

Curriculum Vitae

Dr. J. Sivakamavalli

Research Scientist

Department of Marine Science

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Academic Profile

Course	Institution/University	Year of Passing	% Marks
Ph.D (Animal Health)	Alagappa University	Oct 2014	Highly Commanded
M.Sc. (Bio-Technology)	Bharathidasan University	Apr 2009	79
PGDBI (Bioinformatics)	Bharathidasan University	Apr 2008	78
B.Sc. (Bio-Chemistry)	Madurai Kamaraj University	Apr 2007	72

Research Experience

Timeline	Designation	Funding Source
July 2019 to July 2020	Research Scientist	Chonnam National University , South Korea
June 2017 to June 2019	N-Post Doctoral Fellow (N-PDF)	Department of Science & Technology (DST-SERB) , New Delhi, India
Jan 2017 to June 2017	Research Specialist	Department of Marine Science Bharathidasan University
July 2016 to Dec 2016	Adhoc Faculty	Department of Biotechnology, National Institute of Technology , Calicut , India
Jan 2016 to June 2016	Research Fellow	Department of Marine Science Bharathidasan University
Jan 2015 to Jan 2016	Post-Doctoral Fellow	Department of Bioscience & Bioengineering, National Cheng Kung University (NCKU) , Taiwan
March 2013 to Oct 2014	Senior Research Fellow	Council for Scientific and Industrial Research , India
Nov 2009 to Nov 2012	Project Fellow	Department of Science and Technology , India

Teaching Experience

1. Handled the theory and practical classes for master students at Department of Animal Health & Management, Alagappa University, Karaikudi.
2. Guided fifteen M.Sc. and three M.Phil. Graduate students for their Major Research projects at Department of Animal Health & Management, Alagappa University and from that several works have been published in reputed journals.
3. Mentored the hands-on training session for the participants at National level symposium cum workshop Shrimp and finfish production skills for aquaculture business organized by Department of Animal Health & Management, Alagappa University, Karaikudi.

4. Facilitator for the in International Seminar On “Recent Trends in Aquatic Animal Biotechnology” (RTAAB- 2013) in October 21 to 23, 2013, Department of Animal Health and Management, Alagappa University, Karaikudi-630 003.
5. Mentored the hands-on training session for the participants at, International seminar on “Applications of Confocal Microscopy Techniques in Animal Health Management” (ACAH’2010) Depart of Animal Health and Management, Alagappa University, Karaikudi-630 003

Awards & Honors Received

S.No	Funding Organization	Designation	Project title	Duration
1	Council for Scientific & Industrial Research (CSIR), India	Senior Research Fellow (SRF)	Purification, characterization and structural identification of β -1, 3 glucan-binding proteins (β -GBP) from <i>Fenneropenaeus indicus</i> and <i>Penaeus semisulcatus</i>	Mar 2013 to Oct 14
3	Department of Science & Technology-Science & Engineering Research Board (DST-SERB) India	Post-Doctoral Fellow (PDF)	Expression, Purification and Functional analysis of Antimicrobial Peptides Penaeidin, Crustin and Anti-Lipopolysaccharide Factor) from <i>Penaeus semisulcatus</i> and <i>Scylla serrata</i>	June 2017 to June 2019

Publication Summary

35 publications as main author, 14 publications as co-author in peer reviewed journals, 2 Review works and 3 publications in international conference proceedings. Overall the applicant has 536 citations and holds the h-index of 15. All the research works published in the journals that come under the Top 25% of journals ranked by Thomson Reuters. One of the art works published in International Journal of Biological Macromolecules and Fish and Shellfish Immunology was selected for the cover page of the journal.

