

Special Issue on
**Environmental Biotechnology: Challenges, Applications,
and Future Prospects**

CALL FOR PAPERS

Environmental biotechnology is a multidisciplinary branch of science covering wide aspects of day-to-day life, where environmental pollution is one of the major challenges faced by environmental biotechnologists. Under normal circumstances, remediation of the pollution related to soil, water, and air is naturally taken care of by recycling of the natural resources. However, recently, the widespread pollution beyond natural healing is a major concern. The increase in population and industrialization, issues associated with agriculture (such as erosion of fertile soils and overusage of chemical pesticides), accidental-intentional release of hydrocarbons in sea and land (oil spills), generation of electronic/electrical waste releasing endocrine disruptors, and uncontrolled use of antibiotics both as medicine and in meat industries are few reasons among others

Microbial biotechnology offers environmentally friendly approaches that can be implemented effectively for environmental bioremediation. Aspects of microbial-mediated bioremediation process can benefit the environment by exploiting the capabilities of microorganisms that enable the utilization of noxious compounds, thereby transforming them into utilizable intermediates and value added products. Different microbial metabolites such as enzymes, biosurfactants, emulsifiers, organic acids, and solvents play a significant role in bioremediation of contaminated sites with radioactive and heavy metals, chemical pesticides, and organic contaminants such as dyes and hydrocarbons in an environmentally amicable manner. Such candidate microbe and the metabolite intended for bioremediation are expected to be non-pathogenic, nontoxic, economically and commercially viable (and easily available in large quantity), active, and biodegradable under natural environmental conditions. Bioconversion of agroindustrial waste products or municipal waste water to industrially useful products like biosurfactants, bioethanol, biogas, and electricity generation by microbial fuel cells is already being exploited as an attractive option. Recent advancements in biochemical engineering, OMICS and genetic engineering tools, and synthetic-biology pave the way for achieving these selective criteria, identifying the indicator microbial strains, route of pollution, and development of tailor-made microbe-metabolites that can be effectively applied for the future environmental applications

This research topic welcomes contributions such as state-of-the-art reviews and original research.

Potential topics include but are not limited to the following:

- ▶ Environmental pollution: routes, causes, and microbial treatment
- ▶ Environmental biodiversity: OMICS application
- ▶ Microbial bioremediation of sites contaminated/affected by radioactive and heavy metals
- ▶ Hydrocarbon and oil-spill bioremediation
- ▶ Industrial effluent and waste water treatment (e.g., dye industries and municipal waste water)
- ▶ Value added products from waste (e.g., enzymes, biofuel, and microbial fuel cell)

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/scientifica/biotechnology/envb/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

Lead Guest Editor

Sanket J. Joshi, Sultan Qaboos
University, Muscat, Oman
sanket@squ.edu.om

Guest Editors

Urvish Chhaya, N.V. Patel College of
Pure and Applied Sciences, Gujarat,
India
urvish.chhaya@gmail.com

Randhir S. Makkar, Guild Biosciences,
Charleston, USA
rsmakkar@yahoo.com

Palashpriya Das, Indian Institute of
Chemical Biology, Kolkata, India
write2palashpriya@gmail.com

Submission Deadline

Friday, 13 April 2018

Publication Date

August 2018