N.S. **Voros**, C.P. **Antonopoulos** (Eds.)

Cyberphysical Systems for Epilepsy and Related Brain Disorders

Multi-parametric Monitoring and Analysis for Diagnosis and Optimal Disease Management

► **Introduces a novel, personalized cyber physical system that provides real-time access to, management and processing of medical data**
► **Includes data processing algorithms to detect critical events**
► **Describes procedures to collect and integrate real time data from various sensors**
► **Discusses development and implementation of hardware security algorithms to guarantee the privacy and security of patient's data**

This book introduces a new cyberphysical system that combines clinical and basic neuroscience research with advanced data analysis and medical management tools for developing novel applications for the management of epilepsy. The authors describe the algorithms and architectures needed to provide ambulatory, diagnostic and long-term monitoring services, through multi parametric data collection. Readers will see how to achieve in-hospital quality standards, addressing conventional "routine" clinic-based service purposes, at reduced cost, enhanced capability, and increased geographical availability. The cyberphysical system described in this book is flexible, can be optimized for each patient, and is demonstrated in several case studies.

Nikolaos S. Voros · Christos Antonopoulos *Editors*

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