Sequences Published in NCBI

S.no	Gene Sequences published in NCBI	Accession no
1	<i>Fenneropenaeus indicus</i> prophenoloxidase activating factor serine proteinase mRNA gene	HM368165
2	<i>Muradium tetragonum</i> beta-1,3 glucan binding protein mRNA, complete	KC762208
3	cytochrome c oxidase subunit 1, <i>Metapenaeus ensis</i>	KF192817
4	cytochrome c oxidase subunit 1, <i>Fenneropenaeus indicus</i>	KF192816
5	cytochrome c oxidase subunit 1, <i>Penaeus semisulcatus</i>	KF192814
6	<i>Fenneropenaeus indicus</i> lipopolysaccharide and beta-1,3-glucan binding	HQ318720
7	<i>Penaeus monodon</i> isolate CMBG-BVS02 cytochrome c oxidase subunit 1	KF192815

1. **Sivakamavalli .J ***, Kiyun Park, Ihn-Sil Kwak, B. Vaseeharan. (2020). Purification and functional characterization of carbohydrate-recognition protein C-type lectin from *Hemifugus pugilinus*. *Carbohydrate Research* (IF : 2.0)
2. **Sivakamavalli .J ***, Pandiselvi. K, Kiyun Park, Ihn-Sil Kwak, (2020). Garcinia cambogia assisted synthesis of ZnO nanoparticles coupled with chitosan for antibacterial, antibiofilm, cytotoxic, anticancer and ecotoxicity assessment. *Journal of Cluster Science* (IF: 1.7)
3. Karthick.R, Pandiselvi. K, Kiyun Park, Ihn-Sil Kwak, **Sivakamavalli .J ***, (2020). Synthesis of biogenic chitosan biopolymer functionalized zinc doped Bi₂O₃ nanoneedles and its Bio-applications: In -vitro Antibacterial and Anticancer activity. *Arabian Journal of Science & Engineering* (IF:1.7)
4. **Sivakamavalli .J ***, Kiyun Park, Ihn-Sil Kwak, B. Vaseeharan. (2020). Identification and characterization of bioactive pigment carotenoids from shrimps and their biofilm inhibition. *Journal of Food Processing and Preservation* (IF: 1.327)
5. **Sivakamavalli .J ***, Kiyun Park, Ihn-Sil Kwak, B. Vaseeharan. (2020). Cellular and molecular innate immune responses of haemocytes from crab *Episesarma tetragonum*. *Microscopy Research and Technique* (IF: 1.327)
6. **Sivakamavalli, J***, Selvaraj, C., Singh, S. K., Park.K, Kwak.IK & Vaseeharan, B. (2020). Characterization and structural analysis of Prophenoloxidase in mud crab *Scylla serrata* and discovering novel chemical inhibitors through virtual screening. *Structure chemistry*. (IF: 1.624)
7. **Sivakamavalli, J., ***, Vaseeharan, B., Hans-Uwe Dahms, Arthur James, R.(2020)Antibacterial and antibiofilm assessment of *Cissus quadrangularis* extract coated gold nanoparticles. *Journal of Cluster Science* (Accepted). (IF: 1.57)
8. R. Ishwarya, A. Iswarya, V. Thangaviji, **Sivakamavalli. J**, María Angeles Esteban, Merlin Premalatha Thangaraj. (2020).Immunological and antibiofilm property of haemocyanin purified from grooved tiger shrimp (*Penaeus semisulcatus*): An *in vitro* and *in silico* approach. *Microbial Pathogenesis*.(IF: 2.58)
9. **Sivakamavalli. J ***, Arthur James, Kiyun Park, Ihn-Sil Kwak, B. Vaseeharan. (2020). Purification of WAP domain-containing antimicrobial peptides from green tiger shrimp *Peaneaus semisulcatus*. *Microbial Pathogenesis*. (IF: 2.58)
10. **Sivakamavalli, J***, Selvaraj, C., Singh, S. K., Park.K, Kwak.IK & Vaseeharan, B. (2019). Effect of Amino Acid Substitution in the *Penaeus monodon* LGBP and Specificity Through Mutational Analysis. *International Journals of Peptide Research*.(IF: 1.21)
11. Shanmuga Priya, A., Suganya Bharathi, B.,Vigneshkumar .G.,Maniyazagan M.,Sakthi V., Vimalasruthi.N., Vaseeharan.B., **Sivakamavalli J.,**Stalin.T. (2019). *In-vitro* dissolution and microbial inhibition studies on anticancer drug etoposide with β -cyclodextrin. *Journal of Material Science &Engineering C*, 102, 92-105. (IF: 6.57)
12. Thaya, R., Vaseeharan, B., **Sivakamavalli, J.**,Iswarya, A., Govindarajan, M., Alharbi, N. S., ... & Benelli, G. (2018). Synthesis of chitosan-alginate microspheres with high antimicrobial and antibiofilm activity against multi-drug resistant microbial pathogens. *Microbial pathogenesis*, 114, 17-24. (IF: 2.58)
13. Thaya, R., Malaikozhundan, B., Vijayakumar, S., **Sivakamavalli, J.**, Jeyasekar, R., Shanthi, S., ... & Sonawane, A. (2016). Chitosan coated Ag/ZnO nanocomposite and their antibiofilm, antifungal and cytotoxic effects on murine macrophages. *Microbial pathogenesis*, 100, 124-132. (IF: 2.58)
14. **Sivakamavalli, J.**, Selvaraj, C., Singh, S. K., & Vaseeharan, B. (2016). Modeling of macromolecular proteins in prophenoloxidase cascade through experimental and computational approaches. *Biotechnology and applied biochemistry*, 63(6), 779-788. (IF: 1.56)

