

FRONTIERS

in **SCIENCE** and

TECHNOLOGY

Edited by

Kamaruzzaman Yunus

Ahmed Jalal Khan Chowdhury



**IIUM
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FRONTIERS in SCIENCE and TECHNOLOGY

The scheme of the book is divided into four different sections namely, health and wellbeing, biotechnology, physical sciences and management of aquatic resources. Health and wellbeing are comprised two chapters-“Probiotics and Health”, “Cancer - The silent killer”. “Probiotics and Health” provides the reader with an understanding of the concept of the human microbiota, their role in health and disease, probiotic microorganisms and a plethora of diseases against whom probiotic intervention is substantiated by human studies. The chapter “Cancer - The silent killer” gives an account of cancer progression and prevention strategies. Cancer has become a leading cause of death and disability in the developing world. Every day about 21,000 cancer-related deaths occur globally. In contrast, 7000 people die because of HIV. Biotechnology chapters focus on the applications and promises of laccases in Biotechnology. Laccases have been seen as a green catalyst in modern industry. This increases the importance of these enzymes in current biotechnological research and understanding and the discussion concentrated on the purification of laccases to the structural modifications for rational use of the molecule. This area also elaborates the principles of bio-sensing, which makes a survey of different biosensors with examples in action and provides sample illustrations of biosensors. Biosensors may be considered at the interface of biotechnology and nanotechnology. With the advent of the fascinating extended scope of nanotechnology, it has revolutionized the detection techniques in clinical diagnosis, environmental monitoring and food quality control, etc. The last chapter in this section describes an antiobesity agent Hydroxycitric acid (HCA), generally produced from the calyxes of Hibiscus sabdariffa and from the fruit rinds of Garcinia species. Research has shown that roselle selections have a high content of HCA and show promise for the management of obesity problems using a drug obtained from natural sources.

Kamaruzzaman Yunus started his professional career as Lecturer under the Department of Fisheries & Marine Science, Faculty of Science and Technology, Kolej Universiti Sains & Teknologi Malaysia, Kuala Terengganu (1999-2007). He was appointed as academic staff at the Kulliyah of Science in 2007. He has been serving as Dean, Kulliyah of Science since 2009. He is a Professor under the Department of Marine Science, Kulliyah of Science, IIUM at Kuantan Campus. He was appointed as vital members of significant numbers of academic, administrative and research committee at the University level since he joined in IIUM. He taught on marine pollution and environmental pollution at the department of biotechnology and marine science. His specialty is in environmental and geochemistry. His current research also involved in the mangrove, wetland management, geochemistry and chemical oceanography.

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