

Preface

This monograph presents a comprehensive overview of electrocardiography from the aspect of wireless and mobile monitoring and its potential for personalized health management. Personalized healthcare diagnostic procedures and treatments are tailored to individual patients and therefore more efficient. The main advantage of wireless and mobile ECG systems, compared to traditional ECG devices, is the ability to generate ECG measurements by a single or a few wireless and non-obstructive personal sensors. In addition, the sensors are potentially multi-functional in the sense that, besides ECG, they can also measure other physiological and biochemical parameters, e.g., heart rate, respiration, ballistocardiogram, blood pressure, blood oxygen saturation, body temperature, posture, or physical activities, thus providing insight into the medical status of the monitored person.

Body sensors can be used for both inpatient and outpatient monitoring, thus enabling cardiac monitoring and diagnostic decisions to be made during normal everyday activities. Since the employment of remote and outpatient monitoring technologies also reduces the costs of health care, it is evident that such an approach could become widely applicable in the near future—for patients and those who care for their health. The spectrum of book topics covers the implementation and efficient application of user-friendly mHealth systems. The target audience comprises biomedical engineers, medical doctors, students, industrial experts, and health managers developing mHealth solutions. The book may be interesting and useful also for the wider public in the parts where basic principles of mobile monitoring and their benefits for users are presented.

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