15. Mohandoss, S., **Sivakamavalli, J.**, Vaseeharan, B., & Stalin, T. (2016). Host-guest molecular recognition based fluorescence On-Off-On chemosensor for nanomolar level detection of Cu²⁺ and Cr^{2O7}²⁻ ions: Application in XNOR logic gate and human lung cancer living cell imaging. *Sensors and Actuators B: Chemical*, 234, 300-315. (IF: 5.667)
16. Lin, Y. H., Chuang, S. M., Wu, P. C., Chen, C. L., **Jeyachandran, S.**, Lo, S. C., ... & Hou, M. H. (2016). Selective recognition and stabilization of new ligands targeting the potassium form of the human telomeric G-quadruplex DNA. *Scientific reports*, 6, 31019. (IF: 4.122)
17. **Sivakamavalli, J.**, Selvaraj, C., Singh, S. K., & Vaseeharan, B. (2016). *In vitro* and *in silico* studies on cell adhesion protein peroxinectin from *Fenneropenaeus indicus* and screening of heme blockers against activity. *Journal of Molecular Recognition*, 29(5), 186-198. (IF: 1.91)
18. Ameeramja, J., Panneerselvam, L., Govindarajan, V., **Jeyachandran, S.**, Baskaralingam, V., & Perumal, E. (2016). Tamarind seed coat ameliorates fluoride induced cytotoxicity, oxidative stress, mitochondrial dysfunction and apoptosis in A549 cells. *Journal of hazardous materials*, 301, 554-565. (IF: 6.434)
19. Chang, C. K., **Jeyachandran, S.**, Hu, N. J., Liu, C. L., Lin, S. Y., Wang, Y. S., ... & Hou, M. H. (2016). Structure-based virtual screening and experimental validation of the discovery of inhibitors targeted towards the human coronavirus nucleocapsid protein. *Molecular BioSystems*, 12(1), 59-66. (IF: 2.85)
20. **Sivakamavalli J.**, Vaseeharan B*. (2014). Enzymatic elucidation of haemocyanin from Kuruma shrimp *Marsupenaeus japonicus* and its molecular recognition mechanism towards pathogens. *Journal of biomolecular structure & dynamics* 9:1-13. (IF: 3.310).
21. **Sivakamavalli, J.**, Tripathi, S. K., Singh, S. K., & Vaseeharan, B. (2015). Homology modeling, molecular dynamics, and docking studies of pattern-recognition transmembrane protein-lipopolysaccharide and β -1, 3 glucan-binding protein from *Fenneropenaeus indicus*. *Journal of Biomolecular Structure and Dynamics*, 33(6), 1269-1280. (IF: 3.310)
22. **Sivakamavalli, J.**, Nirosha, R., & Vaseeharan, B. (2015). Purification and characterization of a cysteine-rich 14-kDa antibacterial peptide from the granular hemocytes of mangrove crab *Episesarma tetragonum* and its antibiofilm activity. *Applied biochemistry and biotechnology*, 176(4), 1084-1101. (IF: 2.14)
23. **Sivakamavalli, J.**, Selvaraj, C., Singh, S. K., & Vaseeharan, B. (2016). Molecular cloning, relative expression, and structural analysis of pattern recognition molecule β -glucan binding protein from mangrove crab *Episesarma tetragonum*. *Biotechnology and applied biochemistry*, 62(3), 416-423. (IF: 1.56)
24. Mohandoss, S., **Sivakamavalli, J.**, Vaseeharan, B., & Stalin, T. (2015). Fluorometric sensing of Pb²⁺ and CrO₄²⁻ ions through host-guest inclusion for human lung cancer live cell imaging. *RSC Advances*, 5(123), 101802-101818. (IF: 3.04)
25. Vaseeharan, B., **Sivakamavalli, J.**, & Thaya, R. (2015). Synthesis and characterization of chitosan-ZnO composite and its antibiofilm activity against aquatic bacteria. *Journal of Composite Materials*, 49(2), 177-184. (IF: 1.75)
26. **Sivakamavalli, J.**, Selvaraj, C., Singh, S. K., & Vaseeharan, B. (2014). Exploration of protein-protein interaction effects on α -2-macroglobulin in an inhibition of serine protease through gene expression and molecular simulations studies. *Journal of Biomolecular Structure and Dynamics*, 32(11), 1841-1854. (IF: 3.31)
27. **Sivakamavalli, J.**, & Vaseeharan, B. (2014). Variations in biochemical and histological characteristics of WSSV infected green tiger shrimp *Penaeus semisulcatus*. *Journal of Receptors and Signal Transduction*, 34(5), 386-395. (IF: 2.20)

