Special Issue

Polymer-Based Dressings for Skin Regeneration and Wound Dressing Applications

Message from the Guest Editors

Biopolymer-based wound dressing materials have interesting properties that promote wound healing and accelerated skin regeneration. These properties include excellent biodegradability and biocompatibility, non-toxicity, low antigenicity, and the capability to induce cell migration and proliferation. However, biopolymer-based wound dressings suffer from poor mechanical performance, which can be addressed by combining them with synthetic polymers to produce hybrid wound dressings. The polymer-based materials can be formulated into different forms, such as hydrogels, nanofibers, films, membranes, foams, wafers, sponges/bandages, and composites, depending on the nature of the wound. These wound dressing scaffolds can be loaded with bioactive agents such as antibiotics, essential oils, growth factors, vitamins, and others to improve their biological activities. This Special Issue aims to highlight the potential outcomes of polymer-based wound dressing materials from the preclinical and clinical trials of wound healing and skin regeneration.

Guest Editors

Prof. Dr. Blessing Atim Aderibigbe

Department of Chemistry, Tarleton State University, Stephenville, TX, USA

Dr. Sibusiso Alven

Department of Chemistry, Nelson Mandela University, P.O. Box 77000, Port Elizabeth 6001, South Africa

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Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
pharmaceutics@mdpi.com

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Editor-in-Chief

Prof. Dr. Patrick J. Sinko
Ernest Mario School of Pharmacy, Rutgers, The State University of New Jersey, William Levine Hall, Room 225C, 160 Frelinghuysen Road, Piscataway, NJ 08854-8020, USA

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