About the Book

Biotechnology impinges on everyone's lives. It is one of the major technologies of the twenty-first century with wide-ranging, multidisciplinary activities ranging from small entities of life to the application, and production of goods. Environmental biotechnology is a huge and fast growing field with increasing relevance for a sustainable development through protection of environment to production of biomaterials. It continues to revolutionize the understanding of basic life sustaining processes in the environment, identification and exploitation of the molecules, and its use to provide clean technologies and to deal with environmental problems.

This book provides an overview of basic processes of the environment, perturbations in the environment due to natural and human activities and use of biotechnological principles for remediation for sustainable development of the environment.

Salient Features

- Divided into 4 parts, Part-I deals with the components of the environment, Part-II covers basic degradation methods of natural and xenobiotic compounds, Part-III is on production of valuable products, and Part-IV is on bioconversion and recovery of products.
- Discusses all the types of pollution like air, water, soil, indoor, greenhouse effect, acid rain, particulate, solid waste, heavy metal, industrial toxicants and so on.
- Bioremediation and other remediation measures like phytoremediation, carbon sequestration etc. have been discussed in detail. Both in situ and ex situ remediation technologies have been discussed.
- All the natural processes and the environmental control measures have been well explained using schematic and flow diagrams.

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2003). During the same period he joined Gesellschaft fur Biotechnologische Forschung mbH, (1992-1994) Braunschweig, Germany, as Postdoctoral BATI scientist, and developed biotechnological methods for degradation and bioremediation of chlorinated compounds in the environment. He also generated strain-specific monoclonal antibody probes against dioxin-degrading bacteria, Sphingomonas sp. RW1, and applied it for detection of bacterial strain for bioremediation of dioxin. Dr. Thakur is teaching different courses related to Environmental Sciences since last twenty three years. He published more than sixty research papers in peer reviewed International Journals and twenty in National Journals. In addition he also presented more than ninety papers in scientific conferences and project committee meetings. He deposited seventeen gene sequences in GenBank.