

## Curriculum Vitae

Name : Dr. E. Punnadath Preetham  
Date of birth : 11<sup>th</sup> may, 1974  
Marital Status : Married, 2 children  
Work Address : Associate Professor (Biochemistry)  
Cochin University of Science and Technology,  
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### Educational Background:

Degree	Year	Subject	University
PhD - (Dr.rer.nat)	11/2007 –11/2011	Biochemistry, Immunology	<b>Institute for Immunology, Regensburg University, Germany</b>
Masters (M.Sc.)	06/1996 –07/1998	Biochemistry	Sri Sankara Science College, affiliated to University of Madras, Tamilnadu, India
Bachelors (B.Sc.)	06/1993 –07/1996	Biochemistry	Sri Sankara Science College, affiliated to University of Madras, Tamilnadu, India

### Current Employment:

12/2021 – to date: Associate Professor(Biochemistry), Cochin University of Science and Technology, Kochi - 682 506, Kerala, India.

### Professional History:

05/2015 – to date: Assistant Professor (Biochemistry), Kerala University of Fisheries and Ocean Studies, Kochi - 682 506, Kerala, India.  
08/2012 – 05/2015: Assistant professor (Guest faculty) at KNC College, affiliated to University of Madras, Thellar, Tamilnadu.  
12/2011 – 07/2012: Postdoc “*Mutational tuning of Lectin*” Institute for Molecular Immunology, Germany  
11/2008 – 11/2011: PhD “*Biochemical characterization of mouse ficolin-B*” under the guidance of Prof. Daniela N. Mannel at the Institute for Immunology, Regensburg University, Germany.  
11/2007 – 10/2008: Research Assistant “*Brain vasopressin is an important regulator of maternal behavior in mice*” in the Molecular Neurobiology Group of Prof. Dr. Inga Neumann, Regensburg, Germany.  
04/2004 – 11/2007: Tutor at Technolab, Institute for Research and Technology, Tamil Nadu.  
09/2000 – 04/2004: Lecturer at Adhiparasakthi College of Science, affiliated to University of Madras, India  
09/1998 – 08/2000: Lecturer at King Nandivarman College of Science, affiliated to University of Madras, Tamilnadu, India.

## Teaching

Biochemistry (20-315-0103) (2021 – present CUSAT)  
Biochemistry and Instrumentation (20-315-0105) (2021 – present CUSAT)  
Applied Fish Biochemistry (FPT 504: Graduate, 2005 - 2021, KUFOS)  
Basic Principles in Biochemistry (AQC 112: Undergraduate, 2005 - 2021, KUFOS)  
Biochemical techniques and fish Analysis (FPT 601: Graduate, 2005 - 2021, KUFOS)  
Fish Immunology (AAH 505: Graduate, 2005 - 2021, KUFOS)  
Intermediary metabolism (MCN2B: Graduate, 1998-2007, University of Madras)  
Biochemical Techniques (MCN1B: Graduate, 1998-2007, University of Madras)

