



## VINOD KUMAR NATHAN

- ASSISTANT PROFESSOR -



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### Address.

School of Chemical and  
Biotechnology, SASTRA Deemed to  
be University, Thanjavur- 613 401,  
Tamil Nadu, India

## RESEARCH AREAS

Carbon sequestration

Microbial enzyme

Waste management

Natural product research

## FOLLOW ME



ORCID ID:0000-0001-9093-0276

[https://www.researchgate.net/p  
rofile/Vinod-Nathan](https://www.researchgate.net/profile/Vinod-Nathan)

## PROFILE

Assistant Professor in Biotechnology with more than two years of experience and two years of Post-Doctoral experience. I am working on ligno-cellulosic materials and its application (Paper and pulp). Applied areas include solid waste management and carbon sequestration.

### June 2019-Till date

#### Assistant Professor - Research

SASTRA Deemed to be University, Thanjavur

### September 2016- May 2019

#### National Post Doctorate Fellow

CSIR-National Institute of Oceanography,  
Regional Centre, Cochin, India

### June 2016-August 2016

#### State Curator-Kerala

Discovery Kids Science Adda, Cochin, India

### September 2015- May 2016

#### Senior Research Officer

UniBiosys Research Labortaory, Cochin

## WORK EXPERIENCE

### ► 2012-2017

Madurai  
Kamaraj  
University,  
India

#### Doctor of Philosophy

in Biotechnology

**Thesis:** Deinking and colouring  
of waste paper using natural  
products in paper recycling

### ► 2014-2017

Muthayammal  
College and  
Arts and  
Science-  
Periyar  
University,  
Salem, India

#### Master of Science

**(5 years Integrated)**

Biotechnology

First Class with Distinction  
Fifth Rank (2006-2011  
Batch)

### ► 2013-2014

school of  
Distance  
Education,  
Bharathiar  
University,  
Coimbatore,  
India

#### PG Diploma

Bioinformatics  
First Class

## EDUCATION

## ACHIEVEMENTS

- **5<sup>th</sup> Rank-** M.Sc. Integrated Biotechnology from Periyar University, Salem
- **International Travel Support** from Science and Engineering Research Board (SERB), Government of India to present research paper at IICBE 2014 held on September 17-18, 2014 at Kuala Lumpur (Malaysia) (**Order- SB/ITS-Y/03118/2014-15**).
- **National Post-Doctoral Fellowship (N-PDF)** funded by Science and Engineering Research Board (SERB), Government of India- July 2016
- **State Eligibility Test of Tamil Nadu (TNSET 2016)** for Assistant Professorship Qualified in October 2016
- **BIRAC TNAU Innovation Post-Doctoral Fellowship-** 2019 (Selected and not availed)
- Elected fellow of Young Academy of India (YAI)-2021
- **Invitational Fellowships for Research** by The Japan Society for the Promotion of Science (*JSPS*) 2021

### ***Best Paper Awards***

- MCAS-BIO 2008 7<sup>th</sup> National level Biological Congress on Biotechnology: Evolution and Revolution held at Muthayammal College of Arts and Science on 4 and 5<sup>th</sup> January 2008.
- National Seminar on Cyclonic changes and its impact on marine biodiversity organized by Research Department of Botany VHNSN College, Virudhunagar on 9 & 10<sup>th</sup> February 2012.
- “Sahaja Seeds Best Paper Award” at National conference on Integrated Waste Management and Energy Recover held at Bharathidasan University, Trichy on February 12<sup>th</sup> 2015.
- Delivered a Keynote lecture at ICEMEE2017 held at Bangkok, Thailand on March 10-12, 2017.
- Delivered an invited talk at Biotech 2018- The 3<sup>rd</sup> International Conference on Bioscience and Biotechnology held on 8-9 March 2018 at Colombo, Sri Lanka (Chaired a session).
- Delivered an invited talk at ICRM 2018- Fourth International Conference on Reuse and Recycling of Materials held on 9-11 March 2018 at Mahatma Gandhi University, Kerala, India (Chaired a session).
- Delivered an invited talk at ICRM 2020- Fifth International Conference on Reuse and Recycling of Materials held on 10-13 December 2020 at Mahatma Gandhi University, Kerala, India (Chaired a session).

