlorpyrifos pesticide using *Pseudomonas putida* isolated from pesticide contaminated agricultural soil. Oral presentation for Second International Seminar on “Emerging trends in organic farming and sustainable agriculture” organised by Inter University Centre for Organic Farming and Sustainable Agriculture (IUCOFSA), Mahatma Gandhi University at CMS College Kottayam on 22-24 April 2018.
18. Karthika S. and **Jisha M.S** (2018) Multifarious potential of rhizobacteria against tomato pathogens. Oral presentation for Second International Seminar on “Emerging trends in organic farming and sustainable agriculture” organised by Inter University Centre for Organic Farming and Sustainable Agriculture (IUCOFSA), Mahatma Gandhi University at CMS College Kottayam on 22-24 April 2018.
19. Divya R. and **Jisha MS** (2018) Biocontrol potential of endophytic fungi *Aspergillus* sp. isolated from the medicinal plant *Lawsonia inermis* against *Fusarium oxysporum* (ITCC 7739), a rice pathogen causing basal node rot of rice. Best paper **award** in SYMBIOSYS’ 18 KSCSTE sponsored National seminar on Research in Agricultural, Environmental , Industrial and Food Microbiology: Advances and Challenges, organised by Dept of Microbiology, SAFI Institute of Advanced study, Vazhayoor, Malappuram, Kerala.
20. Smitha Vijayan and **Jisha.M.S** (2018) Characterization and Antioxidant, Antibacterial, Antibiofilm Efficacy of biogenic Silver-Chitosan Nanoconjugates. Best paper award in BIOCONSORTIUM 2018 (National conference on microorganisms in human welfare, organised by Department of Microbiology, Madras Christian college on February 27-28, 2018.
21. Smitha Vijayan and **Jisha.M.S** (2018) Antioxidant, antibacterial and antibiofilm activity of biogenic silverchitosan nanoconjugate. Contest paper for 30th Kerala Science Congress on January 28-30, 2018.
22. Edna Mary Varghese, Aswani P. and **Jisha.M.S** (2018) Bioremediation of chlorpyrifos, an organophosphate pesticide, using *Pseudomonas putida*. Oral presentation for 30th Kerala Science Congress on January 28-30, 2018.

23. Karthika and **Jisha.M.S** (2018) Isolation and identification of potential rhizobacteria from tomato rhizosphere against soil borne diseases of tomatoPoster presentation for 30th Kerala Science Congress on January 28-30, 2018.
24. Tijith K George and **Jisha.M.S** (2017). “Characterization of antibacterial metabolites from *Penicillium* sp” at ICMS 2017, School of Environmental sciences on Dec 11-14.
25. Smitha Vijayan and **Jisha.M.S (2017)** at Two Day National seminar on Recent Trends in Applied Life Sciences, for the paper entitled “ Antibacterial and antibiofilm activity of bio-AgNP and chitosan conjugated bio- AgNP” on March 15,16 2017 Sponsored by Mahatma Gandhi University, Kottayam.
26. Linu M.S. and **Jisha.M.S (2017)**. Growth enhancement of chilli (*Capsicum annum* L.) with phosphate solubilising *Pseudomonas* species isolated from chilli rhizosphere. National seminar on Biodiversity Conservation and Farming Systems for Wetland Ecology. Feb22-23.2017
27. Aswani P, Elizabeth Mary John and **Jisha M.S** (2017). “In situ bioremediation of chlorpyrifos by klebsiella sp isolated from agriculture soil” at 29th Kerala Science Congress on January 28-30, 2017.
28. Divya, K., Smitha Vijayan and M.S. Jisha (2017). “a study on the versatile applications of chitosannanoparticle as antifungal, antioxidant and coatingagent” at 29th Kerala Science Congress on January 28-30, 2017 in Best paper Award section.
29. **Smitha Vijayan** and M.S. Jisha (2016). Synthesis, characterization and comparative antibacterial effect of silver nanoparticles and chitosan conjugated silver nanoparticles synthesized by endophytic *Colletotrichum gloeosporioides* International association of chemical, biological and medicinal sciences researchers, Dubai on 31st December 2016.
Best paper presentation award
30. Alan Thomas S and **M.S. Jisha** (2016). International seminar on emerging trends in organic farming and sustainable agriculture for the paper entitled Identification of tropical crop plants suitable for cultivation in Nedumbana Panchayat, Kollam district , Kerala based on the flowering plant flora of the Pazhangalam Muhurthy sacred grove on 29th to 31st December 2016 **Best paper presentation award**
31. K. Divya, SmithaVijayan, Elizabeth Mary John, and **M.S. Jisha** (2016). Optimization of Chitosan Nanoparticle Synthesis and its Potential Application in Germination of *Oryza*

