

Dr. Manivannan Paramasivan

6, Kambalam Sangili Thevar street,
Mamsapuram.
Virudhunagar – Dt.
Tamil Nadu.
India.



manivannan@americancollege.edu.in

9791897052

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https://scholar.google.co.in/citations?user=t_OCA6UAAA&hl=en
<https://publons.com/researcher/4557298/manivannan-paramasivan/>
<https://www.researchgate.net/profile/Manivannan-Paramasivan>

Objective

Innovative and productive contribution to the welfare of humanity with a scientific concern

Education

S. No.	Degree	Year	Subject	University / Institution	% of marks
1.	X, XII	1997, 1999	Biology	Sainik School, Amaravathi Nagar, Tamil Nadu, India	65 %, 75%
2.	B.Sc	1999 - 2002	Microbiology spl. Immunology	The American College, Madurai, Tamil Nadu, India	81 % (First class with Distinction)
3.	M.Sc	2002 - 2004	Microbiology	Bharathidasan University, Tiruchirappalli, Tamil Nadu, India	6.8 (CGPA) (First class with A+ grade)
4.	M.Phil	2006 - 2008	Microbiology	Bharathidasan University, Tiruchirappalli, Tamil Nadu, India	80.2 % (Second class)
5.	PhD	2011 - 2017	Microbiology	Bharathidasan University, Tiruchirappalli, Tamil Nadu, India	6.9 (CGPA) Commended

Professional Experience

S.NO	Position held	Name of Institute	From	To
1.	NEET Facilitator,	WISDOM Institute of Competitive Exams, Madurai	Aug 2022	Till Date
2	Assistant Professor,	Department of Biomedical Engineering, Salem College of Engineering and Technology, Salem	Oct 2021	Apr 2022
3.	Freelance Academic Writer, Editor and Reviewer	Attn: Dr. Murugesan Chandasekaran, Research Professor, Sejong University, South Korea. Attn: Dr. S. Karthikumar, Assistant Professor, Department of Biotechnology, Kamaraj College of Engineering and Technology, Virudhunagar, Tamil Nadu.	May 2019	Till Date
4.	Organic farming consultant and agritech disseminator (Ref: Banana, Coconut and Mango plantations)	Agroprotection strategies (SELF)	May 2019	Till Date
5.	Assistant Professor (Microbiology Self Financing)	The Madura College, Madurai, Tamil Nadu	May 2018	Apr 2019
6.	NEET Trainer (Biology)	Truimphant Institute of Management Education (TIME), Virudhunagar, Tamil Nadu (One month crash course)	Apr 2018	Apr 2018
7.	Teacher in Biology	CASA DI MIR Matriculation Higher Secondary School, Rajapalayam, Tamil Nadu	Aug 2017	Mar 2018
8.	Senior Research Fellow	Division of Plant Pathology, National Research centre for Banana, Trichy, TamilNadu	Jan 2015	Jul 2017

9.	UGC-BSR Meritorious fellow	Department of Microbiology, School of Life Sciences, Bharathidasan University, Tiruchirappalli, Tamil Nadu	Jul 2011	Dec 2014
10.	Junior Research Fellow	Division of Plant Pathology, Central Agricultural Research Institute, Port Blair	Mar 2010	Jun 2011
11.	Teaching Assistant (Guest Lecturer)	Department of Microbiology, School of Life Sciences, Bharathidasan University, Tiruchirappalli, Tamil Nadu	Aug 2008	Feb 2010

Publications

1. Chandrasekaran, M., **Paramasivan**, M., & Sahayarayan, J. J. (2022). Microbial Volatile Organic Compounds: An Alternative for Chemical Fertilizers in Sustainable Agriculture Development. *Microorganisms*, 11(1), 42. IF- 4.926
2. Chandrasekaran, M., & **Paramasivan**, M. (2022). Arbuscular mycorrhizal fungi and antioxidant enzymes in ameliorating drought stress: a meta-analysis. *Plant and Soil*, 1-9. IF – 4.192
3. Chandrasekaran M, Boopathi T, **Manivannan P**. (2021) A status-quo review on CRISPR-Cas9 gene editing applications in tomato. *Int J Biol Macromol*. 2021 Aug 30;190:120-129. IF – 8.025
4. Chandrasekaran M, Boopathi T, **Manivannan P**. Comprehensive Assessment of Ameliorative Effects of AMF in Alleviating Abiotic Stress in Tomato Plants. *Journal of Fungi*. 2021; 7(4):303. IF – 5.724
5. Murugesan C*, **Manivannan P***, Gangatharan M. Pros and cons in prion diseases abatement: Insights from nanomedicine and transmissibility patterns. *International Journal of Biological Macromolecules*. 2020;145:21-27. IF – 8.025 (* **Equal contribution**)

