

Individual Biodata

Name :T.Anand

Designation : Associate Professor and Head

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Qualification : M.FSc., PhD.

Field of Specialization : Aquatic Environment Management

Major : Bioflocs systems, Shrimp farming, Water Quality management and Disease diagnosis in shrimp farming

Specializing field : Carbon amendments, water quality, nutrient dynamics in Bioflocs and Periphyton systems, Metagenomics of bioflocs systems, Cluster based shrimp farming practices with Bio- security measures

Experience (in years) : Professional experience – 25 years
Teaching, Research & Extension– 15years

Current projects :(Please provide max 5)

Sl.No.	Title of the Project	Year	PI & Co- PI of the Project	Funds (in Rs)	Funding Agency
1	Impact of Chronic Microplastic Exposure on Fish Health Using AI-Based Toxicity Profiling	2026	PI	17.53 lakhs	CMRG

Completed projects :

Sl.No.	Title of the Project	Year	PI &Co- PI of the Project	Funds (in Rs)	Funding Agency
1	Effects of Mineral application on water quality, nutrient dynamics and growth characteristics of *Penaeus vannamei* culture systems at different salinities	2024	PI	1.00	VISHA RAA BIOTE CH, Chenn ai
2	E-fish health surveillance and monitoring network to improve fisheries production in Tamil Nadu	2017-2020	Co-Principal investigator	With a financial outlay of 590.40 lakhs	Tamilnadu Innovation Initiatives (TANII)
3.	Development, demonstration and dissemination of solar energy operated aerators in shrimp farms	2019-2020	Co-Principal Investigator	Rs.21.25 lakhs	ICAR Extramural project
4.	Establishment of Fish and Shell Fish Health Certification and Disease Surveillance Laboratories in Tamil Nadu for Enhancement of Aquaculture Production	2016–2018	Co-Principal investigator	Rs. 491.075 lakhs	National Agriculture Development Programme (NADP)
5.	Dissemination of Better Management Practices and Biofloc Technology to enhance SPF *Litopenaeus vannamei* and *Penaeus monodon* shrimp production in Tamil Nadu	2011-2012	Co-Principal Investigator	21.22 lakhs	NADP
6.	Identifying suitable carbon source to augment the formation of bioflocs at farmers' pond level in *Litopenaeus vannamei* intensive culture systems in Sirkali taluk, Nagapattinam district	2 Years 28.03.2013to31.03.2015	Principal investigator	2.1lakhs	TANUVAS Corpus fund

Research publications:

1. Jelsina GB, P.Chidambaram, C.Anand, D.Dinesh and **T.Anand*** (2026). Effects of Copefloc technology using fermented rice bran on growth, digestive enzyme activity and growth gene expression in *Penaeus vannamei*, Thalassas Int. J. of Marine Sci.doi: 10.1007/s41208-026-01108-1
2. Kesavan Devarayan, Deepika Anandakumar Muthurani, Geetha Kannusamy, Yazhiniyan Palanisamy, ***Anand Theivasigamani***, Gangeswar Mohan, Monikandon Sukumaran, Ramar Marimuthu, Evon Umesh Siluvai John, Hema Anjappan. On-Site Colorimetric Determination of pH in Brackish Water Aquaculture Pigment and Resin Technology, 2024, Accepted in Press, DOI: 10.1108/PRT-11-2023-0099. **IF: 1.40**
3. Kesavan Devarayan*, Madhan Kathavarayan, **Anand Theivasigamani**, Monikandon Sukumaran, Sabariswaran Kandasamy, Development of portable colorimeter for on-site determination of water quality in aquaculture. Pigment & Resin Technology, 2022, DOI: 10.1108/PRT-12-2021-0140. IF: 1.126.
4. Monikandon Sukumaran, Kesavan Devarayan, **Anand Theivasigamani**, and Balasubramanian Singathirulan. Efficiency of Integrated Acclimation Tanks on Enhancing the Survival Rates of Shrimp Post-LarvaeInternational Journal of Science, Environment and Technology, Vol. 7, No 6, 2018, 2047 – 2054. NAAS Score: 3.98.
5. **Anand,T**.,A.Srinivasan,P.Padmavathy,P.JawaharandJ.StephenSampathKumar (2021). Structure, proximate composition, nutrient dynamics and growth characteristics of *Penaeus vannamei*in indoor biofloc systems with three different salinities and carbon sources, Israeli Journal of Aquaculture -Bamidgeh, Vol. 73, pp 1-16. (NAAS 6.28)
6. **T. Anand**, A. Srinivasan, P. Padmavathy, P. Jawahar, J. Stephen Sampathkumar (2021).Nursery rearing of *Penaeus vannamei* in biofloc systems with different salinities and organic carbon sources, Indian Journal of Animal Research, DOI: 10.18805/IJAR.B-4753. (NAAS 6.40)
7. Akalesh P., G., Jeyasekaran, R., Jeyashakilaa, **T., Anand**, L., Wilwet, N.,Pathaka, A.H.,Malini, N., Neethiselvan, (2020). Prevalence of antibiotic-resistant *Salmonella* spp. strains in shrimp farm source waters of Nagapattinam region in South India. Marine Pollution Bulletin, 155 (2020) 111171
8. Santhana Kumar V, P. K. Pandey, Saurav Kumar, **T. Anand**, Boriah Suryakumar, Rathi Bhuvaneswari (2019). Effect of periphyton (aqua mat installation) in the profitability of semi-intensive shrimp culture systems. Indian Journal of Economics and Development. January 2019, Vol 7 (1), 1-9. (NAAS rating 4.82)
9. A. Rathipriya, **T. Anand**, A. Uma and K. Karal Marx (2019). Prevalence of Diseases caused by White Spot Virus and *Enterocytozoon Hepatopenaei* in *Penaeus vannamei* Shrimp Farms in Nagapattinam District, Tamil Nadu, India. In: Int. J. Curr. Microbiol. App. Sci.,8(6): 2616-2622. (NAAS Rating 5.38)
   Santhana kumar V., Pandey P.K., **Anand., T**., Bhuvaneswari, G.R., Dhinakaran, A. and
10. S. Kumar (2018). Biofloc improves water, effluent quality and growth parameters of *Penaeus vannamei* in an intensive culture system. J. Environ Manage., Mar;21;215., pp206-215. (NAAS rating 10.01)
11. S. Monikandon, Kesavan. D. and **T. Anand** (2018). Critical review on acclimatization approach for enhanced survival of shrimp post-larvae in grow-out ponds. In: International Journal of Science, Environment and Technology, Vol. 7, No 4, 2018, 1467 – 1471
12. Santhana Kumar, V., P.K. Pandey, **T. Anand**, Rathi Bhuvaneswari and Saurav Kumar (2017). Effect of periphyton (aqua mat) on water quality, nitrogen budget, microbial ecology, and growth parameters of *Litopenaeus vannamei* in a semi-intensive culture

system In: Aquaculture (479), pp 240-249. (NAAS rating 7.83)

