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Smart Bandage Technologies: Design and Application

James Davis
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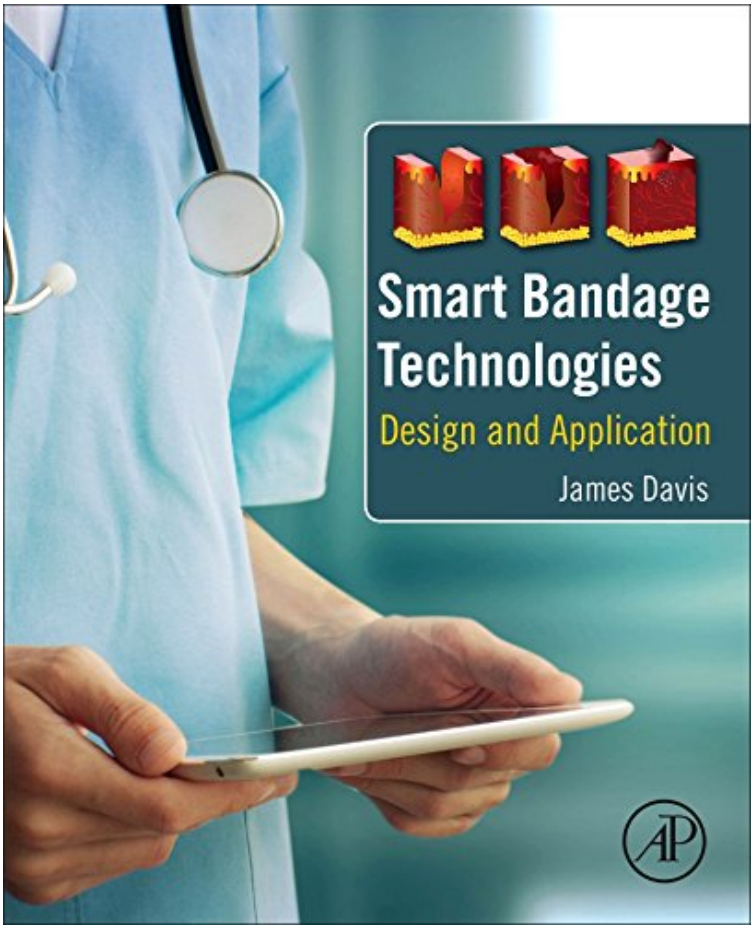

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Smart Bandage Technology: Design and Application is a guide to the integration of sensors and electronic systems into bandages for the application of wound management. Davis provides a comprehensive guide to the design and development of functional material for wound management for engineers of all levels possessing core knowledge in chemistry, biochemistry, and materials science. Includes an introduction to the design of advanced wound care technologies for undergraduate engineers, as well as a coherent exploration of competing technologies suitable for postgraduate and postdoctoral researchers. Each section provides a high level overview of the concepts and techniques involved in developing smart bandages, including their manufacturing, operation, and implementation, and also exposes and explores the most recent approaches to wound care in more detail. This book incorporates contextual boxes to provide a greater degree of detail to examples given and also includes an extensive bibliography for those

seeking to research further on the various topics discussed. Combines physiological aspects of wound healing with sensor engineering aspects of smart bandagesProvides an up-to-date overview of research initiatives in this field which are building the foundation for the next generation of medical textilesLearn how to design, develop, and integrate smart systems with materials for wound managementincorporates contextual boxes to provide a greater degree of detail to examples given and also includes an extensive bibliography for those seeking to research further on the various topics discussed

From the Back CoverCombines physiological aspects of wound healing with sensor engineering aspects of smart bandages Provides an up-to-date overview of research initiatives in this field which are building the foundation for the next generation of medical textiles Learn how to design, develop and integrate smart systems with materials for wound management Smart Bandage technology: Design and Application is a guide to the integration of sensors and electronic systems into bandages for the application of wound management. Davis provides a comprehensive guide to the design and development of functional material for wound management for engineers of all levels possessing core knowledge in chemistry, biochemistry and materials science. It includes an introduction of the design of advanced wound care technologies for undergraduate engineers as well as a coherent exploration of competing technologies suitable for postgraduate and postdoctoral researchers. Each section provides a high level overview of the concepts and techniques involved in developing smart bandages, including their manufacturing, operation and implementation, and also exposes and explores the most recent approaches to wound care in more detail. This book incorporates contextual boxes to provide a greater degree of detail to examples given and also includes an extensive bibliography for those seeking to research further on the various topics discussed. About the authors James Davis is Professor of Biomedical Sensors and Course Director for the BSc Biomedical Engineering degree stream at the University of Ulster. He has authored over 120 peer reviewed publications and has an extensive publication and grant funding record on functional materials for wound management and associated diagnostics. Anna McLister is a researcher within Professor Davis group with responsibility for the development of new materials designed to monitor the healing processes of chronic wounds. She authored a seminal review paper on wound technologies published within Electrochemistry Communications (2014). Jill Cundell is a Lecturer/ Practioner podiatrist at the University of Ulster/Belfast City Hospital and specializes in the treatment of chronic wounds associated with diabetic complications. Dewar Finlay is a Lecturer at Ulster University specialising in connected health and communications technologies. He has been responsible for the development of the University of Ulsters postgraduate program in Health Informatics and until 2013 served as Course Director.About the AuthorJames Davis is Professor of Biomedical Sensors and Course Director for the BSc Biomedical Engineering degree stream at the University of Ulster. He has authored over 120 peer reviewed publications and has an extensive publication and grant funding record on functional materials for wound management and associated diagnostics.