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*“This book is a comprehensive text on the use of biohythane for sustainable energy production, covering all the aspects of the topic, from simple but fundamental concepts to a detailed description of the scientific, technological, and economic issues of biohythane production and the most relevant theoretical aspects of the processes described. This book is very useful for both students approaching the topic for the first time and researchers already working in the field.”*

**Prof. Roberto De Philippis**  
University of Florence, Italy

*“This timely book provides a comprehensive account of the scientific and technological advancements in biohydrogen and biomethane production processes and highlights the challenges involved in integrating the two. It also presents details of the microbiology, biochemistry, and bioprocess aspects of biohythane production. It will be an excellent reference book for faculty, students, and researchers in biochemical and energy engineering, as well as practicing engineers and policy makers concerned with biofuel production and formulation of policies for promoting biofuels. It is a must for the bookshelves of all those interested in R&D in the area of biofuels.”*

**Dr. S. N. Upadayay (Professor Emeritus)**  
Indian Institute of Technology (BHU), India

This book is a novel attempt at describing the fundamental aspects of and advancements in the field of biohythane production. The comprehensive collection of chapters is based on the fundamentals of heterotrophic hydrogen production and consequent methane production technologies. Emphasis is on the integration of two stages of a hybrid system for maximum gaseous energy generation from organic wastes, thus making the overall process economically viable. Readers get insight into the technological advancements made in the field of biohydrogen and biomethane production and the challenges involved in integrating these two technologies. The book also includes details of the microbiological, biochemical, and bioprocess aspects related to biohythane production, in addition to the applicability of this process, its socioeconomic concerns, and cost energy analysis, supplemented with illustrative diagrams, flowcharts, and comprehensive tables. It will be an ideal vade mecum for advanced undergraduate- and graduate-level students of biotechnology, microbiology, biochemical engineering, chemical engineering, and energy engineering; teachers and researchers in bioenergy, the environment, and biofuel production; and policy makers.



**Dr. Debabrata Das** is a senior professor at the Indian Institute of Technology, Kharagpur, India. He has made significant contributions to bioenergy production processes by applying fermentation technology. He has published more than 132 research papers in peer-reviewed journals, written 1 textbook and 1 reference book, and contributed more than 22 chapters in books.



**Dr. Shantonu Roy** is an assistant professor at the National Institute of Technology, Arunachal Pradesh, India. His PhD research work deals with biohydrogen production using extremophiles.



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