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Soggetti	Biomedical engineering Signal processing Medicine - Research Biology - Research Biomedical Engineering and Bioengineering Biomedical Devices and Instrumentation Signal, Speech and Image Processing Biomedical Research Medical and Health Technologies
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Livello bibliografico	Monografia
Nota di contenuto	Preface -- Foreword -- Fetal Growth Monitoring and Issues -- Medico-legal Aspects of Perinatal Asphyxia: A Conundrum Waiting for Clinical and Technical Solutions -- 2020 Guidelines on Neonatal Resuscitation: Evidence and Gaps of Knowledge -- Issues of Medical Liability (and More) Related to the Use of New Technologies -- Clinical Instrumental Methods for the Diagnosis of Congenital Cardiomyopathies and Arrhythmias -- Big Data for Clinical Decision-support in Labor: Challenges and Future Directions -- Doppler-Based Models for Estimating Fetal Myocardial Performances -- CTG Feature Detection and Fetal State Estimation Using Signal Processing and Machine Learning -- Principles of Fetal Electrocardiography -- Kalman Filters for Fetal Electrocardiography Analysis -- Fundamentals of Blind Source Separation for Fetal Electrocardiography Research -- Nonlinear-type Time-frequency Analysis and Its Application to Fetal ECG -- Information Theory for the Analysis of Fetal Heart Rate Variability --

Fetal Heart Rate Analysis With Gaussian Processes -- Open Data: Valuable Resources and Opportunities for the Researchers in Perinatal Medicine.

Sommario/riassunto

This book focuses on current and innovative technologies in perinatal medicine, specifically the period from the third trimester of pregnancy up to one month after birth. It follows the Second International Summer School on Technologies and Signal Processing in Perinatal Medicine (TSPPM 2021) and includes a number of master lectures presented at the school. The book aims to provide an overview of current data processing and machine learning approaches, with clear indications and exhaustive presentations on research trends in the field written by top scientists and researchers. It also presents the underlying clinical aspects and ethico-legal issues associated with the adoption of these technologies, particularly artificial intelligence tools. Innovative Technologies and Signal Processing in Perinatal Medicine: Volume 2 provides students, researchers, and practitioners with the knowledge necessary to carry out basic and advanced research on the development of perinatal medicine medical devices with a particular emphasis on software design and development. Presents current and innovative technologies for fetal and neonatal monitoring; Emphasis on both technology/signal processing and clinical/ethico-legal aspects; Offers a clear didactic approach to the subject matter.
