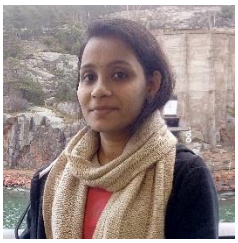
Curriculum Vitae



Jiya Jose, Ph.D

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Home: +91-0484-2610784 (India)

BRIEF RESEARCHER PROFILE

Dynamic researcher with more than twelve years of experience in Microbiology, Biotechnology, Nanotechnology, Cell culture and Tissue engineering with 44 publications and 3 edited books. Experience in interdisciplinary collaborative research with scientists from India and abroad. Attended and organized several International and National conferences, seminars and workshops. Recipient of Senior Research Fellowship by Council of Scientific and Industrial Research (CSIR), Dr. S. Kothari Post Doctoral Fellowship by UGC, Post Doctoral Research Fellowship from Stockholm University, Sweden and Research Associate Fellowship from Indian Council of Medical Research (ICMR), India.

EDUCATION

Ph.D., Marine Sciences (2010-2014)
CSIR-National Institute of Oceanography, Cochin, Kerala, India
M.Sc., Microbiology, (2003- 2005)
Bharathidasan University, Tamilnadu, India
B.Sc., Zoology (2000- 2003)
Sree Sankara College, Kalady, Mahatma Gandhi University, Kerala, India

PROFESSIONAL TRAINING

ICMR- RESEARCH ASSOCIATE (April 2020-till date)
Cochin University of Science and
Technology, Kochi, Kerala, India
GUEST TEACHER (November 2019-February 2020)
Mahatma Gandhi University, Kottayam, India
RESEARCHER (January 2019- October 2019)
Pushpagiri Medical College, Kerala, India
POST DOCTORAL RESEARCHER (September 2018 – December 2018)
Stockholm University, Sweden
UGC KOTHARI POST DOCTORAL RESEARCHER (February 2015 to August 2018)
Mahatma Gandhi University, Kottayam, India
SENIOR RESEARCH FELLOW (April 2010 to February 2014)
National Institute of Oceanography and

Council of Scientific and Industrial Research (CSIR)
PROJECT FELLOW (October 2007 - March 2010)
National Institute of Oceanography and
Council of Scientific and Industrial Research (CSIR)
New Delhi, India

AWARDS AND HONORS

1. Awarded Senior Research Fellowship (SRF) from CSIR-HRDG, Government of India
2. Recipient of Prestigious UGC –Dr. S. Kothari Post Doctoral Fellowship
3. Best Poster presentation Award at Malaysia Polymer International Conference held at Malaysia organized by Polymer Research Center (PORCE), Faculty of Science and Technology, University of Kebangsaan Malaysia (UKM) from July 19-20 2017
4. Best Poster presentation award at Euro-India International conference on Experimental and clinical medicine held at MG University, November 10- 13-2017
5. Best paper award at the International conference on Molecular Spectroscopy (ICMS) IIUCNN, MG University 2017.
6. Cash award and Honor of Presentation award and 4th Position in a National level competition on 'An original idea can be transferred into a product, jointly conducted by PSG Institutes, India and SUNY Polytechnic Institute, USA.
7. Selected for Best paper award in Kerala Science Congress, conducted by Kerala State Council for Science, Technology & Environment dated 2018.
8. Best paper award in National Photonics Symposium (NPS) 2018 conducted by International School of Photonics, CUSAT, 2018.
9. Recipient of Research Associate fellowship from Indian Council of Medical Reserch (ICMR), New Delhi.

PUBLICATIONS

Peer-reviewed journals

1. Structural, Magnetic and Antibacterial Properties of Manganese Substituted Magnetite Ferrofluids. Blessy Babukutty, Deepalekshmi Ponnamma, Swapna S Nair, **Jiya Jose,** Saritha G Bhat, Sabu Thomas, International Journal of Minerals, Metallurgy and Materials,2023, 2613-022-2594-1DOI: 10.1007/s12613-022-2594-1 IF: 3.8
2. Structural Influence of Chromium Substituted Magnetite Ferrofluids on the Optical and Antibacterial Characteristics. Blessy Babukutty, Deepalekshmi Ponnamma, Swapna S Nair, **Jiya Jose,** Saritha G Bhat, Sabu Thomas, March 2023: Materials Today Communication 34(1):105439, DOI: 10.1016/j.mtcomm.2023.105439 IF: 3.66

3. Antibacterial self-cleaning nylon-11/TiO2nanofiber membranes as triboelectric nanogenerators. Sherin Joseph, Nisha T.P, **Jiya Jose**, Honey John, Results in Engineering, 17, 2023, 100869, https://doi.org/10.1016/j.rineng.