**Total number of Publications: 60**

**Technology transfer = 02**

**Patents filed- 02**

## List of Peer Reviewed Publications: (Last 5 years)

1. Subramaniyan SB, Ameen F, Singaravelu DK, **Elumalai P**, Bhat SA, Veerappan A. Phytolectin conjugated positively charged fatty acid amide impairs virulence factors and inhibits cross-kingdom biofilm formation of *Candida albicans* and uropathogenic *Escherichia coli*. *J Appl Microbiol*. 2022 Mar 19. (Impact Factor – 3.772).
2. Sibiya A, Jeyavani J, Santhanam P, **Preetham E**, Freitas R, Vaseeharan B. Comparative evaluation on the toxic effect of silver (Ag) and zinc oxide (ZnO) nanoparticles on different trophic levels in aquatic ecosystems: A review. *J Appl Toxicol*. 2022 Feb 24. (Impact Factor – 3.446).
3. Jeyaraj Jeyavani · Ashokkumar Sibiya · Jeyachandran Sivakamavalli · Mani Divya · **Elumalai Preetham** Baskaralingam Vaseeharan · Caterina Faggio. Phytotherapy and combined nanoformulations as a promising disease management in aquaculture: a review. *Aquacult Int* 30, 1071–1086 (2022). (Impact Factor – 2.235).
4. Gayathri Ravichandran · Purabi Sarkar1, · Tse-Wei Chen · Khalid S. Almaary · Mohamed S. Elshikh **Preetham Elumalai** · Harikrishnan Ramasamy · Kanchana Karuppiah · Jesu Arockiaraj. Antibacterial Effect of a Short Peptide, VV18, from Calcineurin-A of *Macrobrachium rosenbergii*: Antibiofilm Agent Against *Escherichia coli* and a Bacterial Membrane Disruptor in *Pseudomonas aeruginosa*. *Int J Pept Res Ther* 28, 22 (2022). (Impact Factor – 1.931).
5. Manikandan Velayutham, Ajay Guru, Mariadhas Valan Arasu, Naif Abdullah Al-Dhabi, Ki Choon Choi, **Preetham Elumalai**, Ramasamy Harikrishnan, Aziz Arshad, Jesu Arockiaraj. GR15 peptide of S-adenosylmethionine synthase (SAME) from *Arthrospira platensis* demonstrated antioxidant mechanism against H<sub>2</sub>O<sub>2</sub> induced oxidative stress in in-vitro MDCK cells and in-vivo zebrafish larvae model - *Journal of Biotechnology* (Impact Factor - 3.307).
6. Pandiyan, P., Soni, A., & **Elumalai, P.** (2022). Inhibition of Melanosis and Quality Changes on Indian White Prawn Treated with Lemon and Pomelo Peel Extracts Conjugated with Copper Sulfide Nanoparticles during Chilled Storage. *Journal of Aquatic Food Product Technology*, 1-11.
7. Soni, A., Pandiyan, P., & **Elumalai, P.** (2022). Inhibitory effect of curry (*Murrayakoenigii*) and moringa (*Moringa oleifera*) leaves extracts conjugation with copper sulfide nanoparticles on quality changes and melanosis of Pacific white shrimp (*Litopenaeus vannamei*) during chilled storage. Submitted to the *Journal of Food Processing and Preservation*.
8. Pandiyan, P., Soni, A., **Elumalai, P.** (2021). Effects of Lemon and Pomelo peel extracts on quality and melanosis of Indian white prawn during chilled storage. *Journal of Food Processing and Preservation*, 00, e15952. <https://doi.org/10.1111/jfpp.15952>. (Impact Factor - 2.19).
9. Ajeet Soni, Praveen kumar Pandiyan, and **Preetham Elumalai**. Effective Treatment of Curry (*Murrayakoenigii*) and Moringa (*Moringa Oleifera*) Leaves Extracts on Melanosis of Pacific White Shrimp (*Litopenaeus Vannamei*) during Chilled Storage. *Journal of Aquatic Food Product Technology*. 30(10), 1304-1314. (Impact Factor - 1.767).
10. Manikandan Velayutham, Ajay Guru, Mariadhas Valan Arasu, Naif Abdullah Al-Dhabi, Ki Choon Choi, **Preetham Elumalai**, Ramasamy Harikrishnan, Aziz Arshad, Jesu Arockiaraj. GR15 peptide of S-adenosylmethionine synthase (SAME) from *Arthrospira platensis* demonstrated antioxidant mechanism against H<sub>2</sub>O<sub>2</sub> induced oxidative stress in in-vitro MDCK cells and in-vivo zebrafish larvae model - *Journal of Biotechnology* (Impact Factor - 3.307).
11. Sirikorn Kitiyodom, Teerapong Yata, Kim D. Thompson, Janina Costa, **Preetham Elumalai**, Takayuki Katagiri, Sasithon Temisak, Katawut Namdee, Channarong Rodkhum, Nopadon Pirarat "Immersion Vaccination by a Biomimetic-Mucoadhesive Nanovaccine Induces Humoral Immune Response of Red Tilapia (*Oreochromis sp.*) against *Flavobacterium columnare* Challenge" *Vaccines* 2021, 9, 1253. (Impact Factor - 4.422).

