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Smart Textiles from Natural Resources

A volume in The Textile Institute Book Series

Book • 2024

Edited by:
Md. Ibrahim H. Mondal

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About the book

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Table of contents

Full text access

Title page, Copyright, Dedication, Contents, List of contributors, About the editor, Preface

- *Part 1: Fundamentals of smart textiles*
- *Part 2: Smart e-textiles and wearable textiles*
- *Part 3: Health applications of smart textiles*
- *Part 4: Other major technical applications of smart textiles*

FEEDBACK

Part 5: Environmental aspects

Book chapter ● Full text access

Index

Pages 863-897

View PDF View chapter

About the book

Description

Smart Textiles from Natural Resources is an interdisciplinary guide for best practices and emerging challenges in the use of natural textiles in smart applications. The movement towards smart textiles has attracted researchers from many fields creating multidisciplinary research frontiers with nanoscience,

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Key Features

- Covers a wide variety of novel applications of smart textiles, including medical, protective, and automotive
- Proposed solutions are based on case studies from academic and industrial labs around the world

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Details

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Chapter 25 - Smart clothing in communication technology—recent development

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Abstract

Due to the recent experience of SARS-CoV-2, health care has become the most important thing for everyone worldwide. As a consequence, it has become essential to make smart clothing with built-in bionanosensors and communication technology that can be used in health care to protect people and save their lives. In this chapter, we have described recent developments in smart clothing and communication technologies. We have described the building blocks of communication technology, such as the material substrates for smart clothing, wearable sensors, decision-making units, and power generation units. Most wearable technology comprises electrical devices that can connect to other devices and the person wearing them. Modern textile fibres, microelectronics, biotechnology, and artificial intelligence can all be used to make smart clothing. This chapter talks about personal communication, wide-area networks, monitoring systems and services, as well as opportunities and problems; at the end of the chapter, we looked at an example of how smart clothing made from silk fibroin, the natural resource of polymers, can be used in communication technologies.

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Cited by (0)