## FIELD EXPERIENCE

- Participated in Environmental Impact analysis sampling- Enayum, India; Kodimangaru, Udupi, India; mud banks of Alappuzha, Kerala; Cochin estuary mangrove regions (Puthuvype, Mangalavanam, Poovar, Valanthakad)
- Participated in multidisciplinary research cruise: 20-days (Arabian Sea, India in Marine Ecosystem Dynamics of Arabian Sea (MEDAS) (Cruise No.369) [Dec 21, 2017-Jan 9, 2018]); 18-days (Arabian Sea, India (SSK 110) [Nov 20 -Dec 9, 2017]); 17-days (Bay of Bengal, India (SSK 102)-ONGC related EIA [April 10, 2017-April 28, 2017])

## SKILLS AND TECHNIQUES

- DNA and protein analysis by electrophoresis
- Enzyme characterization- quantitative assays, kinetics
- Microscopy- Light and epifluorescent microscope
- Microbiology techniques and environmental sample analysis –DO, BOD, COD, MPN
- Plant tissue culture
- Instrumentation- HPLC, GC, UV-Spectroscopy, FT-IR, flame photometer
- Bioinformatics tools- ExPasy tools, Homology modelling, STRING, Metagenome data analysis, LAZAR, XenoSite, Mol Inspiration.

## PUBLICATIONS

- Vinod Kumar Nathan**, Mary Esther Rani. 2021. Natural dye from *Caesalpinia sappans* L. heartwood for eco-friendly colouring of recycled paper based packing material and its *in silico* toxicity analysis. *Environmental Science and Pollution Research*. 28(22):28713-28719. doi: 10.1007/s11356-020-11827-4. [IF: 4.223] (Citation:3)
- Vinod Kumar Nathan**, Mary Esther Rani. 2020. A cleaner process of deinking waste paper pulp using *Pseudomonas mendocina* ED9 lipase supplemented enzyme cocktail. *Environmental Science and Pollution Research*. 27(29):36498-36509. <https://doi.org/10.1007/s11356-020-09641-z> [IF: 4.223] (Citation:5)
- Vinod Kumar Nathan**. 2020. Comparative Analysis of Carbonic Anhydrase with Reference to *Anopheles gambiae*– A Vector of Malaria and its Homology Model Prediction. *International Journal of Bioautomation*. 24(3): 225-234 DOI: [10.7546/ijba.2020.24.3.000605](https://doi.org/10.7546/ijba.2020.24.3.000605)
- Vinod Kumar Nathan**, Jasna Vijayan, Parvathi Ammini. 2020. Optimization of urease production by *Bacillus halodurans* PO15: a mangrove bacterium from Poovar Mangroves, India. *Marine Life Science and Technology*. 2:194–202. <https://doi.org/10.1007/s42995-020-00031-5> (Citation:3)
- Vinod Kumar Nathan**, Jasna Vijayan, Parvathi Ammini. 2020. Comparison of bacterial diversity from two mangrove ecosystems from India through metagenomic sequencing. *Regional Studies in Marine Sciences*. 35: 101184 [IF: 1.624] <https://doi.org/10.1016/j.rsma.2020.101184> (Citation: 8)
- Vinod Kumar Nathan**. 2020. Current Status and Conservatory Challenges of Valanthakad Mangroves, Kerala, India. *Jalaplavit*. 10(2): 38-43.
- Vinod Kumar Nathan**, Jasna Vijayan, Parvathi Ammini. 2019. Pesticide Application Inhibit the Microbial Carbonic Anhydrase Mediated Carbon Sequestration in a Soil Microcosm. *Environmental Science and Pollution Research*. 27: 4468–4477 [IF: 4.223] doi: 10.1007/s11356-019-06503-1. (Citation: 2)
- Vinod Kumar Nathan**, Parvathi Ammini. 2019. Carbon Dioxide Sequestering Ability of Bacterial Carbonic Anhydrase in a Mangrove Soil Microcosm and Its Bio-mineralization Properties. *Water Air Soil Pollution*. 230:192 [IF: 2.520] <https://doi.org/10.1007/s11270-019-4229-3> (Citation: 2)
- Vinod Kumar Nathan**, Mary Esther Rani, Rathinasamy Gunaseeli and Narayanan Dhiraviam Kannan. 2019. Fabricating Bio-active Packing Material made from Alkali-Steam Exploded Agro-Waste using Natural Colourants. *International Journal of Environmental Science and Technology*. 17: 195–206 [IF 2.860]. <https://doi.org/10.1007/s13762-019-02387-3> (Citation: 3)
- Vinod Kumar Nathan**, Mary Esther Rani, Rathinasamy Gunaseeli and Narayanan Dhiraviam Kannan. 2018. Enhanced Biobleaching Efficacy and Heavy Metal Remediation Through