28. Selvaraj, C., **Sivakamavalli, J.**, Vaseeharan, B., Singh, P., & Singh, S. K. (2014). Examine the characterization of biofilm formation and inhibition by targeting SrtA mechanism in *Bacillus subtilis*: a combined experimental and theoretical study. *Journal of molecular modeling*, 20(8), 2364. (IF: 3.31)
29. **Sivakamavalli, J.**, Deepa, O., & Vaseeharan, B. (2014). Discrete nanoparticles of *ruta graveolens* induce the bacterial and fungal biofilm inhibition. *Cell communication & adhesion*, 21(4), 229-238. (IF: 1.875)
30. Selvaraj, C., **Sivakamavalli, J.**, Baskaralingam, V., & Singh, S. K. (2014). Virtual screening of LPXTG competitive SrtA inhibitors targeting signal transduction mechanism in *Bacillus anthracis*: a combined experimental and theoretical study. *Journal of Receptors and Signal Transduction*, 34(3), 221-232. (IF: 2.20)
31. **Sivakamavalli J**, Vaseeharan B. (2014). Purification, characterization and functional role of lectin from green tiger shrimp *Penaeus semisulcatus*. *International Journal of Biological Macromolecules* 67: 64-70. (IF: 4.78)
32. **Sivakamavalli J**, Vaseeharan B. (2014). Bifunctional role of a pattern recognition molecule β -1, 3 glucan binding protein purified from mangrove crab *Episesarma tetragonum*. *Journal of Invertebrate Pathology* 119: 25-31. (IF: 2.66)
33. **Sivakamavalli J**, Selvaraj C, Sanjeev kumar S, Vaseeharan B. (2013). Interaction investigations of crustacean β -GBP recognition toward pathogenic microbial cell membrane and stimulate upon prophenoloxidase activation. *Journal of Molecular Recognition* 27: 173–183. (IF: 1.91)
34. Selvaraj, C., **Sivakamavalli, J.**, Vaseeharan, B., Singh, P., & Singh, S. K. (2014). Structural elucidation of SrtA enzyme in *Enterococcus faecalis*: an emphasis on screening of potential inhibitors against the biofilm formation. *Molecular BioSystems*, 10(7), 1775-1789. (IF: 2.38)
35. Shanmuga Priya A, **Sivakamavalli J**, Vaseeharan B, Stalin T. (2013). Improvement on dissolution rate of inclusion complex of Rifabutin drug with β -cyclodextrin. *International Journal of Biological Macromolecules* 62: 472–480 (IF: 478)
36. **Sivakamavalli J**, Rajakumaran P & Vaseeharan B. (2013). *In vitro* studies on cellular mediated immune response in haemocytes of crab—*Episesarma tetragonum*. *International Journal of Molecular Zoology* 3: 24-31.
37. **Sivakamavalli J** and Vaseeharan B. (2013). Purification and characterisation of beta 1, 3, glucan binding from green tiger shrimp *Penaeus semisulcatus*. *Fish and Shellfish Immunology* 35: 689-96 (IF- 3.29)
38. **Sivakamavalli J**, Rajakumaran P and Vaseeharan B. (2012). Prophenoloxidase and immune indices of Indian white shrimp *Fenneropenaeus indicus*. *Journal of Aquaculture Research Development* 5 3:6. (IF- 1.47).
39. **Sivakamavalli J** and Vaseeharan B. (2012). Biosynthesis of silver nanoparticles by *Cissus quadrangularis*. *Materials Letters* 82: 171–173. (IF- 3.09).
40. **Sivakamavalli J** and Vaseeharan. B. (2012). cDNA cloning, characterization and expression of lipopolysaccharide and β -1,3-glucan binding protein (LGBP) gene from the Indian white shrimp *Fenneropenaeus indicus*. *Comparative Biochemistry and Physiology, Part A* 163: 74–81. (IF- 2.14).
41. **Sivakamavalli J**, Vaseeharan B, Shanthi S, Prabhu NM, Manikandan R, Ravi C, Prem Anand T. (2012). *In silico* analysis of lipopolysaccharide and β -1, 3-glucan binding protein (LGBP) gene from the haemocytes of Indian white shrimp *Fenneropenaeus indicus*. *Research in Biotechnology* 3(3): 26-36, 2012.