4. Novel 3D porous aerogel engineered at nano scale from cellulose nanofibers: An effective treatment for chronic wounds. **Jiya Jose**, Avinash R Pai, Deepu Gopakumar, Yogesh D, Ruby V, Sarita G Bhat, Daniel P, Nandakumar Kalarikkal, Sabu Thomas. Carbohydrate Polymers 2022, 287, 119338 https://doi.org/10.1016/j.carbpol.2022.119338. IF: 10.75

5. Fabrication and functionalization of 3D-printed soft and hard scaffolds with growth factors for enhanced bioactivity. **Jiya Jose**, Sahar Sultan, Nandakumar Kalarikkal, Sabu Thomas Aji P. Mathew RSC Advances.,10, 37928-37937 https://doi.org/10.1039/D0RA08295 IF:3.61

6. Carboxymethyl chitosan capped copper oxide nanomaterials as antibacterial and antibiofilm coating for vulcanized natural rubber film. Anmiya Peter, BindiyaE.S., HoneyG., JiyaJose, Sarita G.Bhat, HoneyJohn, AbhithaK. Nano-Structures & Nano-Objects; 2022 https://doi.org/10.1016/j.nanoso.2022.100920.

7. Smartphone assisted fluorescent-colorimetric probe for bismuth (III) ion and potential applications. Leyana Shaji, Jiya Jose, Selva Kumar, R. Bhaskar, Vetriarasu, Sarita G Bhat, S.K. Ashok Kumar, Inorganic chemistry communications 2022, IF: 2.49

8. Selective chromogenic and fluorogenic signaling of Hg^{2+} ions using benzothiazole –Quinoliinyl acrylate conjugate and its applications in the environmental water samples and living cells. Leyana Shaji, Selva Kumar, Jiya Jose, R. Bhaskar, Vetriarasu, Sarita G Bhat, S.K. Ashok Kumar, Journal of Photochemistry and photobiology A: Chemistry 2022, https://doi.org/10.1016/j.jphotochem.2022.114220 IF: 5.14

9. Fabrication of silver-decorated graphene oxide nanohybrids via pulsed laser ablation with excellent antimicrobial and optical limiting performance., Parvathy Nancy, **Jiya Jose**, Nithin Joy, Reji Philip, Adolph Antony, Nandakumar Kalarikkal. *Nanomaterials* 2021, 11(4), 880; https://doi.org/10.3390/nano11040880. IF.4.038

10. Investigation on surface interaction between graphene nanobuds and cerium (III) via fluorescence excimer, theoretical, real water sample, and bioimaging studies. Pavithra V Ravi, Daniel T Thangadurai, Kasi Nehru, **Jiya Jose**, Yong elle lee, Nandakumar Kalarikkal, Sabu Thomas., Materials Chemistry and Physics 2021 264:124453,DOI: 10.1016/j.matchemphys. 2021.124453, IF:4.09

11. Exploring the optical limiting, photocatalytic and antibacterial properties of the $BiFeO_3$–$NaNbO_3$ nanocomposite system, Rehana P. Ummer, Sreekanth Perumbilavil, **Jiya Jose,** Sabu Thomas, Nandakumar Kalarikkal and Pramod Gopinath, RSC Advances 2021, **11**, 8450-8458. https://doi.org/10.1039/D0RA09776D, IF:3.361

12. Synthesis of silver nanoparticles by plant extract, incorporated into alginate films and their characterizations., Apparao G., **Jiya Jose**, Jose. V.R, Sabu Thomas, *Chemical Papers*- Slovak Academy of Sciences, 2021 76, 1031–1043. DOI: 10.1007/s11696-021-01923-1, IF: 2.097

13. Integration of heterogeneous photocatalysis and persulfate based oxidation using TiO2-reduced graphene oxide for water decontamination and disinfection. Deepthi John, **Jiya Jose**, Sarita G Bhat, V Sivanandan Achari. Heliyon 2021 7(10). DOI: 10.1016/j.heliyon.2021.e07451 IF:2.85

