



Dr. Suhail Ahmed M

Profile

Highly accomplished Environmental Scientist with a PhD in Environmental Radioactivity (2025) and deep expertise in radiological health risk assessment, radiation ecology, and heavy metals analysis across aquatic and agricultural systems.

Proven track record in quantitative environmental modeling, specializing in developing site-specific transfer factors and dose assessment models for Natural High Background Radiation Areas (NHBRA). This work has resulted in significant contributions to high-impact journals, including Science of The Total Environment and Journal of Hazardous Materials.

Seeking to transition to an independent research role where advanced analytical skills (Gamma Spectrometry, AAS, GIS) can be leveraged to address critical global environmental challenges, such as the intersection of climate change and contaminant dynamics in coastal ecosystems.

Contact

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Research Metrics :

Research articles : 19

Review Article : 03

CITATIONS : 174

h-INDEX : 06

i10-INDEX : 04

CUMULATIVE IMPACT : ± 68

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RESEARCH EXPERIENCE

Doctoral Research Fellow, Environmental Radioactivity & Human Health Risk Assessment , Unit of Research in Radiation Biology & Environmental Radioactivity (URRBER), The New College, Affiliated to University of Madras, Tamil Nadu, India. April 2021 – June 2025

PhD Topic: *Site-Specific Transfer Factor Estimation of Heavy Metals and Radionuclides from Soil to Plants in and Around Manavalakurichi, Natural High Background Radiation Area, Kanyakumari, Tamil Nadu.*

Methodological Innovation: Pioneered the integration of advanced statistical analyses and Geographic Information System (GIS)-based spatial mapping to establish novel soil-to-plant transfer factors (Tf) for primordial radionuclides and heavy metals across complex agro-ecosystems; leveraged these parameters to rigorously quantify human health risk indices — encompassing Excess Lifetime Cancer Risk (ELCR), Incremental Cancer Risk (ICR), Annual Effective Dose (AED), and Committed Effective Dose (CED) — attributable to environmental radiological and heavy metal hazards.

Instrumental Proficiency & Independence: Independently operated and maintained a suite of sophisticated analytical instruments — including Gamma-Ray Spectrometry (GRS), Alpha/Beta Counting Systems, and Graphite Furnace Atomic Absorption Spectrophotometer (GF-AAS) — ensuring high-precision, reliable data acquisition for rigorous environmental radioactivity and heavy metal monitoring.

Other qualification

- ❖ **Master of Science (M.Sc.)** in Zoology. The New College , Affiliated to University of Madras , Tamil Nadu, India June 2016 – April 2018 Passed in First Class (CGPA: 7.41 / 10)
- ❖ **Bachelor of Science in Advance Zoology and Biotechnology (B.Sc.)** The New College , Affiliated to University of Madras , Tamil Nadu, India June 2013 – April 2016 Passed in First Class (CGPA: 6.8 / 10)
- ❖ **Advance Diploma In Medical Lab Technology (ADMLT)**, University of Madras , Tamil Nadu, India , 2015 – 2016

Work Experience

Freelancing Researcher – Environmental Radioactivity & Radioecology (July 2025 – present)

Environmental Safety Assistant SRF Logistics | January 2018 – February 2021

Risk Governance Manager SRF Logistics July 2025 – Present

Ensured compliance with environmental and safety regulations, conducted risk assessments, managed hazardous materials handling, led safety training programs, and coordinated incident response and reporting.

Skill and Competency

Proficient in handling the following instruments for analysis and data collection:

- ❖ Gamma ray spectrometer with a 3" × 3" NaI(Tl) scintillator - multi-channel analyzer.
- ❖ Alpha radiation counting system (Nucleonix, model type: RC605A).
- ❖ Beta radiation counting system (Nucleonix, Model type: LB615).
- ❖ Radiation Survey Meter Type: RM 701N.
- ❖ Shimadzu GC-2014 Gas Chromatograph with Flame Ionization Detector (GC/FID).
- ❖ Magnus Trinocular Microscope Model MX35i PRO.
- ❖ Hanna Multiparameter water Probe Model HI 98194.
- ❖ Aqualab Vanveen Grab Samples Model 0430002(2L)-03(6L).
- ❖ Aqualab Liner Sampler Set model (04.15.SB).
- ❖ Yokogawa Flow Cam 8000 imaging particle analyzer with the ALH (Automated Liquid Handler).
- ❖ Graphite Furnace Atomic Absorption Spectrophotometer (**AAS**) (Perkin Elmer-pinnacle 900AA).

TECHNICAL SKILLS AND EXPERTISE

Environmental Assessment & Monitoring: Environmental Impact Assessment (EIA) • Environmental monitoring compliance • Biodiversity monitoring • Environment Quality assurance protocols.