12. Chiranjiv Pradhan, Uzma Soharwardi, Namitha Dileep, Nikhila Peter, Rachel Fernandez, Sweta Das, Amitha Kurian, **Preetham Elumalai**. Effect of dietary L-carnitine /  $\alpha$ -Ketoglutarate ratio on growth performance, digestive enzymes, hematological characteristics, antioxidant capacity and innate immunity in *Oreochromis niloticus* – *Fish PhysiolBiochem*(2021). <https://doi.org/10.1007/s10695-021-01020-w>. (Impact Factor - 2.794).
13. PurabiSarkara, V. Stefi Raju, GivaKuppusamy, M. Aminur Rahman, **Preetham Elumalai**, Ramasamy Harikrishnan, Aziz Arshad, Jesu Arockiaraj. Pathogenic fungi affecting fishes through their virulence molecules. *Aquaculture*. <https://doi.org/10.1016/j.aquaculture.2021.737553>. (Impact Factor - 4.242).
14. **Preetham Elumalai**, Amitha Kurian, Sreeja Lakshmi, Mohamed SaiyadMusthafa, Einar Ringo, Caterina Faggio. Effect of *Leucas aspera* Against *Aeromonas hydrophila* in Nile Tilapia (*Oreochromis niloticus*): Immunity and Gene Expression Evaluation" *Turkish Journal of Fisheries and Aquatic Sciences*, 21, 147-158. Vol 22 (the year 2022). (Impact Factor –1.264).
15. Stefi V. Raju, Purabi Sarkar, Mukesh Pasupuleti, Arshad Mehmood Abbasi, Dunia A. Al-Farraj, Mohamed S. Elshikh, **Preetham Elumalai**, Ramasamy Harikrishnan, M. Aminur Rahman, Jesu Arockiaraj. Antibacterial Activity of RM12, a Tachykinin Derivative, Against *Pseudomonas aeruginosa*. *International Journal of Peptide Research and Therapeutics*. <https://doi.org/10.1007/s10989-021-10274-0>. (Impact Factor - 1.931).
16. Muhammed Bishir, Muhammed Aslam, Abid Bhat, Bipul Ray, **Preetham Elumalai**, Jyothi Priya R, LuayRashan, Jian Yang, Sulie L. Chang, Musthafa Mohamed Essa, Meena Kishore Sakharkar, SaravanaBabu Chidambaram. Acetylsalicylic acid improves cognitive performance in sleep deprived adult Zebrafish (*Danio rerio*) model. *Frontiers in Bioscience-Landmark*. 2021. 26(6); 114-124. (Impact Factor –4.009).
17. Lakshmi S, Varija Raghu S, **Elumalai P**, Sivan S. Alkoxy glycerol enhanced activity of Oxyresveratrol in Alzheimer's disease by rescuing Tau protein. *NeurosciLett*. (2021) 759:135981. doi: 10.1016/j.neulet.2021.135981. (Impact Factor – 3.046).
18. Abdul Salam Rubeena, Sreeja Lakshmi, Digi George, Siva BalaSubramaniyan, AnbazhaganVeerappan, **Elumalai Preetham**. Shrimp lectin (Md-Lec) conjugated copper sulfide nanoparticles enhance the elimination of aquatic pathogens in infected Nile Tilapia (*Oreochromis niloticus*). *RSC Adv.*, 2020, 10, 44216
19. **Preetham Elumalai**, Abdul Salam Rubeena, Sreeja Lakshmi, Veerappan Anbazhagan, JesuArockiaraj, Mani Divya, Sekar Vijayakumar, BaskaralingamVaseeharan. Shrimplectin (Md-Lec) conjugated copper sulfide nanoparticles enhances immune response andgene expression in *Etroplussuratensis* infected with *Aeromonas hydrophila*. *Aquaculture International*. (Impact factor: 2.235).
20. Kurian, A., **Elumalai, P**. Study on the impacts of chemical and green synthesized (*Leucas aspera* and oxy-cyclodextrin complex) dietary zinc oxide nanoparticles in Nile tilapia (*Oreochromis niloticus*). *Environ SciPollut Res* (2021). <https://doi.org/10.1007/s11356-020-11992-6>. (Impact Factor - 4.223). (Corresponding Author)
21. Kurian, A., Lakshmi, S., Fawole, F.J., Faggio, C., **Elumalai, P**. (2021). Combined Effects of *Leucas aspera*, Oxy-Cyclodextrin and Bentonite on the Growth, Serum Biochemistry, and the Expression of Immune-Related Gene in Nile Tilapia (*Oreochromis niloticus*). *Turkish Journal of Fisheries and Aquatic Sciences*, 21, 147-158. [http://doi.org/10.4194/1303-2712-v21\\_3\\_05](http://doi.org/10.4194/1303-2712-v21_3_05). (Impact Factor - 1.264).
22. RatreWongpanya, PrawitOangkhan; PitiAmparyup; AnchaleeTassanakajon; **Elumalai Preetham**. Characterization and functional analysis of fibrinogen-related protein (FreP) in the black tiger shrimp, *Penaeus monodon*. Volume 109, February 2021, Pages 87-96. *Fish and Shellfish Immunology*. (Impact Factor –4.581).
23. Purabi Sarkar, Praveen Kumar Issac, Stefi V. Raju, **Preetham Elumalai**, Aziz Arshad. Pathogenic bacterial virulence factors and their host immune response in cultivable fishes. 03 January 2021, *Aquaculture Research*, <https://doi.org/10.1111/are.15089>. (Impact Factor - 2.082).
24. Praveen Kumar Issac, Christy Lite, Ajay Guru, ManikandanVelayutham, Giva Kuppusamy, N. T. Saraswathi, Ebtesam M. Al Olayan, Abeer S. Aloufi, Mohamed A. Elokaby, **Preetham Elumalai**, Aziz Arshad, JesuArockiaraj. Tryptophan-tagged peptide from serine threonine-protein kinase of *Channa striatus* improves antioxidant defence in L6 myotubes and attenuates caspase 3–dependent apoptotic response in zebrafish larvae. *Fish PhysiolBiochem* (2021). <https://doi.org/10.1007/s10695-020-00912-7>. (Impact Factor - 2.794).
25. Aimen Firdous, Einar Ringo, **Preetham Elumalai**. Effects of green tea and amla extracts on quality and melanosis of Indian white prawn (*Fenneropenaeus indicus*, Milne Edwards, 1837) during chilled storage, *Aquaculture and Fisheries*. sep., 2020. <https://doi.org/10.1016/j.aaf.2020.09.003>. (Impact Factor - 3.25).
26. **Elumalai P**, Kurian A, Lakshmi S, Faggio C, Esteban MA, Ringo E. Herbal Immunomodulators in Aquaculture. *Rev Fish SciAquac*. 2020. DOI:10.1080/23308249.2020.1779651.(Impact factor: 5.893) (Corresponding Author)
27. Lakshmi, S., Essa, M.M., Hartman, R.E. Guillemain GJ, Sureshkumar S, **Elumalai P**. Exosomes in Alzheimer's Disease:

- Potential Role as Pathological Mediators, Biomarkers and Therapeutic Targets. *Neurochem Res* (2020). DOI: 10.1007/s11064-020-03111-1. (Impact Factor – 3.996).
28. **Elumalai Preetham**, Sreeja Lakshmi, Ratre Wongpanya, Baskaralingam Vaseeharan, Jesu Arockiaraj, Rolf Erik Olsen. Antibiofilm and immunological properties of lectin purified from shrimp *Penaeus semisulcatus*. *Fish and Shellfish Immunol.* 2020; 106: 776-782. (Corresponding Author) (Impact Factor –4.581).
  29. Praveen Kumar I, Purabi Sarkar, Stefi Raju V, Manikandan V, Ajay Guru, Aziz Arshad, **Preetham Elumalai**, Jesu Arockiaraj (2020): Pathogenicity and Pathobiology of *Epizootic Ulcerative Syndrome* (EUS) Causing Fungus *Aphanomyces invadans* and Its Immunological Response in Fish, *Reviews in Fisheries Science & Aquaculture* 1. DOI: 10.1080/23308249.2020.1753167, (Impact factor: 5.893) (Co - Author)
  30. Mani Divya, Marimuthu Govindarajan, Sivashanmugam Karthikeyan, **Elumalai Preetham**, Naiyf S, Shine Kadaikunnan, Jamal M.Khaled, Taghreed N. Almanaa, Baskaralingam Vaseeharan. Antibiofilm and anticancer potential of  $\beta$ -glucan-binding protein-encrusted zinc oxide nanoparticles. *Microbial Pathogenesis.* 2020 Jan 24;103992 (Impact factor: 3.738) (Co Author)
  31. Kurian A, Van Doan H, Tapingkae W, **Elumalai P\***. Modulation of mucosal parameters, innate immunity, growth and resistance against *Streptococcus agalactiae* by enrichment of Nile tilapia (*Oreochromis niloticus*) diet with *Leucas aspera*. *Fish Shellfish Immunol.* 2020 Feb;97:165-172. (Impact Factor –4.581)(Corresponding Author)
  32. **Preetham E\***, Rubeena AS, Vaseeharan B, Chaurasia MK, Arockiaraj J, Olsen RE. Anti-biofilm properties and immunological response of an immune molecule lectin isolated from shrimp *Metapenaeus monoceros*. *Fish Shellfish Immunol.* 2019 Sep 15. (Impact factor: 4.581) (Corresponding Author)
  33. Rubeena AS, **Preetham E\***. Antimicrobial properties and phenoloxidase activation of the lectin isolated from kadal shrimp (*Metapenaeus dobsoni*). *Fish Shellfish Immunol.* 2019 Jul; 90:118-125. (Impact factor: 4.581). (Corresponding Author)
  34. **Elumalai Preetham\***, Prakash, P, Musthafa, M. S, Faggio, C. (2019). Effect of alkoxy glycerol on growth performance, immune response and disease resistance in Nile Tilapia (*Oreochromis niloticus*). *Research in Veterinary Science.* 2019 Apr; 123:298-304. (Impact factor: 2.534).
  35. Abdul Salam Rubeena, Mani Divya, Baskaralingam Vaseeharan, Sivashanmugam Karthikeyan, Einar Ringø, **Elumalai Preetham\***. Antimicrobial and biochemical characterization of a C-type lectin isolated from pearl spot (*Etroplus suratensis*). *Fish Shellfish Immunol.* 87 (2019) 202-211. (Corresponding Author) (Impact factor: 4.581).
  36. **Preetham Elumalai\***, Abdul Salam Rubeena, Jesu Arockiaraj, Ratre Wongpanya, Matteo Cammarata, Einar Ringø, Baskaralingam Vaseeharan (2019) The Role of Lectins in Finfish: A Review, *Reviews in Fisheries Science & Aquaculture*, 27:2, 152-169, Review. (Corresponding Author) (Impact factor: 5.893).
  37. Rathina Prabha, Anbazhagan Sannasi M, Venkatesh Kumaresan, **Preetham Elumalai** and Jesu Arockiaraj. Intensifying the Anticancer Potential of Cationic Peptide Derived from Serine Threonine Protein Kinase of Teleost by Tagging with Oligo Tryptophan. *International Journal of Peptide Research and Therapeutics*, 2019, 1-9. (Impact factor: 1.931).
  38. Doan HV, Hoseinifar SH, **Elumalai P**, Tongsir S, Chitmanat C, Jaturasitha S, Doolgindachbaporn S. Effects of orange peels derived pectin on innate immune response, disease resistance and growth performance of Nile tilapia (*Oreochromis niloticus*) cultured under indoor biofloc system. *Fish Shellfish Immunol.* 2018 Sep;80:56-62. (Impact factor: 4.581).
  39. Lakshmi S, Prakash P, Essa MM, Qoronfleh WM, Akbar M, Song BJ, Kumar S, **Elumalai P\***. Marine derived bioactive compounds for treatment of Alzheimer's disease. *Front Biosci (Elite Ed).* 2018 Jun 1;10:537-548. Review. (Impact factor: 2.25).
  40. Sreeja Lakshmi and **Preetham Elumalai\*** (2018) Alzheimer's disease: Wrestles for Newtrack Counteragents. *Int. J Alzheimers & Neuro Disorder* 1: 001. (Impact Factor - 2.19).
  41. Mahalingam anjugam, Baskaralingam Vaseeharan, Arokiadhaswaryaa, Narayanan Gobi, Mani Divya, Merlin P. Thangaraj, **Preetham Elumalai**. Effect of  $\beta$ -1, 3 glucan binding protein based zinc oxide nanoparticles supplemented diet on immune response and disease resistance in *Oreochromis mossambicus* against *Aeromonas hydrophila*. *Fish & Shellfish Immunology* Volume 76, May 2018, Pages 247-259. (Impact factor: 4.581).
  42. Musthafa MS, Asgari SM, **Elumalai P**, Hoseinifar SH, Doan HV. Protective efficacy of Shilajit enriched diet on growth performance and immune resistance against *Aeromonas hydrophila* in *Oreochromis mossambicus*. *Fish Shellfish Immunol.* 2018 Nov; 82:147-152. (Impact Factor –4.581).
  43. Saiyad Musthafa M, Asgari SM, Kurian A, **Elumalai P**, Jawahar Ali AR, Paray BA, Al-Sadoon MK. Protective efficacy of *Mucuna pruriens* (L.) seed meal enriched diet on growth performance, innate immunity, and disease resistance in *Oreochromis mossambicus* against *Aeromonas hydrophila*. *Fish Shellfish Immunol.* 2018 Apr; 75:374-380. (Impact Factor –4.581).

