1. Record Nr. UNINA9910644260903321

Titolo	Composites from the aquatic environment / / S. M. Sapuan, Imran Ahmad, editors
Pubbl/distr/stampa	Singapore : , : Springer, , [2023] ©2023
ISBN	981-19-5327-9
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (352 pages)
Collana	Composites science and technology
Disciplina	577.6
Soggetti	Aquatic ecology Biopolymers Composite materials
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Overview of composites from the aquatic environment -- LCA of microalgae biopolymer composites -- Microalgae based biopolymer composites: Role in circular bioeconomy -- Recent development in water hyacinth fiber composite and its application -- Characterization of water hyacinth biopolymer composites -- Chitosan (sea shell) based composites:Recent trends and future scope -- Preparation and characterization of chitosan biocomposites -- Development and characterization of agar biopolymer based composites -- Performance of Fish scale composites -- Development and characterization of collagen composites -- Recent advances in composites from seaweeds -- Nipah (nypa fruticans) palm fibre extraction process for nipah fibre reinforced polymer composites -- Starch/carrageenan blend based biocomposite as packaging materials.
Sommario/riassunto	This book provides a methodical compilation of deriving composites from the hidden treasure of the aquatic world.Continuous and rapid progress in the composite industries have increased the demand for resilient, economically viable, and sustainable composite materials having enhanced mechanical , thermal and electrical properties which better suits there respective applications.If the materials/organisms used for the production or conversion of composites are renewable,

degradable and easily and abundantly available then it gives great opportunity to the researchers to work on different options or processes to make them a viable technology. This work describes the organisms and materials present in the aquatic environment for the production of composite materials. Elaborating the versatile green expedients and their potential applications in the field of composites. Since, growing ecological and environmental consciousness has driven efforts for development of new innovative materials for various end-use applications.Therefore the LCA an circular bio-economy will be discussed to be efficient and sustainable. This book is ideal for the students, academicians, researchers and industry players. It also cover the present scenario, applications and future perspectives of composites derived from aquatic organisms. This compiled book features chapters that discuss the conversion of different materials and organisms present in aquatic environment to composite materials like micro-algae, seaweeds, chitosan, collagen, agar cyanobacteria etc.in a viable manner.