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Nota di contenuto	Part 1. BIOTECHNOLOGY, BIOPRODUCTS & BIOENERGY -- 1. Recent developments in biorefinery with special focus on industrial biotechnology. -- 2. Biorefineries based on Coupling of Wastewater and Microalgae: Developments of algal Biotechnology. -- 3. Progress on “Piñafibre” project: Unlocking the potential of dual-purpose crop by the utilization of pineapple leaf fibres for bio-based textiles. -- 4. Use of basidiomycetes in the valorization of agro-waste as an alternative in implementing the circular bioeconomy. -- 5. Extracellular Compounds

of Arthrospira platensis under L-Tryptophan Supplementation: UHPLC coupled with mass spectrometry (ESI-QTOF-MS) Identification. -- 6. Study of agro-industrial residues from rice and oil palm from the south-east region of Colombia: Characterization, annual waste generation and energy potential. -- 7. Development of Microbial Cellulose Dressings from Coffee Mucilage: A Matrix for Controlled Topical Drug Delivery. -- 8. Extraction of Pectin from Citrus Wastes in Santander (Colombia). -- 9. Influence of Different Growing Media on Arthrospira platensis Biomass Yield. -- 10. Technological Roadmap for Sustainable Hydrogen Production from Lignocellulosic Biomass Gasification for Energy Applications: A Perspective. -- 11. Testing the biochemical potential of methane of aqueous glycerol solutions using sludge from the effluents treatment system of palm oil mills as inoculum. -- PART 2. CIRCULAR BIOECONOMY CONCEPTS AND BIOECONOMY FOR FOOD SECURITY -- 12. Perspective on coupled agricultural systems for a profitable and sustainable production of high-quality food proteins. -- 13. Bioeconomy: Agro and Food Security. -- 14. BioInsectonomy: a circular agrifood economy based on insects as animal feed. -- 15. The Bioeconomy in Colombia from the perspective of the Colombian research center: "AGROSAVIA". -- 16. Circular Bio-Economy to Lead an Enhanced Strategy for Sustainable Aquaculture: CiBELES. -- 17. Food Security and Sustainability Based on Alternative Proteins from Insects in the Santander Region (Colombia): a Perspective. -- PART 3. OTHER BIOECONOMY AND GENERAL SUSTAINABILITY TOPICS -- 18. Exploration of life cycle assessment as driver of circular economy strategies in the drinking water sector: a literature outlook. -- 19. Using animation technologies to improve the interrelation between bird’s conservation and nature tourism. -- 20. Advances and Perspectives in Processing Techniques and Artificial Intelligence Methods for Biomedical Signal Analysis. -- 21. Solar desalination and the application of the life cycle analysis method: a mini-review. -- 22. Environmental Peace and Bioeconomy: A Case Study of Initiatives in Ciudad Bolívar, Bogotá DC.

Sommario/riassunto

This book serves as a starting point for readers to understand the concepts of the circular economy and bioeconomy and how they can be applied to industrial processes. The notion of having eco-friendly industries is a recent development, with a growing interest in the environmental impact of industrial practices, particularly with regard to resource recovery practices for valuable nutrients and byproducts, which aligns with the circular economy and bioeconomy concepts that aim to establish a "continuous flow of materials." Currently, the focus is on studying the environmental impact and developing strategies to achieve a balance with water ecosystems for sustainable and equitable coexistence. The success of these concepts will depend on a robust framework that evaluates the environmental trade-offs and co-benefits of improving industry practices to enhance ecosystem protection. This book introduces circular economy practices in industry, along with tips, procedures, recommendations, and lessons learned. Introduces circular economy and bioeconomy concepts as applied to industry practices; Looks at finance and governance for the circular economy and the bioeconomy; Examines scientific implementation in research and biotechnology.