14. Surface and morphology analyses, and voltammetry studies for electrochemical determination of cerium(III) using a graphene nanobud-modified-carbon felt electrode in acidic buffer solution (pH 4.0 AE 0.05) (2020), Pavithra V Ravi, Daniel T Thangadurai, Kasi Nehru, **Jiya Jose**, Yong elle lee, Nandakumar Kalarikkal, Sabu Thomas RSC Advances.**,** 2020,10**,** 37409-37418 DOI: 10.1039/d0ra07555h.IF: 3.61

15. Green synthesis of silver nanoparticles using nymphae odorata extract incorporated films and antimicrobial activity (2020) Apparao G., **Jiya Jose**, Jose. V.R, Sabu Thomas. Journal of polymers and environment 2020 295, 1412-1423, https://doi.org/10.1007/s10924-020-01959-6 IF:3.967

16. Application of novel zinc oxide reinforced xanthan gum hybrid system for edible coatings. Joshy K S, **Jiya Jose,** TianduoLi, Merlin Thomas, M.S. Arun Gowda , Sreejith Sreekumaran , Nandakumar Kalarikkal , Sabu Thomas., International Journal of Biological Macromolecules. 2020 151(27) DOI: 10.1016/j.ijbiomac.2020.02.085 IF:6.953

17. Extinction of antimicrobial resistant pathogens using silver embedded silica nanoparticles and an efflux pump blocker. **Jiya Jose**, Anas, Puthirath, Bina, Anand Sujith Athiyanathil,Jasmin, Anantharaman, Nair, Subrahmanyam,. Chekidhenkuzhiyil Biju Vasudevanpillai: ACS Appl. Bio Mater. 2019, 2, 11, 4681–4686 https://doi.org/10.1021/acsabm.9b00614 IF: 3.5

18. Novel bio compactable silver nanowires and nanocubes: An effective treatment against carbapenem and vancomycin resistant strains isolated from cancer patients**. Jiya Jose**, Anju K Nair, Nandakumar Kalarikkal , Sabu Thomas . Journal of Saudi Chemical Society 2019 23, 1090-1101, https://doi.org/10.1016/j.jscs.2019.06.004 IF: 4.72

19. Structure and dynamics of gold nanoparticles decorated with chitosan-gentamicin conjugates: ReaxFF molecular dynamics simulations to disclose drug delivery S.Monti **Jiya Jose**, Athira Sahajan, Nandakumar K, Sabu Thomas Royal Society of Chemistry , Physical chemistry Chemical Physics 2019, 21, 13099-13108 https://doi.org/10.1039/C9CP02357G IF:3.6.

20. Multiorgan histopathological changes in the juvenile seabream *sparus autata* as a biomarker for zinc oxide particles toxicity. Afsena , Miguel olivera **Jiya jose** ,Tinto, Nandakumar Kalarikkal, Sabu Thomas Environmental Science and Pollution, 2019 27(25):30907-30917 DOI: 10.1007/s11356-019-05949-7 IF:5.19

21. Antimicrobial properties of $MnFe_2O_4$ (M = Mn, Mg)/reduced graphene oxide composites synthesized via solvothermal method El Hadji Mamour, **Jiya Jose** , Sabu Thomas, Nandakumar Kalarikkal, , Oluwatobi S. Oluwafemic Materials Science and Engineering C 2019, 95, 43-48. https://doi.org/10.1016/j.msec.2018.10.067 IF:7.8

22. Development of biocompatible and biofilm-resistant silver-poly(methylmethacrylate) nanocomposites for stomatognathic rehabilitation. Sandhya; Mozetic, Miran; **Jose, Jiya**; Thomas, Sabu; Kalarikkal, Nandakumar, International Journal of Polymeric Materials and Polymeric Biomaterials, 2019 186-199 , https://doi.org/10.1080/00914037.2018.1552863 IF:2.6

23. Fracture resistant, antibiofilm adherent, self - assembled PMMA/ZnO nanoformulations for biomedical applications: Physico-chemical and biological perspectives of nano reinforcement, Raj, Indu; Mozetic, Miran; V Prabhu, Jayachandran; **Jose, Jiya**; Thomas, Sabu; Kalarikkal, Nandakumar, Nanotechnology 2018 29(30):305704. doi: 10.1088/1361-6528/aac296 IF:3.87

24. Multiferroic and antibacterial studies of $BiFeO_3$-$NaNbO_3$-PMMA films Rehana, **Jiya Jose**, Pramod G, Sabu Thomas, Nandakumar K., National Photonics Conference Proceedings (2018).