- sativa* L.at International association of chemical, biological and medicinal sciences researchers, Dubai , 31st December 2016.
32. Smisha Lawrance, Smruthy M, Anto Joseph, Aju K Asok, **Jisha M. S** (2016). *Pseudomonas aeruginosa* H6 isolated from rhizosphere soil as a potent bio-herbicide candidate for weed control **at** International seminar on emerging trends in organic farming and sustainable agriculture on 29th to 31st December 2016
 33. Aswani P, Salini T.S and **Jisha M.S** (2016).Characterization of bioactive metabolites of endophytic fungi *Fusarium solani* isolated From *Withania somnifera*.5th International conference on Sustainable utilization of tropical plant Biomass: Bioproducts, Biocatalysts and Biorefinery (SutB4), 17-18 November 2016 at TNAU, Coimbatore.
 34. Smitha vijayan and **Jisha,M,S.** (2016). Extracellular synthesis of silver nanoparticles by endophytic *Fusarium solani* from *Withania somnifera* and its antibacterial and cytotoxicity studies Proceedings of 4th International Conference on Nanotechnology and Basic Science (ICN2016), 4-5 February 2016, Dubai. Emirates
 35. Divya K., Liya C. Kurian, Smitha Vijayan, **Jisha M.S** (2016). Green Synthesis of Silver Nanoparticles by *Escherichia coli* and its Antibacterial Activity. Proceedings of 4th International Conference on Nanotechnology and Basic Science (ICN2016), 4-5 February 2016, Dubai. Emirates
 36. Dhanya D.R, Dhanya S and **JishaM.S.** (2016). Fluorescent *Pseudomonas* mediated control of bacterial blight of anthurium. National Seminar on Plant science Technology for sustainable world at National Institute of Plant Science Technology (NIPST), M.G. University, Kottayam on February 25th -26th 2016.
 37. Divya K., Dhanya D.R., Dhanya S. and **Jisha M.S.** (2016). biocontrol activity of *pseudomonas fluorescens* against bacterial blight of anthurium caused by *xanthomonas axonopodis pv diffenbachiae*. National Institute of Plant Science Technology (NIPST), M.G. University, Kottayamon February 25th -26th 2016.
 38. Divya R and **Jisha M.S.** (2016). preliminary studies on isolation and characterization of microbial endophytes from selected medicinal plants in Kerala. National Institute of Plant ScienceTechnology (NIPST), M.G. University, Kottayamon February 25th -26th 2016.
 39. Linu MS and **Jisha MS.** (2016). Phytohormone production and plant growth promoting potentials of phosphate solubilizing *Pseudomonas aeruginosa* isolated from chilli

rhizosphere. National Institute of Plant Science Technology (NIPST), M.G. University, Kottayam on February 25th -26th 2016.

