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Special Issue Reprint

Research Progress on Chitosan Applications

Edited by
William Facchinatto and Sérgio Paulo Campana-Filho

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Guest Editors

William Facchinatto
Sérgio Paulo Campana-Filho

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Guest Editors

William Facchinatto
Department of Chemical Engineering
University of Bath
Bath
United Kingdom

Sérgio Paulo Campana-Filho
Sao Carlos Institute of Chemistry
University of Sao Paulo
Sao Carlos
Brazil

Editorial Office
MDPI AG
Grosspeteranlage 5
4052 Basel, Switzerland

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Preface

This reprint, inspired by the Special Issue "Research Progress on Chitosan Applications" that was published in *Polymers*, celebrates the remarkable advancements in the field of chitosan-based materials. Chitosan, a natural polymer with versatile properties, has emerged as a cornerstone for developing innovative solutions across the biomedical, environmental, and industrial domains.

The contributions compiled here represent a diverse array of research endeavors that collectively illustrate the transformative potential of chitosan. From targeted drug delivery and tissue engineering to sustainable food preservation and agricultural biocontrol, the applications of chitosan that are showcased in this book underscore the material's adaptability and impact. Highlights include breakthroughs in encapsulation technologies for enhanced therapeutic efficacy, the development of antimicrobial coatings for food safety, and the creation of bioactive hydrogels for regenerative medicine.

Particularly noteworthy are the studies that harness chitosan's unique properties for environmental remediation, including the design of adsorbent materials for water purification and eco-friendly fungicides for agricultural use. These innovations not only address pressing global challenges but also reflect a growing commitment to sustainable and ethical practices in materials science.

This reprint would not have been possible without the tireless efforts of the contributing authors and the rigorous feedback provided by the expert reviewers. Their collective dedication ensured that the contents within these pages are both cutting-edge and scientifically robust.

We hope that this reprint serves as a valuable resource for researchers, practitioners, and students, inspiring further exploration into the vast potential of chitosan and related biomaterials. By disseminating these insights, we aim to contribute to the ongoing dialogue in polymer science and to foster the development of innovative solutions that benefit society at large.

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