42. Vaseeharan B, **Sivakamavalli J.** *In silico* homology modeling of prophenoloxidase activating factor serine proteinase gene from the haemocytes of *Fenneropenaeus indicus*. (2011). *Journal of proteomics and bioinformatics*, 4 (2): 053-057.(IF: 1.57)

Book Chapters Published

1. **Sivakamavalli J***, Vaseeharan B, An overview of omics approaches: Concept, methods and perspectives. (2020) Recent Trends in Biochemistry. **MedDoc publications.**
2. **Sivakamavalli J ***, Kiyun Park, Ihn-Sil Kwak, Genome databases, Types and Applications: An Overview. (2020) Recent Trends in Biochemistry. **MedDoc publications.**
3. **Sivakamavalli J *** Prophenoloxidase cascade proteins in crustaceans. (2020) **LAP LAMBERT Academic Publishing.**
4. **Sivakamavalli J ***, Kiyun Park, Ihn-Sil Kwak, Bacterial disease control methods in shrimp farming sector. (2020) **Arthropods. IntechOpen Publications**

International Conference Proceedings

1. **Sivakamavalli J**, Vaseeharan B. (2010). Molecular cloning and sequencing of Lipopolysaccharide Glucan Binding Protein (LGBP) gene from Indian white shrimp *Fenneropenaeus indicus* in **ICGS-2010** in Madurai Kamaraj University.
2. **Sivakamavalli J**, Vaseeharan B. (2011). Molecular cloning and 3D model of Lipopolysaccharide Glucan Binding Protein (LGBP) gene from Indian white shrimp *Fenneropenaeus indicus* at symposium **DAA8-2010** in Fisheries Institute, Mangalore.
3. **Sivakamavalli J**, Vaseeharan B. (2011). *In silico* modeling and docking studies in immune gene Lipopolysaccharide Glucan Binding Protein (LGBP) gene from Indian white shrimp *Fenneropenaeus indicus* in **SBCADD** in Bioinformatics, Alagappa University.