40. Smitha Vijayan, **Jisha M.S.** (2015). Biogenic Synthesis of Silver Nanoparticles Using Endophytic Fungi *Fusarium* Sps Isolated From *Withania Somnifera*, its Antibacterial and Cytotoxic Activity Fourth international conference on natural polymers and biopolymers (ICNP 2015) at Kottayam during April 11-13.
41. Devi R; Dibu Divakaran; Tijith K. George; Sharrel Rebello and **Jisha M.S.** (2015). Isolation of bioactive endophytic bacterial isolates paved the way for conservation of *sida cordifolia*. Second national biodiversity congress (NBC) 2015 at Trivandrum during 23-27 February conducted by Kerala Biodiversity Board.
42. Divya K; Sharrel Rebello and **Jisha M.S.**(2014) A simple and effective method for extraction of high purity chitosan from shrimp shellwaste”withpaperID“ASEE-14-408 Proceedings of the International Conference On Advances in Applied Science and Environmental Engineering - ASEE 2014, Institute of Research Engineers and Doctors (IREED), ISBN: 978-1-63248-004-0 doi: 10.15224/ 978-1-63248-004-0-93at Kuala Lumpur, Malaysia
43. Elizabeth Mary John; Sharrel Rebello and **Jisha M.S.**(2014) Chlorpyrifos degradation using bacterial consortium obtained from soil” Proc. of the Intl. Conf. on Advances In Applied Science and Environmental Engineering ASEE 2014. Copyright © Institute of Research Engineers and Doctors..ISBN: 978-1-63248-004-0 doi: 10.15224/ 978-1-63248-004-0-12at Kuala Lumpur, Malaysia
44. Divya.R and **M.S.Jisha.**(2014).Studies on the diversity of endophytic fungi from rice *Oryza sativa* and their antagonistic activity against *Rhizoctonia solani*.5 th national level seminar Biovision 2014 at Mercy college Palakkad.Dec,2014
45. Shabanamol S and **Jisha M S**, (2014). Endophytic bacteria as potent plant growth promoters of rice. Presented in national Seminar New Vistas in Microbiology, held at M A College, Kothamangalam,Kerala on 16-17 october,2014.
46. Shabanamol S,Elizabeth Mary John and **M.S.jisha** (2014).Induction of phenolics against *Rhizoctonia solani* and plant growth promotion mediated by endophytic diazotrophic *Lysinibacillus sphaericus* in *oryza sativa* 26th Kerala Science Congress 28-31 January,2014 held at Pookode , Wayanad

47. Shabanamol S and **M.S.jisha**. (2013) Colonization by endophytic *Lisinibacillus sphericus* confers increased plant growth promotion to *Orysa sativa*. Contest Session of Agricultural Sciences of 23rd Swadeshi Science Congress (2013).
48. Screening of *Trichoderma* spp. and *Pseudomonas* sp. for their biocontrol potential against phytopathogens of Vanilla. Sustainable utilization of tropical biomass through biotechnology SUPBT 2012 Organised by KVM college of Engineering and Information technology Page No. 97-102. ISBN:978-93-81274-32-3
49. Characterization of plant growth promoting endophytic bacteria from rice. Sustainable utilization of tropical biomass through biotechnology SUPBT 2012 Organised by KVM college of Engineering and Information technology Page No. 112-114. ISBN:978-93-81274-32-3
50. Bioactive metabolite from Aphylophorales sp. an endophytic fungus isolated from *Breguiera cylindrical*. Sustainable utilization of tropical biomass through biotechnology SUPBT 2012 Organised by KVM college of Engineering and Information technology Page No. 115-117. ISBN:978-93-81274-32-3
51. Biocontrol of bacterial blight of Anthurium caused by *Xanthomonas axopoids*. Sustainable utilization of tropical biomass through biotechnology SUPBT 2012 Organised by KVM college of Engineering and Information technology Page No: 95-96
52. *Geotrichum candidum*: A novel antimicrobial and plant growth promoting diazotrophic endophytic yeast from mangrove plant. Contest paper (Life science) at the 25th Kerala Science Congress. 2013.
53. Biocontrol of Rhizoctonia rot of Vanilla (*Vanilla planifolia*) using combined inoculation of *Trichoderma* sp. and *Pseudomonas* sp. Innovative approaches and modern technology for Crop productivity, Food safety and environmental sustainability November 2
54. Isolation and characterization of kerosene degrading bacteria from contaminated water. 3rd World Congress on Biotechnology September 2012.
55. Exploring endophytic diazotrophic bacteria as potential plant growth promoters and biocontrol agents of rice sheath blight disease. 3rd World Congress on Biotechnology September 2012.
56. Invitro screening of *Pseudomonas* sp. for their biocontrol potential against phytopathogens of vanilla. 3rd World Congress on Biotechnology September 2012.

