

FUNDAMENTALS IN BIOTECHNOLOGY

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Summary

Biotechnology, since the Renaissance (1500), has become an integral feature of the public's consciousness, hopes and fears. Issues such as food, disease, genetically engineered foods, cloning, biotechnology and sterility impact and interact with the public's feelings and interests, which in turn motivate the comprehension and acceptance or rejection of biotechnology in various and complex manner.

Other important biotechnology, biotechnology, in reality, is a collection of a set of techniques that involve the use of a variety of organisms that lead themselves to a wide range of applications, in generating knowledge, and in improving healthcare, food production, environmental quality, and consumer choice.

An understanding of cell identity and nature (i.e. either prokaryotic or eukaryotic), its characteristics, its cultivation, and its biotechnology, means it is fundamental to its handling in the laboratory, and later its applications in the environmental, health, industrial, and medical sectors that contribute to human progress and welfare. The different articles covered by this topic focus on these basic issues, and on the relevance of microorganisms, plants and animals. Moreover, a concise insight into genetic engineering and recombinant DNA technology is provided. The utilization of genetic information in microbial, plant and animal cells is contributing to disease prevention and cure, gene therapy, production of biopharmaceuticals, edible vaccines etc. There is not even one vaccine that is not either plant or bacterial. With the predominance of the new Biotechnology Process, issues in biotechnology, especially in the food and health

Fundamentals In Biotechnology Eolss

**Horst W. Doelle, J. Stefan Rokem, Marin
Berovic**



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Optimization of Sustainable Enzymes Production J Satya Eswari, Nisha Suryawanshi, 2022-11-29 This book is designed as a reference book and presents a systematic approach to analyze evolutionary and nature inspired population based search algorithms Beginning with an introduction to optimization methods and algorithms and various enzymes the book then moves on to provide a unified framework of process optimization for enzymes with various algorithms The book presents current research on various applications of machine learning and discusses optimization techniques to solve real life problems The book compiles the different machine learning models for optimization of process parameters for production of industrially important enzymes The production and optimization of various enzymes produced by different microorganisms are elaborated in the book It discusses the optimization methods that help minimize the error in developing patterns and classifications which further helps improve prediction and decision making Covers the best performing methods and approaches for optimization sustainable enzymes production with AI integration in a real time environment Featuring valuable insights the book helps readers explore new avenues leading towards multidisciplinary research discussions The book is aimed primarily at advanced undergraduates and graduates studying machine learning data science and industrial biotechnology Researchers and professionals will also find this book

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Bioreactors Lakhveer Singh, Abu Yousuf, Durga Madhab Mahapatra, 2020-04-08 Bioreactors Sustainable Design and Industrial Applications in Mitigation of GHG Emissions presents and compares the foundational concepts state of the art design and fabrication of bioreactors Solidly based on theoretical fundamentals the book examines various aspects of the commercially available bioreactors such as construction and fabrication design modeling and simulation development operation maintenance management and target applications for biofuels production and bio waste management Emerging issues in commercial feasibility are explored constraints and pathways for upscaling and techno economic assessment are also covered This book provides researchers and engineers in the biofuels and waste management sectors a clear at a glance understanding of the actual potential of different advanced bioreactors for their requirements It is a must have reference for better informed decisions when selecting the appropriate technology models for sustainable systems development and commercialization

Biological Diversity: Current Status and Conservation Policies Vinod Kumar, Sunil Kumar, Nitin Kamboj, Temin Payum, Pankaj Kumar, Sonika Kumari, 2021-10-25 The present book has been designed to bind prime knowledge of climate change induced impacts on various aspects of our environment and its biological diversity The book also contains updated information methods and tools for the monitoring and conservation of impacted biological diversity

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