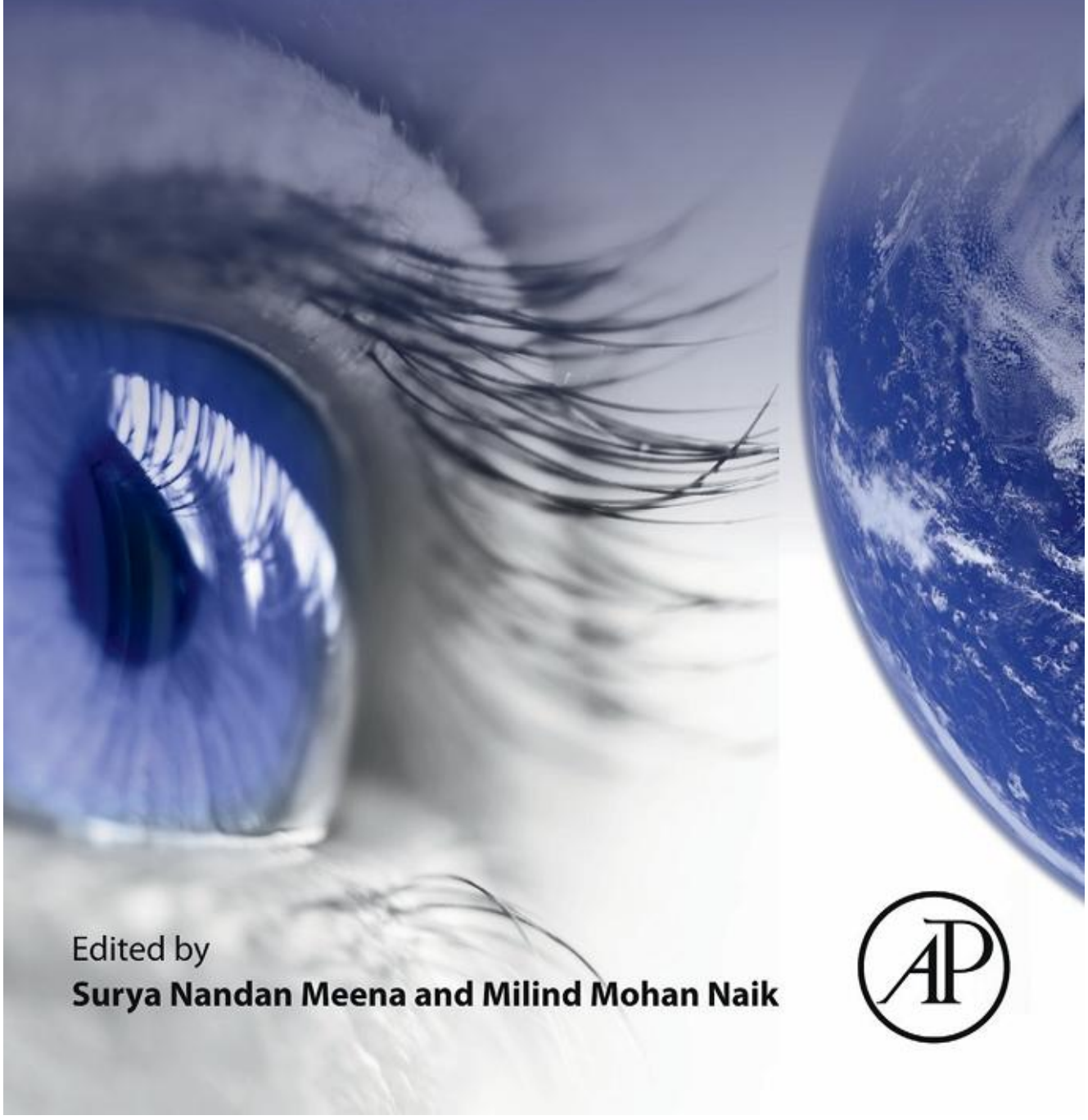
Advances in Biological Science Research

A Practical Approach



Edited by
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Chapter 10

Biodegradation of seafood waste by seaweed-associated bacteria and application of seafood waste for ethanol production

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10.1 Introduction

In recent years, seafood waste has increased tremendously, since during the processing of prawns, shrimps, and other shellfish mostly the meat is utilized while the shells, bones, and head portions are thrown as wastes into marine waters [1]. Fish production around the globe has increased tremendously and reached 174 million metric tons in 2017. India is the third largest producer of fishery around the globe and hence produces an enormous amount of fish waste [2]. India generates >2 metric million tons of waste during fish processing, of which 300,000 tons contribute to visceral waste alone [3]. Commercial processing of fish generates a significant amount of waste, which includes viscera, fins, scales, and bones [4]. This huge amount of discards (fishery waste) including solid wastes along with wastewater resulting from fishery processing are unutilized and usually disposed of in landfills, or dumped near shore and into the ocean without any pretreatment, causing environmental pollution, thus severely impacting aquatic biota health ailments [5,6]. Although these wastes are biodegradable, the process is very slow. This results in accumulation of fishery waste over time and pollutes coastal and marine environments due to bad odors and secretion of biogenic amines, thereby affecting marine life [7]. Due to

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