Invited Talks

S. No	Title of the Invited Lecture/Paper presented	Title of Conference/ Seminar etc.	Organised by	Date of Presentation	Level
1	<u>Invited lecture</u> Metal proteins role in invertebrate immunity	International Conference on Prospects of Biosciences in Transdisciplinary Research(PBTR'2020)	Bishop Heber College	22-01-2020	International
2	<u>Invited lecture</u> Exploring the role of shrimp and WSSV miRNAs in host-virus interactions	Special Lecture	Alagappa University	28-01-2020	National
3	<u>Invited lecture</u> Biofilm disruption through marine peptides	Special Lecture	Bharathidasan University	25-01-2020	National

Papers & Poster Presentations

1. Recent advances on surface engineering of Magnetic-Hydroxyapatite Nanoparticles and their biomedical applications at International conference on “Advances in Functional Materials (**ICFAM-2017**)
2. Effects of Metal Nanoparticles on the Bivalve Mollusks act as a unique target group for nanoparticles toxicity poster presented in National Seminar on Advanced Materials Research (**AMR-2017**).
3. Discrete Nanoparticles of *Ruta graveolens* Induces the Microbial Biofilm Inhibition and Cell lines Toxicity Studies in International conference on Recent Trends in Microbiology (**RTM-2016**) during 7th and 8th December, 2016
4. International conference on “Recent Advances in Bioresource Technology – **RABT-2017**” organised by Thiruvalluvar University, Vellore.
5. Molecular cloning and sequencing of Lipopolysaccharide Glucan Binding Protein (LGBP) gene from Indian white shrimp *Fenneropenaeus indicus* in **ICGS-2010** in Madurai Kamaraj University.
6. Molecular cloning and 3D model of Lipopolysaccharide Glucan Binding Protein (LGBP) gene from Indian white shrimp *Fenneropenaeus indicus* at symposium **DAA8-2010** in Fisheries Institute, Mangalore.
7. *In silico* modeling and docking studies in immune gene Lipopolysaccharide Glucan Binding Protein (LGBP) gene from Indian white shrimp *Fenneropenaeus indicus* in **SBCADD** in Bioinformatics, Alagappa University.
8. Molecular cloning and sequencing of immune related gene prophenoloxidase (ProPO) gene from mud crab *Scylla serrata* in **Live Aqua-2010** in Bharathiyar University.

Workshop Attended

1. International Workshop on INNOVATIVE INTEGRATION AND INTENSIFICATION IN INDIAN SHRIMP INDUSTRY (**IIIS'17**) Organized by Tamil Nadu Fisheries University & World Aquaculture Society.
2. National Level Workshop on Gas Chromatography (**GC-DMB -2016**)
3. Recent Trends in Structural bioinformatics and Computer Aided Drug Design (**SBCADD2010-2014**) of SCHRODINGER hands-on training, Department of Bioinformatics, Alagappa op University.
4. National Workshop on Characterization Techniques-**2012** in Alagappa University.
5. National Workshop on Docking using **SCHRODINGER-2010**, Pondicherry University.
6. Real Time PCR Training Course conducted by **Labindia** Research and Development Laboratory, Gurgaon (2010).

Invited Reviewer for Peer Reviewed Journals

Invited as reviewer in peer review the articles from

- Biomolecular Structure and Dynamics
- Microbial Pathogenesis
- Infection and Drug Resistance
- *Journal of Microb and Biotechnology*
- *Regional Studies in Marine Science*
- Ocean Science Journal
- Computer Aided Drug Designing (CADD)
- Internal Journal of Peptide Research
- Process Biochemistry
- International Journal of Biological Macromolecules

Membership of National and International Bodies:-

Science:

- ✓ World Aquaculture Society (WAS)
- ✓ Biotech research Society India (BRSI) – Life Member
- ✓ Fisheries organization (Life Member)
- ✓ Tamil National Science Congress

Non-science

- ✓ Member of Blood bank
- ✓ Member of Youth Red Cross
- ✓ Member of Red Ribbon Club

Personal Information

Gender	:	Female
Name	:	Dr. J.Sivakamavalli
Age & Date of Birth	:	28 May 1987
Marital Status	:	Married
Passport Number	:	T5515769
Ethnicity	:	Asian
Nationality	:	Indian
Language known	:	English, Hindi & Tamil

Déclaration

I hereby declare that the above furnished details are true to my belief and knowledge.

Yours Sincerely

J.Sivakamavalli