Contents

Part I Components and Systems

1 Sensors for Wearable Systems 3
Enzo Pasquale Scilingo, Antonio Lanatà, and Alessandro Tognetti

2 Energy Harvesting for Self-Powered Wearable Devices 27
Vladimir Leonov

3 Wireless Communication Technologies for Wearable Systems..... 51
Steve Warren and Balasubramaniam Natarajan

4 Design of Wireless Health Platforms 81
Lawrence Au, Brett Jordan, Winston Wu, Maxim Batalin, and William J. Kaiser

5 Lightweight Signal Processing for Wearable Body Sensor Networks..... 99
Hassan Ghasemzadeh, Eric Guenterberg, and Roozbeh Jafari

6 Signal Data Mining from Wearable Systems..... 123
Francois G. Meyer

7 Future Direction: E-Textiles..... 147
Danilo De Rossi and Rita Paradiso

Part II Applications

8 A Survey of Commercial Wearable Systems for Sport Application 165
Sergio Guillén, Maria Teresa Arredondo, and Elena Castellano

9 Wearable Electronic Systems: Applications to Medical Diagnostics/Monitoring 179
Eric McAdams, Asta Krupaviciute, Claudine Gehin, Andre Dittmar, Georges Delhomme, Paul Rubel, Jocelyne Fayn, and Jad McLaughlin

10 Emergency and Work 205
Annalisa Bonfiglio, Davide Curone, Emanuele Lindo Secco, Giovanni Magenes, and Alessandro Tognetti

11 Augmenting Exploration: Aerospace, Earth and Self 221
Diana Young and Dava Newman

Part III Environmental and Commercial Scenarios

12 Scenarios for the Interaction Between Personal Health Systems and Chronic Patients 253
Maria Teresa Arredondo, Sergio Guillén, I. Peinado, and G. Fico

13 The Commercialization of Smart Fabrics: Intelligent Textiles 277
George Kotrotsios and Jean Luprano

Index 295



http://www.springer.com/978-1-4419-7383-2

Wearable Monitoring Systems
Bonfiglio, A.; De Rossi, D. (Eds.)
2011, XIII, 296 p., Hardcover
ISBN: 978-1-4419-7383-2