44. Thaisa Lucas Sandri, SelormeAdukpo, Dao Phuong Giang, Christian N Nguetse, **Peetham Elumalai**, KumarasamyThangaraj, Iara Jose de Messias Reason, Peter G Kreamsner, Thirumalaisamy P Velavan. 2017. Geographical Distribution of Complement Receptor Type 1 Variants 2 and their Associated Disease Risk. PLoS One. 2017 May 17; 12(5). (Impact factor: 3.24).
45. Parthipan P, **Peetham E**, Machuca LL, Rahman PKSM, Murugan K and Rajasekar A (2017) Biosurfactant and Degradative Enzymes Mediated Crude Oil Degradation by Bacterium *Bacillus subtilis* A1. Front. Microbiol. 8:193. (Impact factor: 5.640).

#### Patent: 2

1. Patent Registered by Preetham Elumalai, Amitha Kurian, **Sreeja Lakshmi**, Kerala University of Fisheries and ocean Studies, Kochi, Kerala for A FISH FEED SUPPLEMENT COMPOSITION AND ITS METHOD OF PREPARATION (Application no 202011009509, dated 28.12.2020)
2. Oxyresveratrol  $\beta$ -cyclodextrin and Alkyl glycerol developed as novel targets for Alzheimers diseases, AashaBiochem, Kerala (No.R 12013/04/2017), Kerala, India. Developer/ Commercialized

#### Technologic Transfer: 1

Guidelines for Trail set-up for *LecusAspera* herbal treatment against *Streptococcusagalactiae* for tilapia. Triton, Aquaculture Africa Ltd. Ghana West Africa, Developed/Commercialized

#### Technical Papers, Books and Book Chapters:

##### 1. National Publishers

1. Book - Gopakumar, **Peetham Elumalai**. A Laboratory Manual for Biochemical Analysis, First Edition 2019, ISBN: 978-93-88668-13-2, Narendra publishers, New Delhi
2. Book Mannuel - **Peetham Elumalai**, Sreeja Lakshmi (Eds 2019) Workshop Mannuel on Molecular fish Immunology methods, DST, KSCSTE sponsored National Workshop on Molecular Immunology at Kerala University of Fisheries and Ocean Studies