Radiological & Chemical Analysis: Radiometric analysis for primordial radionuclides • Radio ecological assessment • Radio Ecological Hazard Valuation • Radiological Health hazard assessment • Radiation protection protocols • Heavy Metal Analysis • Ecotoxicology.

Ecological Systems Analysis: • Soil physicochemical characterization • Agricultural ecosystem Assessment • Marine ecosystem understanding and benthic community ecology • Soil-to-plant radionuclide and Heavy metal transfer estimation • Geological sample processing and sedimentology.

Aquatic Sciences & Aquaculture: • Aquaculture toxicology and contaminant assessment • Zooplankton Collection, Identification and Culture • Zooplankton Ecology & Analysis.

Human Risk Assessment & Data Analysis: • Excess lifetime cancer risk assessment • Annual effective dose assessment • Targeted Population hazard Quotient • GIS mapping • Spatial Mapping. • Statistical analysis

Research & Communication: • Scientific report writing and documentation • Research article writing • Technical presentation and communication.

Software & Technology: • ArcGIS Pro • Mendeley • Windows family • Origin Lab.

Laboratory Discipline & Safety Compliance : •Expertise in maintaining organized, professional research environments with strict adherence to safety protocols and institutional guidelines

ORGANIZATIONAL AND SOCIAL SKILLS

- ❖ Planned and facilitated multiple seminars, workshops, and scientific debates while serving in both organizational and participatory capacities.
- ❖ Proven track record of cross-disciplinary research collaboration spanning multiple fields of study.

- ❖ Established expertise in cross-cultural team management with demonstrated commitment to promoting inclusive workplace practices and comprehensive personnel care.
- ❖ Comprehensive expertise in environmental sample collection and analysis, including design and implementation of sampling strategies for contaminated sites, ecological assessments, and regulatory compliance monitoring programs.
- ❖ Advanced proficiency in data analysis and technical documentation, including statistical analysis, report preparation, and research publication development for both academic and regulatory audiences.

OTHER SKILLS

- ❖ Provide academic mentorship to graduate students in research planning, literature review, data analysis, and scholarly writing.
- ❖ Proficient in complete workflow including DNA isolation from biological samples, PCR amplification , and agarose gel electrophoresis.
- ❖ Extensive experience in taxonomic identification and classification of vertebrates, with specialized proficiency in fish, reptile, and mammal taxonomy including morphological characterization, species determination.

Environmental Impact Assessment and Consultancy Projects

- ❖ Contributed to the “**Environmental Impact Assessment of Urban Landfill on Aquatic Biodiversity: A Case Study of Perungudi Dump Yard**” Conducted by Infrastructure Development Corporation (Karnataka) Ltd. (iDeCK) , Bengaluru, in Association with Unit of Research in Radiation Biology & Environmental Radioactivity, The New College (Autonomous), Chennai.
- ❖ Contributed to the “**Biodiversity Monitoring and Ecological Health Evaluation of Water Bodies Adjacent to Perungudi Waste Site**” Conducted by Infrastructure Development Corporation (Karnataka) Ltd. (iDeCK) , Bengaluru, in Association with Unit of Research in Radiation Biology & Environmental Radioactivity ,The New College (Autonomous), Chennai.
- ❖ Contributed to the “**Resilience of Zooplankton Assemblages to Landfill Pollution: A Multi-site Diversity Analysis Using Shannon-Weiner and Margalef Indices**” Conducted by Infrastructure Development Corporation (Karnataka) Ltd. (iDeCK) , Bengaluru, in Association with Unit of Research in Radiation Biology & Environmental Radioactivity, The New College (Autonomous), Chennai.

Papers Presented In Conferences

- ❖ Presented a paper entitled “**Determination of Radioactivity in Environmental Samples around Coal Fired Power Plant in Chennai City, Tamil Nadu**” at the Fifth Conference on Application of Radiotracers and Energetic Beams in Sciences (ARCEBS), Sidho Kanha Birsha University, Purulia, India, in cooperation with the International Atomic Energy Agency (IAEA), January 31 - February 5, 2023.

- ❖ Presented a paper entitled "**Radiological Assessment and Transfer Dynamics of Primordial Radionuclides in Agricultural Soils and Rice from a Natural High Background Radiation Area in Tamil Nadu, India**" at the 4th International Conference on Multifunctional Materials and Radiation Measurements (ICMMRM 2025), SSN College of Engineering in association with Sri Venkateswara College of Engineering (Autonomous), Sriperumbudur, March 21-22, 2025.
- ❖ Presented a paper entitled "**Assessment of Natural Radiation Exposure Through Fruit Consumption in Manavalakurichi, a High Background Radiation Area**" at the International Conference on Multifunctional Materials and Radiation Measurements (ICMMRM 2023), SSN College of Engineering in association with Society of Radiation Research (SSR) and The Indian Spectro physics Association (ISPA), January 27-28, 2023.