13. **Anand, T**., B. Gunalan, P. Padmavathy, V. Rani and C. Anand. 2014. Influence of CN ratios on the heterotrophic activity of model freshwater systems. Int. J. of Res. In Agrl. Sci. 1(1):5-15
14. **Anand, T**., B.Gunalan,P. Padmavathy, V. Rani and C.Anand. 2014. Influence of CN ratios on the heterotrophic activity of model brackish water systems, Int. J. of Fisheries & Aq. Studies 1 (3)12-21
15. Poonkodi, A., P. Padmavathy, A. Srinivasan, R. Jeya Shakila and **T. Anand**. 2016. Water quality characteristics of *Litopenaeus vannamei* shrimp culture systems in Thoothukudi District. J. Exp. zool. India, 19(1)195-200
16. Kesavan Devarayan, Yazhiniyan Palanisamy, **Anand Theivasigamani**, Gangeswar Mohan, Evon Umesh Siluvai John , Kaviyasri Elango & Ayyannan Ganesan (2026). Enhanced Sensitivity of Halochromic Sensor via Cellulose Acetate Porous Membrane Protection for Real-Time Seafood Spoilage Detection, Analytical Letters, DOI: 10.1080/00032719.2026.2647922
17. Kesavan Devarayan, Gangeswar Mohan, Yazhiniyan Palanisamy, **Anand Theivasigamani**, Evon Umesh Siluvai John, Monikandon Sukumaran, Hema Anjappan, Cellulose-Based Halochromic Sensor for Real-Time Surveillance of Spoilage of Packed FishDiscover Food, 2024, 4, 129. (Impact factor: 3.70)
18. Kesavan Devarayan, Yazhiniyan Palanisamy, Evon Umesh Siluvai John, Gangeswar Mohan**, Anand Theivasigamani**, Vimaladevi Sekar, Sabariswaran Kandasamy, Monikandon Sukumaran, Ramar Marimuthu, and Santhana Sivabalan Jayaseelan, Biodegradable Halochromic Optical Nose for Monitoring Spoilage of Seafood, Chem Sci Rev Lett 2024, 13 (50), 67-73. (NAAS rating: 4.87)
19. Kesavan Devarayan, Yazhiniyan Palanisamy, Gangeswar Mohan, **Anand Theivasigamani**, Vimaladevi Sekar, Sabariswaran Kandasamy, Monikandon Sukumaran, Evon Umesh Siluvai John, Ramar Marimuthu. Non-Invasive Measurement of Spoilage of Packed Fish using Halochromic Sensor, Pigment and Resin Technology, 2024, Accepted in Press, DOI:10.1108/PRT-11-2023-0100 .**Impact factor: 1.400; NAAS 7.40**.
20. Kesavan Devarayan, Evon Umesh Siluvai John, Gangeswar Mohan, Yazhiniyan Palanisamy, **Anand Theivasigamani**, Monikandon Sukumaran, Ramar Marimuthu, Santhana Sivabalan Jayaseelan. Development of Portable Colorimeter for Detection of Formalin in Fish, Revista De Chimie, 2024, accepted in press. **(Scopus index)**.
21. Velmurugan, P., A. Srinivasan, A. Athithan, P. Padmavathy, D. Manimegalai and **T. Anand**. 2014. Diversity and seasonal variations of plankton in coastal waters receiving salt pan effluents of Thoothukudi, South –east coast of India. Indian J. Fish. 61(4), pp 60-67.

BIOPROJECT – NCBI

22. **Theivasigamani Anand***, Arasan Srinivasan, Pandurengan Padmavathy, Paulraj Jawahar and J Stephen Sampathkumar (2020). Metagenomics of biofloc from *Penaeus vannamei* biofloc systems with different salinity and carbon sources. Published a Bio-project submitted to National Centre for Biotechnology Information, U.S. (NCBI), Accession: PRJNA663309 ID: 663309 - https://www.ncbi.nlm.nih.gov/Traces/study/?acc=PRJNA663309

Students Research Guidance

Sl. No.	Degree	Name	Title of the research	Campus	Name of the Chairman/ Member
1	M.F.Sc.	Ms.Anusuya	Isolation, screening and testing the efficacy of water probiotics for shrimp culture systems.	FC&RI, Thoothukudi	Dr. T. Anand **Chairman**
2.		Ms. Gelshina GB	Assessing the water quality, nutrient dynamics and growth characteristics of *Penaeus vannamei* and *Penaeus monodon* in copefloc culture systems	FC&RI, Thoothukudi	Dr. T. Anand **Chairman**
3.	Ph.D	Mr.Julius Edward	Data-Driven Reservoir Fisheries Management: Integrating Satellite based parameters, Water Quality Dynamics and Fish Productivity in selected Reservoirs of Tamil Nadu	Dr.MGR FC&RI, Ponneri	Dr. T. Anand **Chairman**
4.		Mr.Manicka vasagam	Assessment of carbon sequestration potential in fish, shrimp, and seaweed farming system of Tamil Nadu (Tentative)	Dr.MGR FC&RI, Ponneri	Dr. T. Anand **Chairman**