25. Reduced graphene oxide and ZnO decorated graphene for biomedical applications **(2018)** Sandhya P K **, Jiya Jose** , M S Sreekala , M Padmanabhan, Nandakumar Kalarikkal ,Sabu Thomas Ceramics International 2018, 44, 2018, 15092-15098 DOI: 10.1016/j.ceramint.2018.05.143, IF:4.52

26. Synthesis and activity *of Escherichia coli* on different chitosan nanoparticles (2018), Merin S. Thomas**, Jiya Jose,** Nandakumar K., Sabu Thomas, and Laly A. Pothen Macromol. Symp. 2018, 381, 1800106 https://doi.org/10.1002/masy.201800106, IF:1.85

27. *In situ* dose dependent gamma ray irradiated synthesis of PMMA–Ag nanocomposite films for multifunctional applications. K. B. Bhavitha, Anju K. Nair, Hanna Mariya, **Jiya Jose**, Anshida Mayeen, Kala M. S., Abhijit Saha, Sabu Thomas, Oluwatobi S. Oluwafemi and Nandakumar Kalarikkal New J. Chem., 2018, 42, 15750-15761 https://doi.org/10.1039/C8NJ02684J IF:3.59

28. Novel dendrite structure of alginate hybrid nanoparticles for effective anti viral drug delivery: K.S. Joshy, Anne George, **Jiya Jose**, Nandakumar Kalarikkal, Laly A. Pothen, Sabu Thomas, International Journal of Biological Macromolecules; 2017, 103, 1265-1275. doi: 10.1016/j.ijbiomac. IF:6.9

29. Preparation and characterization of green graphene using grape seed extract for bioapplications. Srinivasarao Yaragalla , Rajakumari Rajendran, **Jiya Jose**, Mariam A. AlMaadeed,, Nandakumar Kalarikkal, Sabu Thomas. Materials Science and Engineering C, 2016, 65, 345–353. DOI: 10.1016/j.msec.2016.04.050, IF:7.5

30. UV absorbing bacteria in coral mucus and their response to simulated temperature elevations Ravindran J, Manikandan B, Francis K X, Shruti A, Karunya E. Amith K, Sanjay S, **Jiya Jose** Coral reefs, 2013, 32:1043-1050 DOI: 10.1007/s00338-013-1053-x IF:3.6

31. Sequential interactions of silver- silica nanocomposite (Ag-SiO2NC) with cell wall, metabolism and genetic stability of *Pseudomonas aeruginosa* a multiple antibiotic resistant bacterium Anas A., **Jiya Jose,** M.J. Rameez, P.B. Anand, M.R. Anandaraman, Shanta Nair Letters in Applied Microbiology, 2012, 56: 57-62 DOI: 10.1111/lam.12015 IF:2.78

32. Heavy metal pollution exerts reduction/adaptation in the diversity and enzyme expression profile of heterotrophic bacteria in Cochin estuary India. **Jiya Jose**, Rajesh Giridhar, Anas Abdulaziz, Loka Bharathi, Shanta Nair Environmental pollution, 2011; 159: 2775-2780 10.1016/j.envpol.2011.05.009 IF:8.09

33. Biochemical and molecular characterization of *Bacillus pumilus* isolated from coastal environment in Cochin, India. Ammini Parvathi, Krishna Kiran, **Jiya Jose**, Neetha Joseph and Shanta Nair Brazilian Journal of Microbiology, 2009, 40:269-275 doi: 10.1590/S1517-838220090002000012 IF: 2.47

Books Edited

1. Recent Trends in Nanomedicine and Tissue Engineering. Jince Thomas, Sabu Thomas, **Jiya Jose**, Nandakumar Kalarikkal, River Publishers **ISBN:** 9788793609167

2. Nanoparticles in Polymer Systems for Biomedical Applications. Jince Thomas Sabu Thomas, Nandakumar Kalarikkal, **Jiya Jose**, Apple Academic Press ISBN: 9781771887038

3. Nano hydrogel - Physicochemical properties and recent advances in structural designing. Volume 1, **Jiya Jose**, Sabu Thomas, Vijay Kumar Thakur. Springer Nature ISBN 978-981-15-7138-1