57. Biocontrol of Sclerotium root rot vanilla (*Vanilla planifolia*) using combined inoculation of *Trichoderma* sp. and *Pseudomonas* sp. (2012). 22nd Swadeshi Science Congress. November 19-20
58. Biocontrol of *Fusarium* wilt of Vanilla (*Vanilla planifolia*) using *Trichoderma harzianum*. (Presented in the 2nd International seminar and workshop on “Sustainable utilization of tropical plant biomass” held at Kerala University campus, Kariavattom, Thiruvananthapuram).
59. *In-vitro* screening of *Trichoderme* spp. For their biocontrol potential against phytopathogens of vanilla. ICABS 2012. International Conference on advances in Biological Sciences. March 15-17, 2012 Kannur.
60. Characterisation of endophytic diazotrophic bacteria from rice (*Oryza sativa*). ICABS 2012. International Conference on advances in Biological Sciences. March 15-17, 2012 Kannur.
61. Study of antifungal activity of phosphate solubilising bacteria isolated from rhizosphere soil. 24th Kerala science congress 29-31st January 2012.
62. Biodegradation of the anionic surfactant linear alkylbenzene sulphonate (LAS) by immobilized *Pseudomonas* sp. Presented in the 21st Swadeshi Science Congress held on November 7-9, 2011.
63. Environmental impact of acute exposure of the anionic surfactant linear alkylbenzene sulphonate (LAS). Presented in the International Symposium on Environmental Risk Assessment 2011 (ISERA 2011) organized by School of Lifesciences, Bhatathiyar University, Coimbatore, held on October 17 – 19, 2011.
64. Kerosene biodegradation by autochthonous bacteria. Presented in the International Symposium on Environmental Risk Assessment 2011 (ISERA 2011) organized by School of Lifesciences, Bhatathiyar University, Coimbatore, held on October 17 – 19, 2011.
65. **Best poster award (Life Science)** “Structural and biochemical characterisation of biosurfactant required for the biodegradation of the anionic surfactant linear alkylbenzene sulphonate (LAS)”. 23rd Kerala Science Congress held on January 29-31, 2011.
66. Molecular characterization of *Pseudomonas nitroreducens* (MTCC10463) and *Pseudomonas aeruginosa* (MTCC10463) capable of degrading the anionic surfactant Linear alkylbenzene sulphonate (LAS). Presented in the National symposium on emerging

trends in Biotechnology, organized by Department of Biotechnology CUSAT, held on 1-2 September, 2011.

67. Biocontrol potential of rice endophyte *Fusarium oxysporum* against Rice Sheath Blight pathogen *Rhizoctonia solani*. Presented in the **International workshop and seminar "Phytophthora 2011"** organised by Rubber Research Institute of India, held on 12-17 Sept. 2011.
68. *Pseudomonas* and *Bacillus* mediated control of bacterial blight of anthurium. Presented in the **International workshop and seminar "Phytophthora 2011"** organised by Rubber Research Institute of India, held on 12-17 Sept. 2011.
69. Biocontrol of *Fusarium* wilt of Vanilla (*Vanilla planifolia*) using *Trichoderma arrizianum*. (Presented in the 2nd International seminar and workshop on "Sustainable utilization of tropical plant biomass" held at Kerala University campus, Kariavattom, Thiruvananthapuram 2011)
70. Cytotoxic alterations induced by sublethal concentration of the anionic surfactant linear alkylbenzene sulphonate (LAS) on grass carp (*Ctenopharyngodon idella*). Presented in the International seminar ASIAN PACIFIC AQUACULTURE 2011, Kochi, India held on January 18 -20, 2011
71. Response of Cowpea (*Vigna unguiculata* (L.) Walp). to phosphate solubilising bacteria isolated from rhizosphere (Presented at Swadeshi Science Congress, 2010)
72. Characterisation of biosurfactant produced by Linear Alkylbenzene Sulphonate degrading bacteria *Pseudomonas aeruginosa*. (Presented at Swadeshi Science Congress, 2010)
73. Bioremediation of synthetic Detergent and Designing of Bioreactor (Presented at 50th Annual Conference of Association of Microbiologists of India.)
74. Plasmid mediated Bioremediation of the Anionic surfactant Linear Alkylbenzene sulphonate (LAS) (Presented in the 22nd Kerala Science Congress, 2010)
75. Antifungal activity of phosphate solubilizing bacteria isolated from rhizosphere. (Presented in the 22nd Kerala Science Congress, 2010).
76. Isolation and characterization of Anionic Surfactant degrading Bacteria from soil. (Presented in the 1st Kerala Women's Science Congress at Ernakulam 2010)
77. Molecular identification of pathogenic bacteria from the midgut of *Culex* spp. Using 16S rDNA barcodes. (Presented in the national seminar on frontiers in biotechnology, 2010)