- Enzyme Mediated Lab-scale Paper Pulp Deinking Process. Journal of Cleaner Production. 203: 926-932 [IF 9.297] DOI: [10.1016/j.jclepro.2018.08.335](https://doi.org/10.1016/j.jclepro.2018.08.335) (Citation: 20)
- Vinod Kumar Nathan**, Parvathi Ammini and Jasna Vijayan. **2018**. Photocatalytic Degradation of Synthetic Dyes using Iron Nanoparticles (Fe<sub>2</sub>O<sub>3</sub> –Np) Synthesized using *Rhizophora mucronata* Lam. IET Nanobiotechnology. 13(2):120-123. [IF 1.847] doi: 10.1049/iet-nbt.2018.5230. (Citation: 4)
- Vinod Kumar Nathan**, Subha Rajam K, Mary Esther Rani, Gunaseeli Rathinasamy and Kannan ND. **2018**. Biobleaching of Waste Paper using Lignolytic Enzyme from *Fusarium equiseti* VKF2- A Mangrove Isolate. Cellulose. 25(7): 4179-4192. [IF 5.044] <https://doi.org/10.1007/s10570-018-1834-z> (Citation: 8)
- Vinod Kumar Nathan**, Mary Esther Rani, Rathinasamy Gunaseeli and Narayanan Dhiraviam Kannan. **2018**. Paper Pulp Modification and Deinking Efficiency of Cellulase-Xylanase Complex from *Escherichia coli* SD5. International Journal of Biological Macromolecules. 111: 289–295 [IF 6.953] <https://doi.org/10.1016/j.ijbiomac.2017.12.126> (Citation: 47)
- Vinod Kumar Nathan**, Mary Esther Rani, Rathinasamy Gunaseeli and Narayanan Dhiraviam Kannan. **2017**. Antioxidant and antimicrobial potential of natural colouring pigment derived from *Bixa orellana* L. seed aril. Proceedings of the National Academy of Sciences, India Section B: Biological Sciences. 1-7. [IF 0.396] <https://doi.org/10.1007/s40011-017-0927-z> (Citation: 11)
- Vinod Kumar Nathan**, Mary Esther Rani, Rathinasamy Gunaseeli and Narayanan Dhiraviam Kannan. **2017**. Low Molecular Weight Xylanase from *Trichoderma viride* VKF3 for Bio-bleaching of Newspaper Pulp. *BioResources* 12(3): 5264-5278. [IF 1.614] DOI: [10.15376/biores.12.3.5264-5278](https://doi.org/10.15376/biores.12.3.5264-5278) (Citation: 18)
- Vinod Kumar Nathan**, Mary Esther Rani, R. Gunaseeli and N.D. Kannan **2017**. Lipase Production using *Aspergillus japonicus* MF-1 through Biotransformation of Agro-Waste and Medicinal Oil Effluent. International Journal of Current Microbiology and Applied Sciences. 6(4): 2005-2020. DOI: [10.20546/ijcmas.2017.604.238](https://doi.org/10.20546/ijcmas.2017.604.238) (Citation:3)
- Vinod Kumar Nathan**, Lizzy Mathew and E.G. Wesely. **2014**. Computational Modelling of Super Oxide Dismutase (SOD) of *Pisum Sativum* L. and Prediction of Mutational Variations through *in silico* Methods. *International Journal of Bioautomation*. **18(2): 75-88**. (Citation: 2)
- Vinod Kumar Nathan**, Mary Esther Rani, R. Gunaseeli, N.D. Kannan and J. Sridhar. **2014**. Process Optimization and Production Kinetics for Cellulase Production by *Trichoderma viride* VKF3. *Springer Plus*. **3: 92**. [IF 1.13] doi: [10.1186/2193-1801-3-92](https://doi.org/10.1186/2193-1801-3-92) (Citation: 60)
- Vinod Kumar Nathan**, Mary Esther Rani, Rathinasamy Gunaseeli, Narayanan Dhiraviam Kannan and Jayavel Sridhar. **2012**. Modeling and structural analysis of cellulases using *Clostridium thermocellum* as template. *Bioinformation*. **8(22): 1105-1110**. doi: 10.6026/97320630081105 (Citation: 19)
- Vinod Kumar Nathan**, Lizzy Mathew and E.G. Wesely. **2012**. *In Silico* analysis of Phytochelatin: A stress related protein of *Cynodon dactylon*. *Elixir Bio. Tech*. **49: 10152-10159**.
- Vinod Kumar Nathan**, Lizzy Mathew and E.G. Wesely. **2012**. *In Silico* Structure Analysis and Phylogenetic Study of Carboxysomal Protein of Microalgae - *Microcystis Aeruginosa* Involved in Carbon Dioxide Concentration Mechanism (CCM). *Bio-Science Research Bulletin*. **28(1): 1-11**.
- Vinod Kumar Nathan**, Johnson Marimuthu Antonisamy, Wesely E G and Kavitha M S. **2012**. Phytochemical and bio-efficacy studies on methanolic flower extracts of *Peltophorum pterocarpum* (DC.) Baker ex Heyne. *Asian Pacific Journal of Tropical Biomedicine*. **S641-S645**. [IF: 1.903] DOI: [10.1016/S2221-1691\(12\)60289-5](https://doi.org/10.1016/S2221-1691(12)60289-5) (Citation: 14)

