Bioremediation of Degraded Soil for Environmental Sustainability

P. C. Abhilash, Vishal Tripathi, Renata Lima, Leonardo F. Fraceto, Bin Chen

1. Call for papers for a Special Issue of E3 on ‘Bioremediation of Degraded Soil for Environmental Sustainability’

Soil is an important life supporting system of Earth maintaining biodiversity and other essential ecological functioning like biogeochemical and water cycling, terrestrial carbon cycling, regulating other trace gases emission and also supporting human habitation and developmental activities (Abhilash et al. 2012, Tripathi et al. 2016a). Unfortunately, increasing industrialization, urbanization and agricultural activities had resulted in the widespread pollution of the global soil resources and thereby negatively affecting the ecosystem services provided by them (Tripathi et al 2015). On the other hand, there is a growing demand of fertile soil for producing the food and fuel requirements of the rapidly growing human population (Abhilash et al, 2016, Tripathi et al, 2016b). However, it has been estimated that more than one third of the global soil resources is degraded and the level of degradation is steadily increasing in various parts of the world (Tripathi et al, 2014). Moreover, changing climatic conditions are also negatively affecting the resilience of soil system. Inventive soil remediation strategies are imperative for regaining the vitality of the soil, enhancing soil carbon pool and also for deriving additional benefits from degraded systems for supporting a bio-based economy (Edrisi & Abhilash 2016; Tripathi et al 2016a). In this backdrop, this special issue is aimed to publish the latest state-of-art developments in bioremediation of polluted and degraded soil for multipurpose environmental benefits.

2. Thematic areas

This special issues is targeted to bioremediation and restoration experts, soil scientists, students, researchers, policy makers and regulatory bodies. We invite original full length research articles, short communications, mini reviews, reviews, case studies, meta-analysis and perspective articles from prospective authors on following themes:

- Ecological characterization of polluted and degraded soil
- Trends in analytical advancement for the biomonitoring of polluted and degraded soil
- High throughput molecular tools for the screening of microorganisms for bioremediation
- Exploring biodiversity for bioremediation of polluted and degraded soil.
- Harnessing plant-microbe interactions as a low-input biotechnology for bioremediation
- Application of enzyme technology for the bioremediation of polluted and degraded soil.
- Nanobiotechnological application for the bioremediation of polluted and degraded soil.
• Use of organic and inorganic amendments for enhancing the bioremediation of polluted and degraded soil
• Carbon sequestration in polluted and degraded soil
• Sustainability indicators for evaluating the performance of restored system

Prospective authors are welcome to contact the Editors regarding the suitability of manuscript. They are also encouraged to suggest new and emerging areas in bioremediation (not listed here) for possible consideration.

3. Tentative schedules

• Call for papers: November 2016 – June 2017
• Submission of Manuscript: November 2016 to June 2017
• Peer review/paper revision process: July – September 2017
• Decision deadline of all revised papers: September 2017
• Publication of Special Issue: October 2017

4. Preparation of manuscript

The manuscript must be prepared in accordance of the guidelines provided by Energy, Ecology & Environment. Please visit the journal homepage (www.springer.com/energy/journal/40974) for more details.

5. Editors

P. C. Abhilash, Institute of Environment & Sustainable Development, Banaras Hindu University, Varanasi, India, Email: pca.iesd@bhu.ac.in.

Vishal Tripathi, Institute of Environment & Sustainable Development, Banaras Hindu University, Varanasi, India, Email: vishalbiotechbhu@gmail.com

Leonardo F. Fraceto, Department of Environmental Engineering, UNESP–São Paulo State University, Avenida Três de Março, n° 511, 18087-180 Sorocaba, SP, Brazil, Email: leonardo@sorocaba.unesp.br

Renata Lima, Department of Biotechnology, University of Sorocaba, Rodovia Raposo Tavares, Km 92.5, 18023-000 Sorocaba, SP, Brazil, Email: renata.lima@prof.uniso.br

Bin Chen, State Key Joint Laboratory of Environment Simulation and Pollution Control, School of Environment, Beijing Normal University, E-mail: chenb@bnu.edu.cn

5. References


