

About the Editor

I have been presently working as Chief Scientist and Area Co-coordinator, Plant Ecology and Environmental Science Division at CSIR—National Botanical Research Institute (NBRI) Lucknow—a premier R & D laboratory of plant sciences in the network of Council of Scientific and Industrial Research, New Delhi. During my 31 years of research career, I have worked in the areas of air pollution, monitoring and mitigation, climate change as well as bioremediation and biodegradation of organic wastes.

My interest in microbial degradation was generated when we started working on a research project on biodegradation of oily sludge sponsored by Government of India. In this project, we studied biodegradation and biotransformation of several recalcitrant alkanes and polyaromatic compounds usually found in oily sludge in laboratory conditions by potential individual bacterial strains and their several combinations. Apart from degradation study, we also elucidated the degradation pathways with involvement of several degradative enzymes through proteomics. Subsequently, we also carried out microcosmic study by a combination of high degrading fungal and bacterial strains in optimum conditions with biostimulation and bioaugmentation. Now this study has to be scaled up to pilot scale to develop a microbial technology for degradation oily sludge or oil spills for field application. Working on this aspect, we have published more than dozen papers in high impact journals and a few more are in the pipeline. Enthused with this success, we have now targeted microbial degradation of polychlorinated biphenyls (PCBs) largely used in transformer oil, adhesives, paints etc.

In 1992, I visited UK for six months to work on plant responses to elevated levels of CO₂ and temperature at Institute of Ecology, Bangor. Again in 2006, I attended a workshop in USA on Agricultural Air Quality: State of Science and delivered a lecture on invitation on GHGs emission from crop fields.

Working on these aspects, I published 75 research papers in the international journals of repute with good impact factor and four edited volumes, such as *Trace Gas Emission and Plants* published by Kluwer Academic Publishers in 2000, *Environmental Bioremediation Technologies* in 2007, *Climate Change and Crops* 2009 and the latest one *Microbial Degradation of Xenobiotics* in 2012 by Springer, Germany.

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