78. Linear alkylbenzene sulfonate (LAS) - Toxicity study & its bioremediation. (Presented at 21st Kerala Science Congress 2009).
79. Isolation of kerosene degrading bacteria and its biosurfactant from Vembanad Lake: its scope in bioremediation. (Presented at 21st Kerala Science Congress 2009).
80. Suppression of bacterial blight of Anthurium (*Anthurium andreanum*) by a fluorescent *Pseudomonas* (Presented at First Asian PGPR Congress for sustainable agriculture 21-24 June 2009)
81. Antagonistic effect of *Trichoderma* spp. Against *Phytophthora*- the foot rot pathogen of black pepper (*Piper nigrum* L) (Presented at First Asian PGPR Congress for sustainable agriculture 21-24 June 2009)
82. **Young Scientist Award** for the paper entitled “**Role of Biosurfactants in SDS remediation**” at Swadeshi Science Congress 2008 held at RGCB, Thiruvananthapuram
83. Bioremediation of SDS: Biosurfactants as a contributory factor in Bioremediation. (Presented at the 20th Kerala Science congress 2008).
84. Biodegradation of the anionic detergent Linear alkylbenzene sulphonates (LAS) [Presented at the International Conference BIOCAM-2008 held at CUSAT].
85. UGC Sponsored National seminar on **Marine Biology-Advances and prospects** held at CUSAT on 10th November, 2006
86. Optimization of factors for efficient solubilization of mineral phosphate. (Presented at XII Swadeshi science congress, 2002).
87. Associative effect of Phosphate solubilising Bacteria and cellulolytic fungus on phosphorus uptake and yield of Sorghum (Presented at MICON-International at CFTRI, Mysore on 9-12 November 1994)

Seminars and workshops organized:

1. **CONVENOR WEBINAR ON BIOINSTRUMENTATION FRONTIERS 2021**
26.6.2021 to 18.08.2021
2. Convener of International webinar **Bio-Inventiyon'20-Recent Advances in BioSciences** on 5th and 6th of November 2020
3. Convener of Advanced training on HACCP level-III with International Certificate, Organised by National Institute of Plant Science Technology on June 11-14, 2021
4. Convener of Advanced training on HACCP level-III with international certificate, conducted at the School of Biosciences, Mahatma Gandhi University on November 30 – December 2, 2018.

5. Convener workshop on Creative writing for tapping funding resources and effective publication Feb 27-28,2017
6. Convener National seminar on **Plant science technology for sustainable world**.Feb25-26.2016
7. Convener **Advanced Training on Hazard Analysis and Critical control points(HACCP-Level III)**. 9-13 December,2015
8. Convener Hands on workshop on DNA Barcoding of microbes.30.3.2014
9. Convener Hands on workshop on “**Molecular Phylogenetics in Microbiology**”26.9.2012-28.9.2012
10. Joint convener- National Seminar on lifestyle diseases.
11. Coordinator National seminar on Modern trends in Biosciences on 14-15 February 2007- held at school of biosciences M.G.University
12. Joint convener-Series of invited talks on life sciences to celebrate Birth Bicentenary of Charles Darwin.
13. Seminar on recent trends in medical molecular biology 03/07/2015

Specialized trainings undergone:

1. Training in **Upgradation of communication skills** organized by Ministry of Agriculture at Acharya N.G.Ranga Agricultural University at Hyderabad from 23- 29 July, 2000.
2. **Induction training programmes** for teachers sponsored by Directorate of Technical education, Kerala at Government engineering college, Thrissur from 14- 27 November, 2000.
3. UGC Sponsored **Orientation Program** at Academic staff College, University of Kerala from 18th July 2002 to 14 August 2002.
4. Workshop on **Applications of statistics in Biological experiments** held at School of Biosciences, M.G. University during April 7-9, 2005
5. UGC Sponsored **Refresher course in Life Sciences** at Cochin University of Science and Technology from 19th February to 10th March 2007.
6. UGC Sponsored workshop on **capacity building of women managers in higher education** at CMS College, Kottayam from 17-21 February to 2009.
7. University workshop on research projects at M.G.University on April 2, 2010.
8. DST sponsored workshop for young scientists on **livecell functional imaging and neurotransmitters receptors functional regulation** at CUSAT on March 11-13, 2010.
9. Training on **Microbial Gene Manipulations** at CPBMB, College of Horticulture on May 3-15,2010
10. Frontiers of Spectroscopy and Microscopy. DST-PURSE sponsored workshop. Mahatma Gandhi University, Interuniversity Instrumentation Centre (IUIIC). 10th -12th September 2012
11. Biotechnology in industry- achievements, potentials and challenges. Organized by CEPC-NAIP-ICAR project. 18th- 20th Feb. 2013.
12. Workshop on Mass Spectrometry organized by Inter University Instrumentation Center (IUIIC) and Sophisticated Analytical Instruments Facility (SAIF), Mahatma Gandhi University, Kottayam, Kerala from 15th to 19th January 2020.
13. Faculty development programme on MOOCs and E – Content Development organized by MOOCs programme Co-ordination Cell ,M.G.University during 4-8 February,2019

Membership in Academic Bodies

1. Member -Association of Microbiologists (India).
2. Member- Society for Biotechnologist (India).
3. Member Society for Fisheries Technologist (India)
4. Indian Science Congress Association
5. Kerala Academy of Sciences

Name of Board Committee/ whether member/Chairman/Convenor

1. Director,School of Biosciences
2. Honorary Director. School of Food Science and technology
3. Programme Coordinator for Post graduate Diploma in food processing and Quality control under UGC_NSQF
4. Programme Coordinator for diploma in food analysis and quality assurance under Applied Short term programmes (DASP), M G University, Kottayam
5. Coordinator National institute of plant science technology, M G University, Kottayam (2015 to present)
6. Member Biosafety Committee, M G University, Kottayam
7. Core Committee Chairman in Microbiology (UG and PG), M G University , Kottayam
8. Member – Board of Studies in Microbiology, M.G. University
9. Member – Board of Studies in Microbiology, Calicut University (2017)
10. Member – Board of Studies in Microbiology, Kannur University (2018)
11. Member – Board of Studies in Microbiology, SB College, Changanassery (2018)
12. Chairman of Ph D Adjudication Committee of Karunya University.Annamalai University. Kerala University, Mangalore University, Kannur University, Calicut University and Kerala Agriculture University
13. Subject expert SCERT

Invited talk

1. Two Day National Seminar on Harnessing Beneficial Microbes for Sustainable Agriculture: Recent Trends organized by Department of Botany, Government College Madappally, Kozhikode on November 27th and 28th 2019.
2. Second International Seminar on “Emerging trends in organic farming and sustainable agriculture” organised by Inter University Centre for Organic Farming and Sustainable Agriculture (IUCOFSA), Mahatma Gandhi University at CMS College Kottayam on 22-24 April 2018.
3. National seminar SYMBIOSIS 18 organised by SAFI institute of advanced studies, Vazhayoor, Calicut on. March 15 to16,2018

4. National conference on microorganisms in human welfare (BIOCONSORTIUM 2018), organised by Department of Microbiology, Madras Christian college on February 27-28, 2018.
5. State level seminar on Recent developments in the field of microbiology cancer biology and epidemiology organized by B.C.M.College,Kottayam 1st -2nd July 2013.
6. State Level seminar and workshop on Microbial techniques and Principles. Organized by Department of Microbiology, St. Xavier's College for Women, Aluva. On 16th to 18th January 2013
7. Biotechnology in industry- achievements, potentials and challenges. Organized by CEPC-NAIP-ICAR project. 18th- 20th Feb. 2013.
8. New approaches to enzyme and microbial technology. 3rd World Congress on Biotechnology OMICS group Hyderabad. 13-15 September 2012.

