

Contents

Part I: Fundamentals

Chapter 1 Soil Physical-Chemical-Biological Interfacial Interactions: An Overview.....	3
<i>P.M. Huang</i>	
Chapter 2 Sorption and Desorption of Arsenic by Soil Minerals and Soils in the Presence of Nutrients and Organics	39
<i>Antonio Violante, Stefania Del Gaudio, Massimo Pigna, Marianna Pucci and Carmine Amalfitano</i>	
Chapter 3 Role of Bacteria and Bacteria-Soil Composites in Metal Biosorption and Remediating Toxic Metal-Contaminated Soil Systems.....	71
<i>Qiaoyun Huang, Wenli Chen and Benny K. G. Theng</i>	
Chapter 4 Adsorption of Biopolymers, with Special Emphasis on Globular Proteins.....	99
<i>Willem Norde</i>	
Chapter 5 Relationship of Polarity and Structures of Organic Matter with Sorption Capacity for Hydrophobic Organic Compounds	125
<i>Seunghun Kang and Baoshan Xing</i>	
Chapter 6 Organically Modified Clays for Pollutant Uptake and Environmental Protection	145
<i>Benny K.G. Theng, G. J. Churchman, W.P. Gates and G. Yuan</i>	
Chapter 7 Microbial Transformation of Organic Chemicals in Natural Environments: Fate of Chemicals and Substantiation of Microbial Involvement through Enrichment Culturing Techniques.....	175
<i>Ji-Dong Gu</i>	

Part II: Applications

Chapter 8 Soil Organic Matter Quality and the Size and Activity of the Microbial Biomass: Their Significance to the Quality of Agricultural Soils.....	201
<i>R.J. Haynes</i>	
Chapter 9 Soil Carbon Dynamics in a Subtropical Mountainous Region, South China: Results Based on Carbon Isotopic Tracing.....	233
<i>Qingqiang Chen, Chengde Shen, Yanmin Sun, Shaolin Peng, Weixi Yi, Zhi'an Li and Mantao Jiang</i>	
Chapter 10 Bioavailability of Soil-Sorbed Pesticides and Organic Contaminants	259
<i>Yucheng Feng and Stephen A. Boyd</i>	
Chapter 11 Anticlastogenic and Antitoxic Actions Exerted by Humic Substances in Seedlings of Various Plants	281
<i>Elisabetta Loffredo, Nicola Senesi and Giuseppe Ferrara</i>	
Chapter 12 Soil Heavy Metal Pollution and Microbial Communities: Interactions and Response Assessment	303
<i>Jianming Xu, Akmal Muhammad and P. M. Huang</i>	
Chapter 13 Changes in Antibiotic Resistance Profile of Soil Bacterial Community in Association with Land Degradation.....	317
<i>Ryoichi Doi, Pramuk Kaeoniam, Jumlong Placksanoi, Samai Sewakhonburi, Jaran Jiraphong</i>	
Index	345