##### 2. International Publishers (Springer Books)

1. Editors: **Dr. Peetham Elumalai**, Dr. Kim Thomson, Dr. Sreeja Lakshmi. "Fish Vaccines: Health management for sustainable Aquaculture". CRC Press, 2022 in preparation.
2. Editors: **Dr. Peetham Elumalai**, Prof. Mehdi Soltani, Dr. Sreeja Lakshmi, Prof. Caterina. "Immunomodulators and Fish health" CRC Press, 2022 in preparation.
3. Editors: **Peetham Elumalai** and Sreeja Lakshmi (Eds.). Functional Foods and Therapeutic Strategies for Neurodegenerative disorders. Springer, 2022. ISBN 978-981-16-6702-2
4. Editors: **Peetham Elumalai** and Sreeja Lakshmi (Eds.). Lectin Innate Immune defense and Therapeutics. Springer, 2022 ISBN 978-981-16-7461-7
5. Editors: **Peetham Elumalai**, Bhaskaralingamvaseeharan and Sreeja Lakshmi (Eds.). Aquatic Lectins Immune defense, Biological recognition and Molecular Advancements and Therapeutics. Springer, 2022. ISBN 978-981-19-0431-8

### 3. Chapter in Edited Book

1. Chapter - **Preetham Elumalai**, AthiraAmbili Sasikumar, Sreeja Lakshmi, Department of Aquatic Food Products, Kerala University of Fisheries and Ocean Studies, Cochin, Kerala. “Role of Enzymes in Food processing” in “Food Processing and Preservation Techniques” K.Gopakumar, Maya Raman and BalagopalGopakumar (Eds.) Narendra Publishing House, 2021, pp.531-545.
2. Chapter - Sreeja Lakshmi and **Preetham Elumalai**, University of Regensburg, Germany. “Dietary Polyphenols and Brain health” in "*Food and Brain health*", M. Essa, M. A. Memon, and M.Akbar. (Eds.). Nova Science Publishers. Inc, New York 2014, pp. 123-132.
3. Chapter - **Preetham Elumalai** and Sreeja Lakshmi, Kerala University of Fisheries and Ocean Studies, Kerala,India. “Role of Quercetin benefits in neurodegeneration”in “*The Benefits of Natural Products for Neurodegenerative Diseases*”. M.Essa, M.Akbar and G. Guillemin (Eds.). Springer, USA. 2015.
4. Chapter - LiyaAnto and **Preetham Elumalai**. Microalgae — “A bio prospection for natural bio products” in “Advances in Marine natural Products and Nutraceutical Research” (Eds.). Suseela Mathew, R. Anandan, K.K. Asha, N.S. Chatterjee, C.S. Tejpal, R.G.K. Lekshmi and A.R.S. Menon, ICAR, 2016. 235-251.
5. Chapter - Sreeja Lakshmi, Amitha Kurian, Parvathy Prakash, Aimen Firdous, **Preetham Elumalai**, Kerala University of Fisheries and Ocean Studies, Cochin, Kerala. “The Beneficial Effects of Natural Dietary Products on Neuroprotection” in *Food for Huntington’s disease*. M. Essa, M. A. Memon, and M.Akbar (Eds.). Nova Science Publishers. Inc, New York, USA, 2018. ISBN:978-1-53613-854-2.
6. Chapter - Sreeja Lakshmi and **Preetham Elumalai**, Department of Biochemistry, Kerala University of Fisheries and Ocean Studies, Cochin, Kerala. “Aging- Grounds and Determents” in “Aging: Exploring a Complex Phenomenon”, Shamim I. Ahmed (Ed.). CRC Press, Taylor and Francis Group, 2017, pp. 489-498. ISBN: 9781138196971

**Total number of Scientific Conferences/Symposiums - > 70**

**Workshops - 25**

**Invited Talks – 20**

#### **Scientific Conferences, Workshops and Symposiums Presentations: (Recent ones)**

**Keynote speaker** – “*Recent trends in Marine Biotechnology*” held at AQUINAS College, Edakochi, on 11<sup>th</sup> feb, 2020

**Workshop** - four-day training programme (Shrimp Class) for seven overseas delegates on various aspects of shrimp “*Biochemical and molecular tools in shrimp industry*” held at KUFOS on the 6<sup>th</sup> dec., 2019 sponsored by Aker Biomarine

**Poster:** Anish Rubeena, **Preetham Elumalai**. Presentation on “*C-type lectin and its mechanisms of resistance to parasitic diseases in marine Finfish*” at the International AQUABE conference “Towards a sustainable Blue Economy”, organised by KUFOS, India on the 28<sup>th</sup> to 30<sup>th</sup> Nov., 2019.