DETAILS OF NCBI GENBANK SEQUENCE DEPOSITS; MTCC &MCC BACTERIAL STRAIN DEPOSITS (25+7)

Sl. No.	Microorganism	Accession No.	Year
1	<i>Gluconacetobacter</i> sp.	GQ246872	2009
2	<i>Burkholderia</i> sp.	GQ246871	2009
3	<i>Pseudomonas aeruginosa</i>	HM214777	2011
4	<i>Pseudomonas nitroreducens</i>	HQ271083	2011
5	<i>Pseudomonas aeruginosa</i>	HQ271084	2011
6	<i>Pseudomonas aeruginosa</i> (K1)	JN540024	2011
7	<i>Bacillus cereus</i> (K2)	JN 600441	2011
8	<i>Sphingomonas paucimobilis</i> (K3)	JN540025	2011
9	<i>Bacillus mycoides</i> (K4)	JN 600440	2011
10	<i>Trichoderma virens</i>	JN 863298	2011
11	<i>Trichoderma harzianum</i>	JN 000305	2011
12	<i>P.putida</i> (P4)	JF701675	2011
13	<i>P. fluorescens</i> (P7)	JN578642	2011
14	<i>Pseudomonas aeruginosa</i> S15	JN377436	2012
15	<i>Pseudomonas plecoglossicida</i> (S5)	JN700182	2012
16	<i>Pseudomonas</i> sp.(S6)	JN700183	2012
17	<i>Acinetobacter baumannii</i>	JX429862	2012

18	<i>Aphyllorphorales sp.</i>	JQ34006	2012
19	<i>Eutypella sp.</i> (MEF 14)	JX477425	2012
20	<i>Geotrichum candidum sp.</i> (MEF 21)	JX477426	2012
21	<i>Pseudomonas plecoglossicida</i>	KF702307	2013
22	<i>Bacillus pumilus</i>	KF702308	2013
23	<i>Lysinibacillus fusiformis</i>	KF702309	2013
24	<i>Bacillus aerophilus</i>	KF702310	2013
25	<i>Achromobacter isolitus</i>	KF702311	2013
26	<i>Fusarium solani</i> WEF7	AY097316	2014
26	<i>Staphyococcus warneri</i> CPI 2	KP981417	2015
27	<i>Pseudomonas putida</i> CPI 9	KP797885	2015
28	<i>Stenotrophomonas maltophilia</i> CPI15	KP797886	2015
29	<i>Enterobacter sp</i>	KT366927	2015
30	<i>Colletotrichum gloeosporioides</i> WS-3	KX881911	2016
31	<i>Penicillium setosum</i> ITS	KT852579	2016
32	<i>Fusarium solani</i> WSE56	KU867865	2016
33	<i>Pseudomonas aeruginosa</i> MG/Bacterium-1	KY024584	2016
34	<i>Bacillus cereus</i> KTMA4	MG547975	2017
35	<i>Penicillium setosum</i> BenA	MF184995	2017
36	<i>Penicillium setosum</i> CaM	MH105905	2017
37	<i>Penicillium setosum</i> RPB2	MH016196	2017
38	<i>Bacillus amyloliquefaciens</i> CP28	MH667455	2018
39	<i>Bacillus pumilus</i> CP30	MH667456	2018
40	<i>Bacillus megaterium</i> CP33	MH667457	2018
41	<i>Bacillus subtilis</i> CP34	MH667458	2018

MTCC & MCC BACTERIAL STRAIN DEPOSITS

Sl. No.	Microorganism	Accession No.	Year
1	<i>Gluconacetobacter sp.</i>	MTCC 8368	2009
2	<i>Burkholderia sp.</i>	MTCC 8369	2009
3	<i>Pseudomonas aeruginosa</i> (S5)	MTCC 10311	2011
4	<i>Pseudomonas nitroreducens</i> (L9)	MTCC 10463	2011
5	<i>Pseudomonas aeruginosa</i> (L12)	MTCC 10462	2011
6	<i>Pseudomonas taiwanensis</i>	MTCC1161	2012
7	<i>Pseudomonas aeruginosa</i> S15	MCC 2035	2012
8	<i>Lysinibacillus sp strain L1</i>	MCC4227	2019

Reviewer

1. Biological control (Elsevier)
2. Environmental chemistry letters (Springer)
3. Environmental technology (Taylor and Francis)
4. Journal of Soil science and plant nutrition (Springer)
5. International Journal of Biological Macromolecules (Elsevier)
6. Chemosphere (Elsevier)
7. Ecotoxicology and Environmental Safety (Springer)
8. International Journal of Environmental Science and Technology (Springer)

A handwritten signature in cursive script, appearing to read "Dr. Jisha MS".

DR JISHA MS