Preface

“Obscurity knows Nature will light the lamps”

Dahomean Proverb

The editors of Phytoremediation: Management of Environmental Contaminants originally planned a two-volume book to provide a broad global perspective on the development and use of phytoremediation to repair and restore contaminated terrestrial and aquatic habitats. The success and acceptance of Volumes 1 and 2 led to the production of three additional volumes that provide a wide diversity of phytoremediation laboratory studies and case histories completed in many parts of the world. Volume 5 contains the final chapter contributions in the series and adds new information on the application of soil microorganisms as inoculants or enhancement agents in contaminated terrestrial habitats including petroleum-contaminated sites. Other chapters describe the use of both woody and herbaceous plants for the bio-monitoring and treatment of contaminants and provide new information on the trace element and toxic metals present in medicinal plants.

In the area of aquatic ecosystems, Volume 5 offers chapters that describe important new approaches to applying phytoremediation to increase the efficiency of aquaculture systems and the management of pharmaceutical and personal care products using constructed wetlands. Other chapters describe the general use of aquatic plants and floating wetlands to treat polluted water.

Several chapters in Volume 5 offer special applications of phytoremediation in terrestrial and aquatic habitats and include information on the genetic control of metal sequestration in hyperaccumulating plants, the use of engineered nanomaterials to remove metals/metalloids and their implications on plant physiology, applying plant biosorbents to extract metals from soils and water, and the phytomining of rare and valuable metals. Nutrient management strategies for coping with climate change in irrigated smallholder cropping systems and the phytoremediation of landfill leachates are covered in two chapters, and a chapter on the modeling of phytoremediation and another on the phytoremediation of contaminated air complete Volume 5.
The complete five-volume series of *Phytoremediation: Management of Environmental Contaminants* is designed to share a diversified sample of the current laboratory research and field applications of phytoremediation in a global context. As editors, we hope that the series will be both useful and informative to academics, government officials, and private sector managers and consultants interested in the potential for cost-effective and sustainable approaches to improving the environmental quality of terrestrial and aquatic ecosystems.

Tabuk, Saudi Arabia
Rohtak, Haryana, India
Rohtak, Haryana, India
Syracuse, NY, USA
Syracuse, NY, USA

Abid A. Ansari
Sarvajeet Singh Gill
Ritu Gill
Guy R. Lanza
Lee Newman
Phytoremediation
Management of Environmental Contaminants, Volume 5
Ansari, A.A.; Gill, S.S.; Gill, R.; Lanza, G.; Newman, L.
(Eds.)
2017, XIV, 514 p. 91 illus., 83 illus. in color., Hardcover
ISBN: 978-3-319-52379-8