Book Chapters

1. Hydrogels: An overview of the history, classification, principles, applications, and kinetics, **Jiya Jose,** Athira VP, Hamy M, Hafeela A R, Sabu Thomas, S G Bhat, Maria L Perera, In book: Sustainable Hydrogels, DOI: 10.1016/B978-0-323-91753-7.00005-3

2. Cellulose and Chitin Nanofibers: Potential Applications on Wound Healing: Athira Johnson, Nandakumar Kalarikkal, **Jiya jose,** Sabu Thomas in book: Biomedical Composites, Perspectives and Applications, DOI:10.1007/978-981-33-4753-3_6

3. Self assembled hydrogel: An overview, Athira Anil and **Jiya Jose,** in Nano Hydrogel: Physicochemical properties and recent advances in structural designing. Springer Nature ISBN 978-981-15-7138-1

4. Stimulus responsive polymers, Vincent Joseph and **Jiya Jose**, in Nano Hydrogel: Physicochemical properties and recent advances in structural designing. Springer Nature ISBN 978-981-15-7138-1

5. Cross linking, modular design and self assembly in hydrogels, Smitha Benny, **Jiya Jose,** Sabu Thomas, in Nano Hydrogel: Physicochemical properties and recent advances in structural designing. Springer Nature ISBN 978-981-15-7138-1

6. Environmental fate of zinc oxide nanoparticles: Risks and benefits: Asfina Beegam, Parvathy Prasad, **Jiya Jose,** Miguel Oliveira, Fernando G. Costa, Amadeu M.V.M. Soares, Paula P. Gonçalves, Tito Trindade, Nandakumar Kalarikkal, Sabu Thomas and Maria de Lourdes Pereira. *Toxicology-new aspects to this scientific conundrum* 81. Intech publishers 2016 ISBN: 97872532878

7. Water purification using nanoparticles Nitheesha Shaji, S. Sunija, Parvathy Prasad, **Jiya Jose**, Sabu Thomas, and Nandakumar Kalarikkal in Nanoparticles in Polymer Systems for Biomedical Applications: Apple Academic Press ISBN: 9781771887038, 2017

8. Piezoelecrtical materials for biomedical applications: Neelakandan M S, Yadu nath V K, Bilahari Aryat, Vishnu K A, **Jiya jose**, Nandakumar Kalarikkal, sabu Thomas in Nanoparticles in Polymer Systems for Biomedical Applications: Apple Academic Press ISBN: 9781771887038, 2017

9. Biomedical applications of 3d-printing: Neelakandan M S, Yadu nath.V K, Bilahari Aryat[a] Parvathy Prasad **Jiya jose**[a] Sabu Thomas Nandakumar Kalarikkal[c] in Nanoparticles in Polymer Systems for Biomedical Applications: Apple Academic Press ISBN: 9781771887038, 2017

10. Nanocomposite hydrogels for biomedical applications. Karthika M, Aswathy Vasudevan, **Jiya jose** Nandakumar Kalarikkal, Sabu Thomas in Nanoparticles in Polymer Systems for Biomedical Applications: Apple Books; 2017 Apple Academic Press ISBN: 9781771887038

11. Toxicity of nanomaterials used in nano medicine p Prvathy Prasad, Sunija , **Jiya Jose,** Nandakumar Kalarikkal, Sabu Thomas. Apple Books; Nanoparticles in Polymer Systems for Biomedical Applications: Apple Academic Press ISBN: 9781771887038, 2017

INVITED TALKS/RESOURCE PERSON

1. Invited speaker at Global Conference on Biomaterials 2021 held during November 08-09,2021, conducted by Pangea Global Events and Organizing Committee Biomaterials-2021.
2. Participated as a speaker in DST-SERB Sponsored International Conference on Frontiers in Nano-Biotechnology (ICFNB-17).
3. Invited speaker in the seventh Euro-India International Conference on Holistic Medicine (ICHM 2017) conducted by Institute for Holistic medical Sciences and Ayurveda –Und Venen-Klink.
4. Invited talk as a resource person on Polymeric biomaterials: Current status and future prospective. at UGC sponsored National Seminar organized by Department of Chemistry, St.Theresas College, Ernakulam, Kerala, India
5. Invited lecture on polymeric scaffolds engineered with nano inclusions for wound healing: current status and future perspectives at the International Conference on Advanced Polymeric Systems 2019 Conducted by MG University, Kottayam, Kerala, India.
6. Resource person for the topic Environmental pollution and solutions at the seminar organized in connection with World Environment Day celebrations on 6th June 2018 organized by the Department of Chemistry, B.C.M College Kottayam, Kerala, India.
7. Resource person for the National level workshop on animal cell culture techniques , Lady Doak College , Madurai,