**Workshop:** DST-SERB sponsored & KSCSTE co-sponsored workshop on “*Recent Advancement in Molecular Immunology Research for Sustainable Aquaculture*” to be held from 25<sup>th</sup> to 27<sup>th</sup> september, 2019

**Invited Speaker:** Presentation on “*Effect of modified Clinoptilolite (Minazal plus) feed additive on the immune response of Nile Tilapia*” at the 3<sup>rd</sup> International Congress On Fisheries And Aquatic Research (2019) held at Istinye University conference Halls in istanbul, Isparta, Turkey between 28-30 August 2019.

**Oral presentation:** Rubeena K A and **Preetham Elumalai**. Presented a paper on ‘Isolation, purification and functional properties of lectin from the fish Green chromide’ at BRAQCON 2019, World Brackish water Aquaculture Conference 2019, organised by Society of Coastal Aquaculture and Fisheries (SCAFi) and ICAR-CIBA, held at Chennai during 22<sup>nd</sup> to 25<sup>th</sup> january, 2019.

**Workshop:** Participated in the International Workshop on “*Developing and Optimizing Scientific Writing*” held at Ludwig Maximillian Universitat (LMU), Munich, Germany on the 24<sup>th</sup> -25<sup>th</sup> june, 2018.

**Abstract submitted:** **Preetham Elumalai** “*C-type lectin and its mechanisms of resistance to parasitic diseases in marine finfish and its role in antimicrobial defense*” at ICOPA 2018, 14th International congress of parastiology 19 - 24<sup>th</sup> August 2018, Exco, Daegu, Korea.

**Graduate Student Mentoring:**

Name	Role	Degree	Major	Funding
Dr.Sreeja	Mentor for PDF	PhD	Biochemistry	ICMR-DHR, Delhi
Dr.Vineetha	Mentor for PDF	PhD	Biochemistry	KSCSTE, Kerala
Dr.Abilash	Mentor for PDF	PhD	Lifesciences	KSCSTE, Kerala
Veena V	Thesis Mentor	PhD Since 2018	Biotchnology	KSCSTE
Prasitha K	Thesis Mentor	PhD Since 2016	Zoology	ICMR
Amitha Kurian	Thesis Mentor	PhD Since 2016	Molecular biology	KUFOS fellow
Rubeena K A	Thesis Mentor	PhD Since 2016	Microbiology	KUFOS fellow
Parvathy Prakash	Prini	Masters (JRF)	Food Science	Centre for Excelence
AimenFidreous	PI	Master thesis	Fishery Science	KUFOS fellow
Digi George	PI	Masters (JRF)	Biotechnology	Centre for Excelence

**Master's Thesis guided:** Completed = 20, Ongoing= 02

**Ph.D's Thesis guided:**Completed = 02, Ongoing= 04

**PDF guided:** Completed = 04, Ongoing=Nil

**Research Related Activities**

Reviewer at International journal of Aquaculture, Chemosphere, Fish and Shellfish immunology, Ecotoxicology and environmental safety, Plos one, Neurosciences. Reviewer at International Journal of Nutrition, Pharmacology, Neurological diseases and international journal of Health sciences.

**Research Grants and Funding**

- ✓ Synergistic action of Fucoidan-Alkoxyglycerol complex and their implications in the management of Cognitive dysfunctions, ICMR grant, 40 Lakhs, Since 2022 till 2025.
- ✓ “Application of Vaccination for Sustainable Aquaculture in India” IVVN supported workshop at hybrid mode – 2022.
- ✓ Lead PI – for the Bactivac UK funded project on the “Development of a novel Glycovaccine against *Aeromonas hydrophila* for tilapia aquaculture in India” from November 2021- April 2022 (Grant offer: £49,964)
- ✓ Asean-India Research Training Fellowship (AI-RTF) grant - File Number: RTF/2020/000169. Mr. Tran Pham Vu Linh (Vietnam) approved by the Department of Science and Technology (DST) Mentor – 5 Lakhs, June., 2021.
- ✓ Mentor for the IVVN (International Veterinary Vaccinology Network)PDF Fellowship Grant for the project titled “Development of a nanoparticle Tilapia Lake Virus (TiLV) vaccine for tilapia aquaculture in India, from November 2020- August 2021 (Grant offer: £46,200)
- ✓ Co-Applicant for the (Bactivac International Project) on “Enhanced tilapia mucosal immunity by nano-immersion vaccine against columnaris disease” from November 2020- April 2021 (Grant offer: £50,599)
- ✓ Characterization of Cellular and Molecular Mechanisms involved in Fish Lectins and its Potential Role in Innate Immune Defense and Therapeutics, DST-SERB – Early Career Grant, 40 Lakh since 2016 –2019.
- ✓ An multi-omics approach to identify genetic factors determining the heritability of twins in world

populations, Research Cooperation with the Institute of Tropical Medicine, Tuebingen, Germany, CCMB, Hyderabad and University college, London, 50 Lakhs - Since 2016 -2020.