**Vinod Kumar Nathan**, V.Madhan Chakkaravarthy, E.G.Wesely, M.Sundararajan and Reeta Jayashankar. 2008. Biosorption of Heavy Metal (Pb) by Marine alga (*Tetraselmis gracilis*) in Cochin Estuary: A bioremediation approach; *Indian Hydrobiology*, **11(2)**:255-259.

### Co-authored papers

- Thamaraiselvi L, Selvankumar T, EG Wesely, **Vinod Kumar Nathan**. 2021. In Silico Molecular Docking on Bioactive Compounds from Indian Medicinal Plants against Type 2 Diabetic Target Proteins: A Computational Approach. *Indian Journal of Pharmaceutical Sciences* 83 (6), 1273-1279.
- Sharrel Rebello, **Vinod Kumar Nathan**, Sindhu Raveendran, Binod Parameswaran, Mukesh Awasthi & Ashok Pandey. 2021. Bioengineered Microbes for Soil Health Restoration - Present Status and Future. *Bioengineered* [Accepted] doi: 10.1080/21655979.2021.2004645.
- Jayakumar, D., Sachith, S. K., **Nathan, V. K.**, & Rishad, K. S. M. 2021. Statistical optimization of thermostable alkaline protease from *Bacillus cereus* KM 05 using response surface methodology. *Biotechnology Letters*, 43(10):2053-2065 [IF: 2.461] doi: 10.1007/s10529-021-03172-4.
- Jasna Vijayan, **Vinod Kumar Nathan**, Ammini Parvathi. 2021. Diversity pattern of marine culturable heterotrophic bacteria in a region with coexisting upwelling and mud banks in the southeastern Arabian Sea. *Environmental Science and Pollution Research*, 1-16. [IF: 4.223] doi: 10.1007/s11356-021-15772-8.
- Jasna Vijayan, **Vinod Kumar Nathan**, Ammini Parvathi. 2020. Comparison of bacterial community structure in coastal and offshore waters of the Bay of Bengal, India. *Regional Studies in Marine Sciences*. 39: 101414 [IF: 1.624] <https://doi.org/10.1016/j.rsma.2020.101414> (Citation: 2)
- Parvathi A, Jasna Vijayan, Aswathy VK, **Vinod Kumar Nathan**, Aparna S, KK Balachandran. 2019. Microbial diversity along the south west coast of India influenced by co-existing upwelling and mud banks. *Molecular Biology Reports*. 46(3):3113-3127 [IF 2.316] doi: 10.1007/s11033-019-04766-y. (Citation: 5)
- Panjami Jayan, **Vinod Kumar Nathan**, Parvathi Ammini. 2019. Characterization of marine bacterial carbonic anhydrase and their CO<sub>2</sub> sequestration abilities based on a soil microcosm. *Preparative Biochemistry & Biotechnology*. 49(9):891-899 [IF: 2.162] <https://doi.org/10.1080/10826068.2019.1633669> (Citation: 9)