6. Chandrasekaran M, **Paramasivan M**, Chun SC. Bacillus subtilis CBR05 induces Vitamin B6 biosynthesis in tomato through the de novo pathway in contributing disease resistance against Xanthomonas campestris pv. vesicatoria. *Sci Rep*. 2019 Apr 24;9(1):6495. IF – 4.996
7. Chandrasekaran M, Chun SC, Oh JW, **Paramasivan M**, Saini RK, Sahayarayan JJ. *Bacillus subtilis* CBR05 for Tomato (*Solanum lycopersicum*) Fruits in South Korea as a Novel Plant Probiotic Bacterium (PPB): Implications from Total Phenolics, Flavonoids, and Carotenoids Content for Fruit Quality. *Agronomy*. 2019; 9(12):838. IF – 2.24
8. Chun SC, **Paramasivan M**, Chandrasekaran M. Proline Accumulation Influenced by Osmotic Stress in Arbuscular Mycorrhizal Symbiotic Plants. *Frontiers in Microbiology*. 2018;9:2525. IF – 6.064
9. Murugesan Chandrasekaran, Chandrasekar Raman, Kandasamy Karthikeyan' **Manivannan Paramasivan** * (2019). Suppressive subtraction hybridization analysis of differential gene expression in banana plant mediated through Fusarium wilt and its interaction with *Trichoderma asperellum*. *Agronomy* 2019, 9(2), 57. IF – 2.24
10. **Manivannan P**, Muralitharan G, Balaji NP. Prediction aided in vitro analysis of octadecanoic acid from Cyanobacterium Lyngbya sp. as a proapoptotic factor in eliciting anti-inflammatory properties. *Bioinformation*. 2017;13(9):301-306. IF - 1
11. **Manivannan P**, Muralitharan G (2017) Probing Potent Interfacial Residues in Microvirin before Complexation with Glycoproteins: Visualizing Anti-HIV Activity in silico. *J Marine Sci Res Dev* 7: 241. IF – 2.29*
12. Karthikeyan K, **Manivannan P**, Rajesh D, Muthukumar S, Muralitharan G, Akbarsha MA, Archunan G*. (2014). Identification of p-Cresol as an Estrus-Specific Volatile in Buffalo Saliva: Comparative Docking Analysis of Buffalo OBP and β -Lactoglobulin with p-Cresol. *Zoological Sciences*. 31, 1: 31-36. IF – 0.955
13. **Manivannan, P.**, Muralitharan, G. Molecular modeling of abc transporter system — permease proteins from *Microcoleus chthonoplastes* PCC 7420 for effective binding against secreted aspartyl proteinases in *Candida albicans* — A therapeutic intervention. *Interdiscip Sci Comput Life Sci* **6**, 63– 70 (2014). IF - 3.492
14. **Paramasivan M**, Sankaran G, Sethuraman N, Devadoss DS, Thangavelu S, Gangatharan M. Molecular modelling of urease accessory interaction proteins of Helicobacter Pylori J 99 and predicting an interruption in interaction by Vigna radiata Defensins. *Bioinformation*. 2011;5(10):410-415. IF – 1

Papers published in Conferences

- **Paramasivan Manivannan**, Gangatharan Muralitharan (2012). Deciphering host pathogen specificity in *Microcystis aeruginosa*/ Ma-LMM01 infection through in silico interaction assessment of CRISPR RNA' s with nblA (Phycobilisome degradation protein). SBCADD' 2012, india.
- **Paramasivan Manivannan**, Gangatharan Muralitharan (2012). Computational detection of small RNA' s in cyanobacterial genomes and assessing their regulatory role by interaction with ' hfq' homologues of *Anabaena* sp and *Synechocystis* sp. RNAB' 2012, India. (Won Second Prize in poster section)
- **Manivannan.S.P.**, Avinash Gandhi. D., Tirunalasundari*. T. “ Homology modeling of Heat shock protein (hsp60) of *Helicobacter pylori* and superoxide dismutases (SOD' s) of chosen Vitamin C rich foods and predicting an efficient in silico interaction towards nutritional abatement of adhesion in gastric carcinoma” . Microplexus – 2010
- Naveen Kumar S, **Manivannan.SP**, Manoharan N*. “ OPERON NANOSTRINGS: A novel diagnosis of latent tuberculosis infection” . Proceedings of ENVIRON NANO- 2010.
- Muralikannan. M, **Manivannan.SP***, Prabhakaran.S. “ Nanovaccine for *Mycobacterium tuberculosis*” . Proceedings of Indian Youth Science Congress 2009.
- **Manivannan. SP**, Tirunalasundari* T. “ Immuno modulatory effect of *Synechocystispevalikii* BDU 130051” . Proceedings of World herbal expo 2004
- **Manivannan.SP**, Sundararaman. M*. “ Can cyanobacterial toxins become bioweapons” . Proceedings of Frontiers of Biotechnology 2003.

Academic Affiliations

- Association of Microbiologists in India (AMI), India.
- Indian Society of Plant Pathologists, India.
- Bioclues Organization (An affiliate of International Society for Computational Biology), India.

