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Collana	Handbook of Hydrocarbon and Lipid Microbiology
Disciplina	547.01
Soggetti	Microbial genetics Microbial ecology Industrial microbiology Environmental engineering Biotechnology Bioremediation Biochemistry Microbial Genetics Microbial Ecology Industrial Microbiology Environmental Engineering/Biotechnology
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Nota di contenuto	Introduction to Microbial Hydrocarbon Production: Bioenergetics -- Diversity and Taxonomy of Methanogens -- Hydrogenotrophic Methanogenesis -- Ecophysiology of Acetoclastic Methanogens -- Methanogenesis from Carbon Monoxide -- Environmental Constraints that Limit Methanogenesis -- Methanogens: Syntrophic Metabolism -- Methanogenesis in Soils, Wetlands, and Peat -- Methanogenesis in the Digestive Tracts of Insects and Other Arthropods -- Methanogenesis at High Latitudes -- Methanogens and Methanogenesis in Hypersaline Environments -- Metagenomics of Methanogenic Communities in Rice Paddy Rhizosphere; the Importance of Methanocella -- Metagenomics of Methanogenic Communities in Anaerobic Digesters -- Anaerobic Digestion as Key Technology in the Bio-Based Economy -- Oxic

Methane Cycling: New Evidence for Methane Formation in Oxic Lake Water -- Contribution of Methane Formation and Methane Oxidation to Methane Emission from Freshwater Systems -- Diversity and Taxonomy of Aliphatic Hydrocarbon Producers -- Alkane Biosynthesis in Bacteria -- Oil and Hydrocarbon-Producing Bacteria.-.

Sommario/riassunto

The book covers the microbiological, environmental and biotechnological aspects of alkane production. Alkanes are important energy-rich compounds on earth. Microbial synthesis of methane and other alkanes is an essential part of the geochemical cycling of carbon and offers perspectives for our biobased economy. This book discusses different aspects of current knowledge of microbial alkane production. Chapters with state of the art information are written by renowned scientists in the field. The chapters are organised into four themed parts: 1. Biochemistry of Biogenesis - Hydrocarbons 2. Taxonomy, Ecophysiology and Genomics of Biogenesis - Hydrocarbons 3. Biogenic Communities: Members, Functional Roles 4. Global Consequences of Methane Production.