List of Publications

Research Article (19) , Review Articles (3)

- 1) **Suhail Ahmed, M.**, Santhanabharathi, B., Chandrasekaran, Musthafa, M. S. (2025). Radioecological dynamics of primordial radionuclides in rice agroecosystems: A comprehensive assessment of transfer pathways and health risk assessment in the Manavalakurichi NHBRA. *Science of The Total Environment*, 994, 180029.
- 2) Chu, T. T., Duong, V. H., Pham-Thi, T. X., **Suhail Ahmed, M. S.**, Musthafa, M. S., Van, T. D., ... & Nguyen, T. N. (2026). Distribution and risk assessments of ²¹⁰Po in the body organs of common carp (*Cyprinus carpio*) and Barbel Chub (*Squaliobarbus curriculus*) within Red River, Vietnam. *Ecotoxicology*, 35(1), 9.
- 3) Priyadarshini, M., **Suhail Ahmed, M.**, (2025). Radiological Risk Assessment of Primordial Radionuclides in Sediment: A Case Study of Southeast Chennai, Tamil Nadu, India. *Regional Studies in Marine Science*, 104731.
- 4) Priyadarshini, M., Santhanabharathi, B., Chandrasekaran, A., **Suhail Ahmed, M.**, & Musthafa, M. S. (2025). Assessment of Gross Alpha, Gross Beta, ²¹⁰Po, and ²¹⁰Pb in Rice and their Associated Health Risks in Tamil Nadu, India: A Baseline Study. *Applied Radiation and Isotopes*, 112253.
- 5) Santhanabharathi, B., **Suhail Ahmed, M.**, Chandrasekaran, A., Priyadarshini, M., Musthafa, M. S. (2025). Spatial distribution and radiological risk assessment of natural radionuclides in sediments from Kayamkulam Estuary, Kerala. *Environmental Pollution and Management*, 2, 77–86.
- 6) Pradhoshini, K. P., Santhanabharathi, B., Chandrasekaran, A., **Suhail Ahmed, M.**, Musthafa, M. S. (2025). Radiation doses received by humans in their dwellings – A baseline report on radionuclides exposure from construction materials used in Chennai, Tamil Nadu, India. *Journal of Hazardous Materials*, 484, 136754.
- 7) Priyadarshini, M., **Suhail Ahmed, M.**, Santhanabharathi, B., Pradhoshini, Saiyad Musthafa, M. (2025). Assessment of natural radioactivity levels in polychaetes along southeast coast of Chennai, Tamil Nadu, India—a pilot study. *Toxicological and Environmental Chemistry*, 107(1), 78–97.
- 8) Khan, J. K. R., Thangarasu, R., **Suhail Ahmed, M.**, Priyadarshini, M., Santhanabharathi, B., Musthafa, M. S. (2025). Health risk assessment of ²¹⁰Po and ²¹⁰Pb due to consumption of dried fish from natural high background radiation areas of Kanyakumari coast, Tamil Nadu, India. *Marine Pollution Bulletin*, 217, 118040.
- 9) **Suhail Ahmed, M.**, Priyadarshini, M., Santhanabharathi, B., Pradhoshini, K. P., Shafeeka Parveen, Saiyad Musthafa, M. (2024). Health risk assessment of radionuclides in edible fruits cultivated around natural high background radiation areas of Manavalakurichi, Tamil Nadu, India. *International Journal of Environmental Analytical Chemistry*.

