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| Nota di contenuto | Emerging "Green" Materials and Technologies for Electronics / Melanie Baumgartner, Maria E Coppola, Niyazi S Sariciftci, Eric D Glowacki, Siegfried Bauer, Mihai Irimia-Vladu -- Fabrication Approaches for Conducting Polymer Devices / Dimitrios A Koutsouras, Eloïse Bihar, Jessamyn A Fairfield, Mohamed Saadaoui, George G Malliaras -- Biocompatible Circuits for Human-Machine Interfacing / Erik O Gabrielsson, Daniel T Simon, Magnus Berggren -- Biocompatible Devices and Sustainable Processes for Green Electronics / Kyriaki Manoli, Mohammad Yusuf Mulla, Preethi Seshadri, Amber Tiwari, Mandeep Singh, Maria Magliulo, Gerardo Palazzo, Luisa Torsi -- Biocompatible Materials for Transient Electronics / Suk-Won Hwang, John A Rogers -- Paper Electronics / Martti Toivakka, Jouko Peltonen, Ronald Österbacka -- Engineering DNA and Nucleobases for Present and Future Device Applications / Eliot F Gomez, Andrew J Steckl -- Grotthuss Mechanism: From Proton Transport in Ion Channels to Bioprotonic Devices / Takeo Miyake, Marco Rolandi -- Emulating Natural Photosynthetic Apparatus by Employing Synthetic Membrane |

Proteins in Polymeric Membranes / Cherng-Wen Darren Tan, Eva-Kathrin Sinner -- Organic Optoelectronic Interfaces for Vision Restoration / Andrea Desii, Maria R Antognazza, Fabio Benfenati, Guglielmo Lanzani -- Nanostructured Silica from Diatoms Microalgae: Smart Materials for Photonics and Electronics / Roberta Ragni, Stefania R Cicco, Danilo Vona, Gianluca M Farinola.

Sommario/riassunto

Combining the materials science, technological, and device aspects of organic bioelectronics based on green materials, this is the first overview of the emerging concepts involving fabrication techniques for sustainable electronics with low energy and material consumption. With contributions from top-notch editors and authors, in one focus, the book covers a collection of natural materials suited for electronics applications such as paper, silk, melanin, DNA and nucleobases, resins, gums, saccharides, cellulose, gelatine and peptides. In another thrust, the book focuses on device fabrication based on these materials, including processing aspects, and applications such as sensors, signal transducers, transient, implantable and digestible electronics. With its interdisciplinary approach this text will appeal to the chemistry, physics, materials science, and engineering communities.