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Nota di contenuto Intro -- Functional and Special Materials, Technologies of Chemical

Production -- Preface -- Table of Contents -- Chapter 1: Glass Materials -- Physical Properties Study of Sodium Doped Boro-Tellurite (Na2O: TeO2-B2O3-ZnO) Glasses -- Thermal Stability of ZnO/Tm2O3 Substitution on Tellurite-Zinc-Bismuth-Sodium (TZBN) Glasses -- Chapter 2: Functional and Special Materials -- Rapid and Visual Detection of Vitamin C Based on Sodium Citrate-Stabilized Silver Nanoparticles -- Preparation of Polycurcumin-Modified Graphite

Electrode via Electropolymerization and its Application for Determining Cd2+ -- Performance Optimization of Supercapbattery with Porous Modification on Silicon as Anode and Cathode Based on Al2O3/CuCrO2 -- Silver Nanowires (AgNWs) Post-Treatment Effect in Application of Flexible Transparent and Conductive Electrodes: A Mini Review -- The Effect of Position of Cyano-3-Acetic Acid Electron Withdrawing Group on -Mangostin as a Sensitizer on Dye-Sensitized Solar Cells (DSSC): Theoretical Study -- Physical and Optical Properties of CeF3 Doped with Aluminium Fluorophosphate Glasses -- Chapter 3: Properties and Processing of Polymers and Composites -- Green Bionanocomposites

of Poly(Lactic Acid) (PLA) and Linear Low-Density Polyethylene (LLDPE): Fabrication and Properties -- Laboratory Investigation and Empirical Modelling of Polymer Solution Viscosity -- Effects of Gamma Irradiation on the Tensile Properties of 3D-Printed Polycarbonate Acrylonitrile Butadiene Styrene -- Investigation on Layer Thickness on Mechanical Properties and Dimension Accuracy in Fused Deposition Modelling 3D Printing -- Effects of Thermal Cycling on the Mechanical Strength of TPU 3D-Printed Material -- Analyzing the Sound of Materials: Application of Acoustic Emission Technique for Monitoring Material Behavior -- Chapter 4: Technologies of Chemical Production. Using Borax as a Cross-Linking Agent in Poly(Vinyl Alcohol)/Hemp-Extracted Cellulose Hydrogels -- Physical and Chemical Characterization of Lignin-Based Carbon as Acidic Catalyst -- Keyword Index -- Author Index.

Sommario/riassunto

Special topic volume with invited peer-reviewed papers only.

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## Nota di contenuto

Chapter 1. Trophodynamics in Coral Reefs: Current Knowledge and Research Perspectives -- Chapter 2. Disentangling Current and Latent Dimensions of Vulnerability in Social-Ecological Systems -- Chapter 3. Scleractinian Coral Skeletons as Natural Archives of Global Change: A Cross-Disciplinary Investigation -- Chapter 4. Bleaching of Reef Organisms: Current Knowledge, Challenges, and Future Directions into the Anthropocene -- Chapter 5. Evaluating the Role of Natural and Human Assisted Coral Reproduction to Maintain and Recover Disturbed Reefs -- Chapter 6. Vulnerability of Coral Reefs to Contaminants of Emerging Concern -- Chapter 7. The Use of New Biologically-Based Technological Development in the Management of Crown-of-Thorns Sea Stars -- Chapter 8. Coral Heterotrophy in an Era of Climate Change -- Chapter 9. The Biodiversity of Metazoan Parasites of Coral Reef Fishes of the Central and Eastern Indo-Pacific -- Chapter 10. Snapshots of Coral Reef Biodiversity -- Chapter 11. Living among the Reefs: Insights and Perspectives from Island Archaeology in the Pacific.

## Sommario/riassunto

This book provides a comprehensive exploration of coral reefs—among Earth's most diverse yet vulnerable ecosystems—in the context of global climate change and local human pressures. Structured as an interconnected narrative, the volume delves into critical topics such as reef biodiversity, trophic ecology, environmental histories revealed by coral skeletons, and coral nutrition strategies. Central themes include the physiological and ecological responses of corals to thermal stress and ocean acidification, the adaptive mechanisms underpinning coral bleaching, and innovative restoration techniques aimed at reef recovery. Advanced methodologies such as high-resolution remote sensing, environmental DNA (eDNA) monitoring, and geochemical analyses enrich our understanding of these dynamic ecosystems. Importantly, the book bridges natural sciences with human dimensions, exploring historical human-reef interactions and community-based conservation practices. This interdisciplinary approach highlights both scientific innovation and traditional ecological knowledge as vital components for effective reef management. Ultimately, the chapters collectively offer actionable insights and strategic frameworks for policymakers, scientists, and communities committed to safeguarding coral reefs. As these ecosystems face unprecedented threats, this book underscores not only their vulnerability but also their remarkable capacity for resilience and adaptation, providing a hopeful vision for coral reef conservation in our rapidly changing world. Additionally, the book opens discussion on emerging challenges and identifies critical future research directions, encouraging continued innovation and collaboration within the scientific community.