RESEARCH EXPERTISE

3D Bio-printing of hard bone tissue and soft cartilage tissue for biomedical applications In this study, three-dimensional (3D) printing technique was used to tailor the pores structure and mechanical properties of i) nanocellulose based hydrogel scaffolds for soft tissue engineering and ii) poly lactic acid (PLA) based scaffolds for hard tissue engineering in combination with surface treatment by protein conjugation for tuning the scaffold bioactivity. Enhanced cell proliferation and bio-compatibility were observed. This approach of combining 3D printing with biological tuning of the interface is expected to significantly advance the development of biomedical materials related to soft and hard tissue engineering.

Cellular biology: Maintenance of Mammalian cell lines**,** Mammalian cell culture Passaging, Cell counting, cryopreservation, Standardization of cell culture techniques, Isolation and maintenance of primary cells-human umbilical cord derived endothelial (HUVEC), Mouse cell lines, Cell lines subculture: Mouse

fibroblasts (L929), osteosarcoma cell lines MG-63, Vero cells (Monkey kidney epithelial cells), RAW 264.7 murine Macrophage Cell Line, A549 cells, Murine osteoblast-like cell line MC3T3-E, etc

Cell based assays for proliferation, cytotoxicity, Protein quantification (BCA), immunocytochemistry, ELISA, cytoskeletal staining and H&E staining.

Animal model: In-vivo implantation studies and wound healing studies on rat models with the fabricated tissue scaffolds for various biomedical applications, especially for wound healing and bone tissue regeneration.

Novel bioactive 3D porous cellulose aerogels were fabricated characterized and studied their biocompatibility with cell lines and wound healing application with Animal models.

In this work, cellulose nanofibers (CNF) incorporated with curcumin was used for the fabrication of wound healing 3D porous aerogel. 3D porous nano bio aerogel with curcumin significantly promoted the migration of fibroblast cells and had excellent antimicrobial activity against pathogenic microorganisms. In-vivo studies showed angiogenesis without rejection or inflammation of the scaffold. This novel 3D porous aerogel can be used to treat chronic wounds.

Evaluation of antimicrobial activity, cytotoxicity and cellular uptake of nanoparticles and nano-formulations

In this project, nanoparticles of silver, gold, ZnO, as well as hybrid nano-formulations were synthesized and investigated their antimicrobial activity as well as cytotoxicity. Cellular uptake of anti viral hybrid nano formulations was also studied.

Heavy metal pollution exerts reduction/ adaptation in the diversity and enzyme expression profile of heterotrophic bacteria along a pollution gradient

First time reported the distribution and enzyme expression profile of metal resistant bacteria along a pollution gradient in the Cochin Estuary. Studies were conducted on the differential response of metal resistant bacteria towards antimicrobial agents. Observed a positive correlation in the form of sharing of resistant genes for the resistant activities

Discovery, development and commercialization of new marine bio- active molecules and traditional preparations

As a part of CSIR Net work Project, a total of 489 microbial cultures were isolated , identified and preserved from water, sediment, corals and sponges from different geographical locations viz. Arabian Sea, Cochin backwaters, Cochin estuary, Ratnagiri, Goa, Krishna-Godavari basin, Rameshwaram and Tuticorin using Niskin water sampler and Van Veen grab respectively, at different time intervals. Out of 489 isolates, 44 cultures were potential candidates for bioactive compounds, 20 isolates have anti- Parkinson activity, 15 showed antidepressant activity, 7 showed antipsychotic, 5 showed anti-dementia activity and 2 showed anti anxiety activity.

Isolation, identification and preservation of microbial cultures

In this project microorganisms were isolated from soil, water, sediments, fish, mangrove, corals, etc and identified the strains using various methods.

Differential response of protein expression profile of metal resistant bacteria towards metal stress

Protein isolation and characterization techniques were standardized for the multiple metal resistant bacteria. A drastic change in the protein expression profile of metal resistant bacteria compared with normal ones was observed.