Professional Honours/Awards and Fellowships

S.NO	Name of award	Awarding agency	Year
1.	Postdoctoral Research Associate	Yong Hoon Lee, Ph.D. Professor Division of Biotechnology College of Environmental & Bioresource Sciences Jeonbuk National University (JBNU) Iksan, Republic of Korea 54896	One year (Sep 2020 – July 2021). (Not permitted immigration due to Covid Pandemic)
2.	Second Prize in poster section	RNAB' 2012, Sastra University, Thanjavur, Tamil Nadu	2012
3.	Visiting Research Fellow	Networking Resource centre for Biological Sciences, Madurai Kamaraj University, Madurai, Tamil Nadu	2012 (Oct - Nov)
4.	University Stipendary Research Fellow (USRF-2009)	Madurai Kamaraj University, Madurai, Tamil Nadu	2009
	GATE 2004 (85.84 Percentile)	Graduate Aptitude Test in Engineering, India	2004

Fellowships

- UGC-BSR (University Grants Commission – Basic Scientific Research) Meritorious Fellow, Department of Microbiology, Bharathidasan University, Tiruchirappalli, Tamil Nadu. 2011-2014
- Senior Research Fellow, Division of Plant Pathology, National Research Centre for Banana, Tiruchirappalli, Tamil Nadu. 2015-2017
- Junior Research Fellow, Division of Plant Pathology, Central Inland Agricultural Research Institute, Port Blair, Andaman and Nicobar Islands, India. 2010-2011.

Trainings undergone

- One month training on “ Medical Lab Technology” at Majestic Immunodiagnostic centre, Arappalayam, Madurai, Tamil Nadu: August 2000
- One month summer training on “ Effect of glucose in lens epithelial cells of cataract” at Iladevi Cataract and Intraocular lens Research Private Limited, Ahmedabad: October 2003.
- Four months Project training on “ Construction of the partial genomic library of the alkalophilic Bacillus NCL-87-6-10” at National Chemical Laboratory, Pune: October-February 2004.

➤ Visiting Research Fellow, “ Screening cyanobacteria for the presence of small RNA’ s, primitive RNAi like machinery and docking perspectives of bioactive metabolites from *Microcystis aeruginosa* with virulence proteins of UPEC (Uropathogenic *Escherichia coli*)” Networking Resource centre for Biological Sciences, Madurai Kamaraj University, Madurai, Tamil Nadu: October-November 2012.

PhD thesis title, Guide’ s Name, Institution, Year of award:

Study of cyanobacterial secondary metabolites for antifungal, anticancer and anti viral activities – *In vitro* and *in silico* assessment.

Guide’s Name:

Dr. G. Muralitharan
Assistant Professor,
Department of Microbiology,
Bharathidasan University,
Tiruchirappalli,
Tamil Nadu,
India.

drgm@bdu.ac.in

Year of award: December 2017

PhD Summary

- Extracellular extract of *Lyngbya* sp show potent anti-inflammatory property as evident from their fold percentage in Protein expression showing anti-inflammatory nature by western blotting. *In silico* results also corroborates by increased binding affinities to Caspase 3, MMP2 and MMP9. HPLC and GC MS confirm the presence of rhodopin and octadecanoic acid as the active principles in eliciting anti- inflammatory along with anti-cancer properties. Among which, octadecanoic acid promisingly binds to MMP2 implicating role as a proapoptotic factor. However, further interior research is needed to emancipate octadecanoic acid’ s role in apoptosis.
- ABC transporter system-permease proteins from *Microcoleus chthonoplastes* PCC 7420 were homology modeled by computational means. Stereochemical properties and stability constraints were assessed for the modeled proteins. Docking revealed that protein inetarction was high among 2QZX and permease protein 2. This study highlights the importance of cyanobacterial secondary metabolites for therapeutic application on *Candida albicans* infections by addressing secreted aspartyl proteinase 2QZX. In this context, further *in vitro* experiments are needed.

- Rigid residues contributing to protein interactions before complexation between microvirin, the anti-HIV lectin and glycoproteins of HIV are assessed. Solvent accessibility and free energy based calculations revealed rigid residues affirming conformational stability for glycoprotein-lectin interaction.
- Microvirin besides being equal in activity to cyanovirin has several questions unanswered both computationally and experimentally with regard to its safety, stability and expression patterns. The present study provides a platform for the immunoinformatics assessment for elucidating bioactive potentials. This can also be rationalized as a pilot pipeline in other diseases and disorders in the years to come.
- From the present study it has been well characterized that cyanobacteria acts as a multi potent agent.
- The thesis comprehensively summarizes the cyanoinformatics as an emerging thrust in emancipation of cyanobacterial omics.
- Drug discovery, systems biology and further intricate aspects are accomplished as evident from the interdisciplinary research publications after doctoral studies and further postdoctoral studies.

Declaration

I, **Dr. Manivannan Paramasivan** hereby declare that the information furnished above is true to the best of my knowledge.

Yours Sincerely,



(Manivannan Paramasivan)