- ✓ Consultant – Patent Co, Serbia (leading company Production, Animal Feed additives), Since Nov. 2019.
- ✓ Identifying Novel Targets from Marine Sources for Therapeutics in Alzheimer's disease, DHR, Back to Lab grant, 31, 45, 000 /- since 2017-2020. Role - Mentor.
- ✓ The implications of *Tinospora Cordifolia* in circumventing the oxidative stress of fish induced by NanoTiO<sub>2</sub>, KSCSTE state grant, 22, 67, 200 /- since 2018. Role - Mentor.
- ✓ Identification and Characterization of Galectins, KSCSTE Post doc fellow grant, 18 Lakhs, 2018. Mentor.
- ✓ Role of mangroves in modulating disease resistance potential in fishes, KUFOS project, 5 Lakh (2016/17).
- ✓ Effect of dietary supplementation of marine lipids as immunostimulants for fish health, at the Centre for Food Processing Technology, KUFOS Plan project, 20 Lakhs (2017 – 2018)
- ✓ Bioactive compounds from Marine sources, KUFOS plan project, 50 Lakhs, (2015 – 2018).
- ✓ Ficolin and its microbial association in urinary tract infection in both experimental and human subjects, one year grant funded by BayerischeForschungsstiftung, Germany, 15000 Euro on Jan 2010 (completed).

### Recognitions, Honors, and Academic Awards

- Awarded International Veterinary Vaccinology Network (IVVN) Laboratory Exchange grant to visit with University of Aberdeen, UK from May to July, 2022.
- Asean-India Research Training Fellowship (AI-RTF) grant award (DST-(International Multilateral and Regional Cooperation Division), June 2021
- Awarded International Bactivac Network with University of Stirling and Mordeun, UK, 2021.
- Fellow of the Royal Society of Biology (MFRB), 2021.
- Awarded Marine Alliance for Science and Technology for Scotland (MASTS) grant to visit the Scottish Fish Immunology Research Centre, University of Aberdeen, UK from May to June, 2019.
- Best Oral and Poster presentation award 3<sup>rd</sup> International congress on Fisheries and Aquatic research (2019) held at Fisheries faculty, Isparta applied Sciences University, Isparta, Turkey.
- Awarded Indian National Science Academy fellowship 2017 for Deputation of Indian Scientists abroad Under Bilateral Exchange Programme, since May to July, 2018 at LMU, Munich, Germany.
- Early Career Research (ECR) research grant DST-SERB for Young Scientists--2016
- Travel grant, Aquaculture and Sustainable Marine Ecosystems ECOAQUA, Marine algae culture: techniques, uses and development perspectives Gran Canaria (ULPGC Spain), Jun, 2015.
- Travel Grant, Bavarian State, International Congress of Immunology, Berlin, Sept, 2009.
- PhD fellowship with the prestigious BayerischeForschungsstiftung (Nov. 2008 – Oct. 2011) at Regensburg University, Germany.
- Research Assistant Fellowship, German Science Foundation (DFG). 2007–2008.
- Placed college 3<sup>rd</sup> rank in the highly competitive Madras University Biochemistry Programme.
- Qualified National Eligibility Test for Lectureship (NET-ICAR-CSIR) in 1998 and 2004.

### Languages

Malayalam – native language; Tamil – fluent and communicative; English – excellent knowledge (written, oral and the working language); German – (A+) beginner level



## **Membership**

Lifetime member Asian Fisheries Society Indian Branch  
Lifetime member of the European association of Fish pathology  
Member of the International Veterinary Vaccinology Network, UK  
Member of the International Bactivac Network, UK  
Lifetime member of International Complement Society, Europe  
Lifetime member of the Society of Biological Sciences, India  
Lifetime member of the Society of Neurochemistry  
Activities include, Participation of Conferences, Workshops, Industrial interactions, Job opportunities etc.,

## **Community Service**

- RT-PCR support and training during COVID-19. My Research Group supported with trained student/research scholar as volunteers to help with a shortage of lab technicians for conducting COVID-19 tests.
- Organized a three day blood camp and blood grouping for around 200 people nearby the Thellar Village, Vandavasi, Tamilnadu, in 2000, supported by King Nandivarman College.
- Invited Speaker to teach Molecular Biology for School Teachers, organized by Kendriya Vidyalaya, 2018
- Participated as trainer for College and University students for Oral, Poster and quiz competitions. Collaborated with industries towards campus placements for students.
- Have done appreciable contributions and attained international recognition in the study of genetic factors addressing heritability of twins in Kothini, a village in India.
- Research experience with internationally recognized collaborators paved new links to KUFOS to establish future opportunities for the upcoming researchers.