- Parvathi Ammini, Jasna Vijayan, Aswathy Vijaya Krishna, Aparna Sreekumar, **Vinod Kumar Nathan** and Jyothibabu R. 2019. Bacterial metataxonomic sequence analysis reveals dominance of *Wolbachia* sp. in the deep sea sediment of the Bay of Bengal, Indian Ocean. *Genomics*. 112(1): 1030-1041 [IF 5.736] <https://doi.org/10.1016/j.ygeno.2019.06.019> (Citation: 3)
- Snehanjali K, **Vinod Kumar Nathan**, Parvathi Ammini. 2019. Anti-Biofilm Activity of Biosurfactant Derived from *Halomonas* sp., a Lipolytic Marine Bacterium from the Bay of Bengal. *Microbiology*. 88(5):585-599 [IF: 1.156] <https://doi.org/10.1134/S0026261719050072> (Citation: 2)
- Thamaraiselvi L, E. G. Wesely, M.D. Nazneen Bobby, **Vinod Kumar Nathan**. 2018. Ethnobotanical survey of Palamalai Hills, Mettur Taluk, Eastern Ghats, India. *Current Botany*. 9: 37-40. DOI: [10.25081/cb.2018.v9.20181110](https://doi.org/10.25081/cb.2018.v9.20181110) (Citation:1)
- Jim Thomas, M. Suresh Kumar, E.G. Wesely and **N Vinod Kumar**. 2017. Antimicrobial Efficacy and Phytochemical Analysis of *Calotropis gigantea* (L.) R.Br. *Int. J. Curr. Res. Biosci. Plant Biol.* **4(9)**, 79-84. DOI: [10.20546/ijcrbp.2017.409.012](https://doi.org/10.20546/ijcrbp.2017.409.012)

- Velmurugan C, Arulkumar M, E.G. Wesely, Nazneen Bobby and **Nathan Vinod Kumar**. 2017. Prospecting antimicrobial potential of *Tinospora cordifolia* (Thunb.) Miers. and its phytochemical evaluation. *Global Journal for Research Analysis*. 6(5): 658-659.
- Arulkumar M, Velmurugan C, E.G. Wesely, Nazneen Bobby and **Nathan Vinod Kumar**. 2017. Phytochemical evaluation and antimicrobial efficacy of *Entada rheedii* Spreng. *Global Journal for Research Analysis*. 6(2): 624-625.
- Jim Thomas, M. Suresh Kumar, **N Vinod Kumar**, E.G. Wesely and M. Rajasekara Pandian 2016. Antimicrobial activity and phytochemical evaluation of aqueous extract of *Artocarpus hirsutus* Lam. Bark. *Global Journal for Research Analysis*. 5(6): 42-44. (Citation: 3)
- Rishad K.S., Sharrel Rebello, **Vinod Kumar Nathan**, Shabanamol S. and Jisha M.S. 2016. Optimised production of chitinase from a novel mangrove isolate, *Bacillus pumilus* MCB-7 using response surface methodology. *Biocatalysis and Agricultural Biotechnology*. 5: 143–149. DOI: [10.1016/j.bcab.2016.01.009](https://doi.org/10.1016/j.bcab.2016.01.009) (Citation: 23)
- Jiji Kuriakose Kurian and **Nathan Vinod Kumar**. 2015. Sequence analysis and homology modeling of a bacterial laccase from *Pseudomonas pseudoalcaligenes*. *Journal of Advanced Bioinformatics Applications and Research*. 6(2): 23-32. (Citation: 1)