Plasmid isolation from metal and antibiotic resistant bacteria

Protocols were standardized for the isolation and characterization of plasmids**.** Concluded that the same genetic material can carry both metal and antibiotic resistance

TEACHING EXPERIENCE

Experience in handling various topics in Nanobiotechnology including Microbiology, Biotechnology, Tissue engineering, Regeneration and Nanomedicine for Integrated M Sc-PhD course of International and Inter University Center for Nanoscience and Nanotechnology (IIUCNN) Mahatma Gandhi University, Kerala, India

Conducted open course classes for M.Sc. Microbiology and Biotechnology Students of School of Bioscience, MG University, Kerala, India

Handled course on Microbiology and Biotechnology for M.Sc Microbiology of Department of Biotechnology, Cochin University of Science and Technology, Kerala, India

CONFERENCE PUBLICATIONS

1. Jiya Jose, Bina Jose, Anas Abdulaziz, M.R.Anantharaman, Shanta Nair (201Ì) Effect of silver nano-particles on multiple metal and antibiotic resistant pathoganic bacteria from Cochin estuary. The abstract of the paper was published in the conference proceedings of Third International conference on Frontiers in Nano-science and Technology, Cochin Nano – 2011 (August 14-17 2011)

2. Jiya Jose, Anju K nair, Latha M S., Nandhakumar K., Sabu Thomas Silver ions enhance the preventive mechanism of Silver nanoparticles against multiple drug resistant human pathogens. World Congress on Microscopy: Instrumentation ,Technique and Applications in life Sciences and Material Sciences organized by International Unit on Macromolecular Science and Engineering (IUMSE), MG University during 9th to 11th October 2015

3. P.Prasad, M.Lopez, Jiya Jose, M.Olivera, S.Thomas, M.L.Pereira Histological alterations induced by gold nanoparticles on seabream Sparus aurata:: conference on Materials,University of Aveiro Portugal, 2017

4. A.Beegam, M.Lopez, Jiya Jose, M.Olivera, S.Thomas, M.L.Pereira, Effects of ZnO-NPs on histology of Gilthead seabream Sparus aurata conference on Materials,University of Aveiro Portugal, 2017

5. Jiya Jose, Deepu Gopakumar, Avinash R Pai, Daniel Pasequini, Nandakumar Kalarikkal, Sabu Thomas *: A low cost aerogel engineered from cellulose nanofibers for the treatment of chronic wounds: Malaysia polymer international conference. 2017

6. Basil c Poulose Jiya Jose, Nandakumar Kalarikkal, Sabu Thomas Formulation and evaluation of herbal nanosuspension for anti-cancer activity International Conference on Nanomaterials 2018

7. Presented a paper in the World Congress on Microscopy: Instrumentation ,Technique and Applications in life Sciences and Material Sciences organized by International Unit on Macromolecular Science and Engineering (IUMSE), MG University during 9th to 11th October 2015

INTERNATIONAL COLLABORATIONS

- Department of Chemistry, Walter Sisulu University, Mthatha, S**outh Africa**. (Prof. Oluwatobi S Oluwafemi)
- Research Institute for Electronic Science, Hokkaido University, Sapporo 001-0020, **Japan** (Prof.Biju V)
- Department of Biology, University of Aveiro, Aveiro, **Portugal** (Prof.Maria Lopes)
- CNR-ICCOM, Institute of Chemistry of Organometallic Compounds, **Italy** (Dr.Susanna Monti)
- Department of Materials and Environmental Chemistry, Stockholm University, SE-10691, Stockholm, **Sweden** (Prof. Aji Mathew)
- Department of Physical Sciences, Grant MacEwan University, **Canada** (Prof. Laure Amudson)
- Qilu University of Technology, Shandong, **China** (Prof. Chi Hong).

PROFESSIONAL REFERENCES

Name	**Dr. Shanta Achuthankutty**	**Name**	**Prof. Sarita G Bhat**
Designation	Chief Scientist (Retired)	Designation	Professor
Contact Details	National Institute of Oceanography Dona Paula Goa, India- 403 004 Email: **shanta.achuthankutty@gmail.com**	Contact Details	Department of Biotechnology Cochin University of Science and Technology, Kalamassery Email: saritagbhat@gmail.com
Name	**Prof. Sabu Thomas**	**Name**	**Prof. Aji P Mathew**
Designation	Vice Chancellor	Designation	Professor
Contact Details	Mahatma Gandhi University Kottayam, India-686560	Contact Details	Department of Materials and environmental chemistry

	Email: sabuthomas@mgu.ac.in		Stockholm University Sweden, E.mail: Aji.mathew@mmk.su.se