- 10) Shafeeka Parveen, M. H., Ud Din War, M., **Suhail Ahmed, M.**, Santhanabharathi, B., Saiyad Musthafa, M. (2024). Assessment of heavy metal concentration in pelagic fish species and associated health risks along the Kanyakumari coast, India—a baseline study. *International Journal of Environmental Analytical Chemistry*.
- 11) Chandrasekaran, T. S., Milton, J., Santhanabharathi, B., Pradhoshini, K. P., Cojandaraj, L., Priyadharshini, M., **Suhail Ahmed, M.**, Musthafa, M. S., Balaji, P., & Faggio, C. (2024). Heavy metals toxicity in edible bivalves and risk exposure to humans through its consumption from Adyar Estuary, Tamilnadu, India – A baseline study. *Regional Studies in Marine Science*, 79, 103854.
- 12) Sethuraman, S. P., Velemurugan, S., Raju, K., Velayutham, N. K., **Suhail Ahmed, M.**, Santhanabharathi, B., & Musthafa, M. S. (2024). Physalis Genus, a Plant Source against Breast Cancer on MCF-7 Cell Line: A Systematic Review. *Current Pharmacology Reports*, 10(6), 454–466.
- 13) Santhanabharathi, B., **Suhail Ahmed, M.**, Pradhoshini, K. P., Priyadharshini, Saiyad Musthafa, M. (2024). Ecological risk assessment due to heavy metals prevalence in the sediments of Kayamkulam estuary, Kerala, India. *International Journal of Environmental Analytical Chemistry*.
- 14) Priyadharshini, M., Pradhoshini, K. P., Chandrasekaran, A., Santhanabharathi, B., **Suhail Ahmed, M.**, Saiyad Musthafa, M. (2024). Evaluation of ²¹⁰Po, ²¹⁰Pb, and potentially toxic element concentrations in aquatic environments and polychaetes along the southeast coast of Chennai, Tamil Nadu: a baseline report. *International Journal of Environmental Analytical Chemistry*.
- 15) Priyadharshini, M., **Suhail Ahmed, M.**, Pradhoshini, K. P., Santhanabharathi, B., Musthafa, M. S. (2024). Human health risk assessment due to consumption of dried fish in Chennai, Tamil Nadu, India: a baseline report. *Environmental Science and Pollution Research*, 31(29), 41388–41401.
- 16) Pradhoshini, K. P., Santhanabharathi, B., **Suhail Ahmed, M.**, Priyadharshini, M., Saiyad Musthafa, M. (2025). Natural radioactivity estimation and heavy metals concentration in commercial tea brands – a baseline study on human health risk hazards due to tea consumption in Tamilnadu, India. *International Journal of Environmental Analytical Chemistry*.
- 17) Pradhoshini, K. P., Santhanabharathi, B., Priyadharshini, M., **Suhail Ahmed, M.**, Musthafa, M. S. (2024). Microbial consortium and impact of industrial mining on the Natural High Background Radiation Area (NHBRA), India – Characteristic role of primordial radionuclides in influencing the community structure and extremophiles pattern. *Environmental Research*, 244, 118000.
- 18) Santhanabharathi, B., Pradhoshini, K. P., **Suhail Ahmed, M.**, Priyadharshini, M., Saiyad Musthafa, M. (2023). Source, fate and transfer of primordial radionuclides as potential contaminants in environmental matrices of high and low background radiation areas—a critical review. *International Journal of Environmental Analytical Chemistry*, 105(4), 954–980.
- 19) Pradhoshini, K. P., Priyadharshini, M., Santhanabharathi, B., **Suhail Ahmed, M.**, Musthafa, M. S., Alam, L., Falco, F., & Faggio, C. (2023). Biological effects of ionizing radiation on aquatic biota – A critical review. *Environmental Toxicology and Pharmacology*, 99, 104091.
- 20) Muthukumaravel, K., Priyadharshini, M., Kanagavalli, V., Vasanthi, N., **Suhail Ahmed, M.**, Musthafa, M. S., Impact of sublethal phenol in freshwater fish *Labeo rohita* on biochemical and haematological parameters. *Environmental Monitoring and Assessment*, 195(1), 1–14.
- 21) Kumarasamy, P., Pugazhendi, A., Muthukumaravel, K., Perumal Pradhoshini, K., Ganapiriya, V., Saiyad Musthafa, M., & **Suhail Ahmed, M.** (2023). Male Reproductive System of *Leucosia Anatum*: Histological and Histochemical Analysis. *Journal of Integrative Natural Science*, 16(1), 1–12.
- 22) Kumarasamy, P., Sasipriya, M., Ganapiriya, V., Muthukumaravel, K., Pradhoshini, K. P., **Suhail Ahmed, M.**, Musthafa, M. S., & Faggio, C. (2023). Internal anatomy and ultrastructure of the male reproductive organization of the Sesamid crab *Muradium tetragonum* (1798)—(Decapoda: Brachyura). *Acta Zoologica*, 104(3), 398–406.

PERSONAL DETAILS

Name : Suhail Ahmed. M
Nationality : Indian
Date Of Birth : 13th September 1995 (30 Years)
Marital Status : Married
Blood Group (Rh) : O (+)

Languages Known

English : Professional fluency (Read, Write, Speak)
Tamil : Native fluency (Read, Write, Speak)
Urdu : Conversational
Hindi : Conversational
Malayalam : Basic Speaking Proficiency
Arabic : Basic Reading Proficiency

References

- 1) Dr. M. Saiyad Musthafa M.Sc., M.Phil. Ph.D. - **PhD Supervisor**
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Declaration

I hereby declare that the information provided in this curriculum vitae is true and correct to the best of my knowledge and belief.

Date : 21st May 2026

Dr. SUHAIL AHMED. M