## BOOK CHAPTERS

- Thananjeyan Balasubramaniam, Abhishikta Basu, **Vinod Kumar Nathan** and Joon-Hwa Lee (2022). Therapeutic Potentials of Superoxide Dismutase: Current Status and Future. In: Future Therapeutics Applications of Super Oxide Dismutase. Nova Publishers., USA [In press]
- Vinod Kumar Nathan**, Kaliraja Arunachalam, Aparna Ganapathy Vilasam Sreekala (2022). The role of metabolic engineering in the development of 2G biofuels (both in conversion and fermentation) In: *Lignocellulosic Biomass Refining for Second Generation Biofuel Production*", CRC Press. [Accepted]
- Vinod Kumar Nathan** (2022). Antimicrobial packaging material using recycled paper. In: Recent advancements in recycling and reuse of polymer materials, River Publishers [Accepted].
- Vinod Kumar Nathan** (2022). Application of extremozymes in paper and pulp industries. In: Extremozymes and Their Industrial Applications. Elsevier [Accepted].
- Sreenath Sreekumaran, Aparna Ganapathy Vilasam Sreekala, **Vinod Kumar Nathan** and Parthiban Kathirvel (2022). Role of Calcites from Microbial Induced Biomineralization for Heavy Metal Bioremediation of Industrial Effluents In: Bioremediation of Industrial Effluents", Springer [Accepted]
- Rithesh Raj D, **Vinod Kumar Nathan** (2022). Carbon nanomaterials for sensing applications. In: Carbon Nanomaterials for Engineering Applications" CRC Press. [Accepted]
- Sharrel Rebello, **Vinod Kumar Nathan**, Embalil Mathachan Aneesh, Sindhu Raveendran, Binod Parameswaran, Ashok Pandey (2021). Nanoparticles in remediation: Strategies and new challenges. In book: Nanomaterials applications in biofuels and bioenergy production, Publisher: Elsevier DOI: [10.1016/B978-0-12-822401-4.00029-5](https://doi.org/10.1016/B978-0-12-822401-4.00029-5)
- Nathan Vinod Kumar** and Mary Esther Rani (2019). Microbial enzymes in paper and pulp industries for bioleaching application. eBook: Research Trends of Microbiology; MedDocs Publishers LLC. 1-10.
- Nathan Vinod Kumar**, Subha Rajam K, Mary Esther Rani, Rathinasamy Gunaseeli and Narayanan Dhiraviam Kannan (2018). Surface Culturing of *Chromobacterium violaceum* MTCC 2656 for Violacein Production and Prospecting its Bio-Activities. In: Current Research In: Microbiology. Open Access eBooks [ISBN: 978-93-87500-01-3].



