



Centre for Research & Development

Research Supervisor (Guide) Profiles

Discipline of Supervision: **Microbiology**



Dr. Challaraj Emmanuel E S

Associate Professor
Department of Life Sciences
School of Biological & Forensic Sciences

Areas of Specialisation:

Environmental microbiology, diagnostic microbiology,
anti microbial resistance

Dr. Challaraj Emmanuel E. S. is a distinguished microbiologist with expertise spanning biofilm analysis, bioaccumulation, environmental microbiology, and diagnostic microbiology. His research is centered on understanding the formation, structure, and clinical implications of microbial biofilms, particularly their role in antimicrobial resistance and persistent infections. His work in bioaccumulation focuses on how microorganisms interact with and concentrate environmental pollutants, contributing to advancements in bioremediation and ecosystem sustainability. In the field of environmental microbiology, he explores microbial diversity, ecological interactions, and the application of microorganisms in addressing environmental challenges. His expertise in diagnostic microbiology emphasizes the accurate detection, identification, and characterization of pathogens, effectively bridging laboratory research with clinical applications. His work adopts a translational approach, integrating environmental and clinical perspectives to develop solutions to real-world problems. Through sustained research, academic engagement, and a commitment to scientific rigor, he continues to contribute to innovation and excellence in the field of microbiology.

Selected Publications:

1. Thiruvengadam, S., **Emmanuel E S, C.**, Rajesh, N., Bisht, J., Peter L, I. R., Thomas, T., Pappachan, N., Saju, A., & Sajith, K. (2026). Isolation and Enhancement of PHB-producing Bacteria from Sewage using Watermelon Rinds. *Journal of Pure and Applied Microbiology*, 20(1), 400. <https://doi.org/10.22207/jpam.20.1.26>
2. Samuel, P. J., **Emmanuel E S, C.**, Divya, V., Khalid, M., Alqarni, M. H., & Shivaraju, H. P. (2025). Multifunctional CaBi LDH/Ag-gC3N4 catalytic composite for sustainable pollution remediation and photochemical conversion into usable derivatives. *Catalysis Today*, 455, 115315. <https://doi.org/10.1016/j.cattod.2025.115315>
3. Mishra, A., Menon, S., **Emmanuel E.S, C.**, & Ravichandran, K. (2024). EVALUATION OF ASPERGILLUS NIGER CONTAMINATION AND OCCURRENCE OF CITRININ IN RED CHILLI (CAPSICUM ANNUUM) SAMPLES. *Journal of Experimental Biology and Agricultural Sciences*, 12(5), 694–704. [https://doi.org/10.18006/2024.12\(5\).694.704](https://doi.org/10.18006/2024.12(5).694.704)