1.	Record Nr.	UNINA9910830402303321
	Titolo	Sensors in medicine and health care [[electronic resource] /] / edited by P.A. Oberg, T. Togawa, F.A. Spelman
	Pubbl/distr/stampa	Weinheim, : Wiley-VCH, 2004
	ISBN	1-280-52003-5 9786610520039 3-527-60141-4 3-527-60486-3
	Descrizione fisica	1 online resource (446 p.)
	Collana	Sensors applications ; ; v. 3
	Classificazione	44.31
	Altri autori (Persone)	ObergP. Ake SpelmanFrancis A TogawaTatsuo <1937->
	Disciplina	681.761
	Soggetti	Biosensors Detectors Medical instruments and apparatus Process control
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Description based upon print version of record.
	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	Sensors Applications Volume 3 Sensors in Medicine and Health Care; Preface to the Series; Preface to Volume 3 of "Sensors Applications"; Contents; List of Contributors; List of Abbreviations; 1 Introduction; 1.1 Historical Breakthroughs in Medical Sensing Science; 1.1.1 Plethysmography; 1.1.2 Blood Pressure Measurements; 1.1.3 Electrophysiology and Einthoven's Galvanometer; 1.1.3.1 Electrocardiogram; 1.1.3.2 Electroencephalogram; 1.1.3.3 Electromyogram; 1.1.3.4 Microelectrodes and Intracellular Measurements; 1.1.4 Pulse Oximetry; 1.1.5 Body Temperature Measurement; 1.2 The Future 1.2.1 MEMS and BioMEMS Sensors1.2.2 Cell-Based Biosensors; 1.2.3 Optical Biopsies; 1.3 References; 2 Optical Sensors in Medical Care; 2.1 Optics in Medicine; 2.1.1 The Diagnostic/Therapeutic Window; 2.1.2 Propagation of Light in Tissue; 2.1.3 Transport Theory; 2.1.4 Diffusion Theory and Monte Carlo Models; 2.2 Near IR Spectroscopy; 2.2.1

Sommario/riassunto

Due to remarkable developments in the field of sensors along with miniaturization, sophisticated microsensors are part of many aspects of 21st century medicine and health care. Turning sensory inputs of all kinds into defined electrical signals that can be interpreted and acted upon by both stationary and portable medical equipment as well as implants, sensors find many applications monitoring blood pressure, heart rates, glucose levels and many other parameters by which human health can be evaluated. They also serve as key components in modern imaging equipment as well as operating equipmen