- Nathan Vinod Kumar**, Subha Rajam K, Mary Esther Rani, Rathinasamy Gunaseeli and Narayanan Dhiraviam Kannan (2017). Prospecting Multiple Enzyme Systems of Mangrove Fungi for Dye Decolourization Potential. In: Bioremediation and sustainable environmental technologies for cleaner environment, Springer International Publishing., pp 319-327; [ISBN: 978-3-319-48438-9]
- Nathan Vinod Kumar**, Mary Esther Rani, Rathinasamy Gunaseeli and Narayanan Dhiraviam Kannan. Utilization of medicinal oil effluent for lipase production by *Penicillium citrinum* MKF3 (2016) Integrated Waste Management in India: Status and future prospects for environmental sustainability. Springer International Publishing., Pages 125-132 [ISBN: 978-3-319-27228-3].
- Mary Esther Rani, **N.Vinod Kumar**, R. Gunaseeli and N.D. Kannan (2016). Comparative Biochemistry and Kinetics of Microbial Cellulase. In: New and Future Developments in Microbial Biotechnology and Bioengineering-Cellulase. Elsevier Netherlands. pp:19-29 [ISBN: 978-0-444-63507-5].
- N.Vinod Kumar** (2015). *In silico* modelling and structural analysis of some plant stress proteins based on computational approach. In: Advances in Plant Sciences. EBH Publication. In: Advances in Plant Research. Bhuyan S.I and Sony Kumari (Ed). pp 1-30. [ISBN: 978-93-83252-61-9]
- Rishad K.S, **N.Vinod Kumar** and Joyal Jacob (2013). Molecular identification and bioprospecting of fungi associated with Valanthakad mangroves, Kerala, India. In: Environmental Microbiology: Techniques and Applications. Ed.(1) Jisha M.S. Bulbul Scientific Services Publication, India. pp 58-72. [ISBN 978-81-923850-7-5]

## CONFERENCE PROCEEDINGS

- N.Vinod Kumar**, K.S. Rishad, Sharell Rebello. 2016. Prospecting indigenous rhizobacterial strains for indole acetic acid production and its plant growth promoting efficacy. Proceedings of National Seminar on Plant Science Technology for Sustainable World. Jisha M.S. (Ed.), Mahatma Gandhi University, Kottayam, Kerala, India. [ISBN:978-81-930000-8-3].
- Nathan Vinod Kumar**, Mary Esther Rani, Rathinasamy Gunaseeli and Narayanan Dhiraviam Kannan. 2014. Potential of Xylanase from *Trichoderma viride* VKF3 in Waste Paper Pulp Characteristics Modification. Proceeding of International conference on Chemical, Environmental and Biological Sciences (CEBS 2014), Kuala Lumpur (Malaysia). 54-60.
- Nathan Vinod Kumar**, Mary Esther Rani, Rathinasamy Gunaseeli and Narayanan Dhiraviam Kannan. 2014. Rapid *in vitro* propagation of *Oldenlandia umbellata* L. –A dye yielding plant. Proceedings of National Symposium. Emerging trends in Biotechnology 2014. Sarita Bhat and Padma Nambisan (Ed), Cochin University of Science and Technology, Cochin. 131-139. [ISBN: 978-93-80095-47-9]

## MEMBERSHIP AND PROFESSIONAL CONTRIBUTIONS

- Microbiology Society (UK)- [Membership No: C028880]
- Association of Polar Early Career Scientists (APECS)-Individual Council Member (2020-21)

- Euroscience- Associate member
- The World *Climate* Research Programme (WCRP), Safe Landing Climates Lighthouse Activity Sea Level Rise theme working group- affiliate member
- Permafrost Young Researchers Network
- Young Earth System Scientist (YESS) Network
- Society for Mycology in SAARC region
- CO<sub>2</sub> India Network
- Young Academy of India
- Member of Scientific Board of Biological, Pharmaceutical & Medical Sciences of International Institute of Chemical, Biological and Environmental Engineering.
- Served as Reviewer in Scientific Journals: Yeast and Fungal Research (Academic Journals); African Journal of Microbiology Research; Walailak Journal of Science and Technology; Waste management (Elsevier), Indian Journal of Experimental Biology, Bioresource. Punjab University Journal of Zoology, Journal of microbiology, biotechnology and food sciences, Journal of Biomolecular Structure & Dynamics, International Journal of Pharma and Bioscience ; Aquatic Microbiology ; Periodica Polytechnica Chemical Engineering, Journal of Biocatalyst and Biotransformation ; Jurnal Kimia Sains dan Aplikasi, Journal Biomass Conversion and Biorefinery, The Journal of Animal and Plant Sciences, The Open Agriculture Journal (Bentham Sciences), International Journal of Environmental Science and Technology, Anais da Academia Brasileira de Ciencias, Natural Product Research, Microbial Cell Factory

