PERSONAL DATA

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- **World Top Scientist 2% at Global Level (Mycology and Parasitology), Stanford University Ranking –Consecutive years for 2020, 2021& 2022, 2023 & 2024.**

- **Top Scientist in India (19^{h} position) in Biology and Biochemistry 2024 by *Researchcom* ranking (https://research.com/university/bharathiar-university)**

Citations	21512
h-index	77
i10-index	383

RESEARCH INTERESTS

1. Predatory Copepods and Mosquito Vector Control
2. Chitosan Nanoparticles from Crab and Biological Functions
3. Chitosan Nanoparticles and mosquito Borne Diseases
4. Chemical Ecology of Insects, Climate Change, Butterflies

CURRENT RESEARCH

Murugan and his team have investigated the use of nanoparticles, such as silver nanoparticles and other metal-based nanoparticles, as larvicidal agents against mosquito larvae. These nanoparticles are designed to target and disrupt the physiology or development of mosquito larvae, thereby reducing their population in breeding habitats.

Murugan and his research team have studied various species of copepods that prey on mosquito larvae. These copepods feed on mosquito larvae in their aquatic habitats, thereby reducing mosquito populations naturally without the use of chemical insecticides.

Murugan's research explores the potential of chitosan in biomedical applications, such as wound healing and drug delivery systems. Chitosan's biocompatibility and ability to promote tissue regeneration make it a valuable material in medical settings.

He is formerly, **Senior Professor and Head,** Department of Zoology, and **Registrar, i/c**, Bharathiar University, Coimbatore, South India and **formerly Vice-Chancellor** at Thiruvalluvar University (State University), Vellore, TN, India during 2016-2019 (3 years).

PUBLICATIONS

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2. Balamurugan Chandramohan, **Kadarkarai Murugan**, Murugan Vasanathakumaran, Jiang-Shiou Hwang et al. **(2024)** Phyto-functionalized silver-gold alloy nanoparticles integrating medicinal plants (Smilax zeylanica L.) as potential mosquito vector larvicidal agents. Sci Rep (press)
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4. Suriyakala, G., Sathiyaraj, S., Balasundaram, M. **Kadkarkarai Murugan (2023)** Plumeria alba flower extract-mediated synthesis of recyclable chitosan-coated cadmium nanoparticles for pest control and dye degradation. Bioprocess Biosyst Eng 46, 1483–1498 (2023). https://doi.org/10.1007/s00449-023-02915-z
5. **Murugan, K**., Hwang, J.S., Wang, L., Vasanthakumaran, M., Dahms, H.U., Panneerselvam, C., Mohanta, Y.K., Muthupandian, S., Janarthanam, R.B. and Chen, F., **(2023)** Smoke toxicity effect of bio-fabricatedmosquito coil for the sustainable management of mosquito vectors. Journal Natural Pesticide Research, June 2023; Journal of Natural Pesticide Research 6(8):10004; DOI:10.1016/j.napere.2023.100048
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9. Pandiyan Amuthavalli, Jiang-Shiou Hwang, Hans-Uwe Dahms, Lan Wang, Jagannathan Anitha, Murugan Vasanthakumaran, Arumugam Dhanesh Gandhi, **Kadarkarai Murugan**, Jayapal Subramaniam, Manickam Paulpandi, Balamurugan Chandramohan, Shivangi Singh **(2021)**Zinc oxide nanoparticles using plant Lawsonia inermis and their mosquitocidal, antimicrobial, anticancer applications showing moderate side effects. Sci Rep 11, 8837 (2021). https://doi.org/10.1038/s41598-021-88164-0
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