Honors and Awards
(Including patents)

Sl.No.	Name of the Medal/ Award	Issuing organization / Body	Date of Receipt	Purpose
1.	Best Research Paper Award.	National Institute of Technology (NIT) Trichy	Nov19 - 20 '2021	For Research Paper entitled "Analyzing the nutrient status in the shrimp farm waste sludge" presented in Virtual International Conference on "Environmentally Benign Processes, Products and Materials for Sustainable Ecosystem"EBPPM-2021
2.	Best Paper Award	Agricultural Scientific Tamil Society, New Delhi	Dec'20 & 212020	For presenting research paper in the 6th National Conference on Agricultural Scientific Tamil
3.	Appreciation Award	TNJFU, Nagapattinam	24thJune 2019	For coordinating the Farmers' meet and farm tour at WAS-APA 2019 held at Chennai during19th to 21stofJune2019
4.	Best paper in Fishery Science section	TNAU, Coimbatore	23.08.214	In First National Agriculture Scientific Tamil Conference– Presented a paper entitled "Vanami eral valarpil biofloc technology – a revolution in production"

Patents Published / filed /granted

S.No.	Title and Patent NO.	Authors	Status
1	Gearbox design for combined aerators– No.372085-001, dt.06.10.2022	Anand Theivasigamani, Roshan Raju Umaselvi, Harini Ravi, **Kesavan Devarayan**, Monikandon 2Sukumaran, Ramar Marimuthu	Granted
2	Grader for Shrimp Nursery – No. 372078-001, 2022	**Anand Theivasigamani**, Mohammed Imthathullah, Jenifer Loumin S., Kesavan Devarayan, Monikandon Sukumaran, Ramar Marimuthu	Granted
3	Pocket-size Colorimeter. Granted, Design No.370129-001, 2022.	Kesavan Devarayan, Anand Theivasigamani, Monikandon Sukumaran, Ramar Marimuthu	Granted
4	Sandwich Structured Halochromic Sensor for Monitoring Spoilage of Packed Fish -Appl.No.202241048351, 2022.	Kesavan Devarayan, **Anand Theivasigamani**, Monikandon Sukumaran, Evon Umesh Siluvai John, Gangeswar Mohan, Yazhiniyan Palanisamy	Published
5	Pocket-size Colorimeter. Design Application - No.370129-001, 2022	Kesavan Devarayan, **Anand Theivasigamani,** Monikandon Sukumaran, Ramar Marimuthu	Granted
6	Capacitive Deionization - Design Application, Appl.No.370485-001, 2022.	Kesavan Devarayan, **Anand Theivasigamani,** Monikandon Sukumaran, Ramar Marimuthu	Filed
7	Piezoelectric Tiles -Design Application, 370291-001, 02.09.2022	Dr.M.Ramar, Dr.D.Kesavan,**Dr.T.Anand**, Er.S.Monikandon, B. Sanjay, M. Gowsick Kumar, P. Suwathi	GRANTED
8	Piezoelectric Component of Shoe - 370787-001, 13.09.2022.	Ramar Marimuthu, Kesavan Devarayan, **Anand Theivasigamani**, Monikandon Sukumaran	GRANTED
9	Aquatic Animal Habituation tank - Appl.No. 370865-001, 2022	Monikandon Sukumaran, Kesavan Devarayan,**Anand Theivasigamani**, Ramar Marimuthu	FILED
10	Aquatic Animal Harvester - Appl.No. 370867-001, 2022	Monikandon Sukumaran, **Kesavan Devarayan**, Anand Theivasigamani, Ramar Marimuthu,Anbarasan Rajmanickam, Balaji Munusamy	FIELD