### **Other Activities**

1. Volunteering as a Presentation Judge at the 6th Annual APECS Online Conference on May 20, 2020
2. Served as a judge at the 6<sup>th</sup> Southeast Asian Agricultural Engineering Student Chapter Annual regional convention 2020 (ARC), Malang, Indonesia held between 23<sup>rd</sup> July to 25<sup>th</sup> August 2020.
3. Chaired the oral presentation session (Student category) in the International Web Conference 'BIOINVENTIYON'20- Advances in Biosciences' organized by National Institute of Plant Science Technology (NIPST) and School of Biosciences, Mahatma Gandhi University in association with Research Directorate and Internal Quality Assurance Cell (IQAC), SIAS on 5th and 6th November
4. Served as a Jury for the 5<sup>th</sup> International Conference on Agricultural and Food Engineering Joint Conference 13th International FRUTIC Symposium, 3rd to 4th February 2021, organized by Department of Biological and Agricultural Engineering and the Department of Process and Food Engineering, Universiti Putra Malaysia.

### **Countries Visited**

<b>Countries</b>	<b>Date</b>	<b>Purpose</b>
Malaysia	September 17-18, 2014	Present paper at CEBS 2014 at Kuala Lumpur (Malaysia) with International Travel support from DST, Government of India
Singapore	September 19, 2014	Visited Laboratory of Dr. Prakash Kumar at National University of Singapore
Thailand	March 10-12, 2017	Deliver keynote lecture at ICEMEE 2017 at Bangkok, Thailand



Sri Lanka	March 6-9, 2018	Presented paper and chaired a session at The 3 <sup>rd</sup> International Conference on Bioscience and Biotechnology to be held from 08 <sup>th</sup> - 09 <sup>th</sup> March 2018
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### **Academic Project Guidance**

B.Tech. (undergraduate –Bioinformatics)

1. Sinduja and Lakshmi Priya. *In silico* and *in vitro* study for inhibiting fungal enzymes mediated wood degradation (2019-2020)
2. Sai Prashath N B and Varsha V. Identifying common pathways and checkpoints in Neurodegenerative Diseases by enrichment analysis (2019-2020)
3. Ayshwarya N, Ms.Om Aruna devi and Ms.Priya Dharshini. Prospecting urease inhibitors from macro-algae using computational approach (2020-2021)

### **Other Academic Duties Rendered**

1. Chief examiner for Paper Valuation of I<sup>st</sup> Sem B.Voc. Applied Microbiology & Forensic Science Degree Examinations May 2019 of St. Joseph College, Irijalakuda, (Affiliated to Calicut University)
2. Semester Examination Question paper setting for B.Tech. Bioinformatics programme at SASTRA Deemed to be University
3. Internal Project Review committee member for B.Tech. Biotechnology academic projects at SASTRA Deemed to be University
4. PG Board of studies member- Biotechnology Department, Muthayammal College of Arts and Science, Namakkal, Tamil Nadu.
5. Reviewer of The International Arctic Science Committee (IASC) Fellowship 2021- APECS
6. Reviewer of Adrian Dahood-Fritz Memorial Fund
7. Contributed in CO<sub>2</sub> emissions in Arctic science- Pocket Guide
8. Reviewer of APECS Mentorship Award
9. Reviewer of BIRAC SITARE Gandhian Young Technological Innovation (GYTI) Awards 2020
10. Reviewer of BIRAC SITARE Gandhian Young Technological Innovation (GYTI) Awards 2020

### **OTHER CONTRIBUTIONS**

- **Genbank Sequence Submissions -20**
- **Conference Communications:** National: 16; International: 10
- **Workshops and training attended -10**

*Vinod Kumar Nathan*