# Contents

**Part I  Introduction of Sleep Technology**

1  **The Scope of Modern Sleep Technology** ........................................ 3  
   Rayleigh Ping-Ying Chiang, Chih-Feng Lin, Tzu-Chen Lung,  
   Sung-Lin Kuo, Shih-Yu Chen, Shih-Chung (Jessy) Kang,  
   Fei-Peng Lee, and Nelson Powell

**Part II  Sleep Technology in Diagnosis and Screening**

2  **Evaluation Instruments for Sleep Disorders: A Brief**  
   **History of Polysomnography and Sleep Medicine**  .................... 19  
   José Haba-Rubio and Jean Krieger

3  **Screening Instruments of Sleep Disorders: Actigraphy** ............ 33  
   Peng-Chih Wang

**Part III  Management of Sleep Disorders: Point of Views**  
   from Sleep Technology

4  **Management of Sleep Disorders: CPAP (Continuous**  
   **Positive Airway Pressure)** ................................................... 51  
   Kannan Ramar

5  **Management of Sleep Disorders – Sleep Technology**  
   **on Surgical Concepts and Instruments** ..................................... 71  
   Sung Wan Kim and Michal Alexius Sarte

6  **Management of Sleep Disorders-Sleep Technology**  
   **on Positional Therapy** ....................................................... 105  
   Chol Shin and Jung Bok Lee
Contents

7 Management of Sleep Disorders – Cognitive Behavioral Therapy for Insomnia ...................................................... 121
Chien-Ming Yang and Fan-Chi Hsiao

8 Management of Sleep Disorders: Light Therapy ............... 137
Wei-Chung Mao, Hsin-Chien Lee, and Hsi-Chung Chen

9 The Management of Insomnia – Biofeedback ......................... 165
Pei-Shan Tsai

Part IV Sleep Technology in Work and Life

10 Sleep Environmental Control: From Sleep Coach to Sleeper-Centered Bedroom ............................................. 185
Shih-Chung (Jessy) Kang, Rayleigh Ping-Ying Chiang,
and Chia-Hsuan Chiang

11 Biosensors for Sleep Technology ........................................ 201
Jen-Kuang Lee and Chih-Ting Lin

12 Sleep Technology for Driving Safety .................................. 219
Sei-Wang Chen, Kuo-Peng Yao, and Hui-Wen Lin

13 The Effective Assessment and Management of Sleep Disturbances in Community-Dwelling and Institutionalized Older Adults ....................................... 245
Michael V. Vitiello

14 A Historical Note on the Development of Sleep Medicine Technology Education ...................................................... 261
Mia Zaharna and Christian Guilleminault

15 Pervasive Health-Care Device Industry Analysis:
Focusing on Sleep-Treatment Applications .............................. 269
Peter Liu, Hung-Hsiang Chu, Dai-Luan Wu,
and Seng-Cho Chou

Index ............................................................................... 289
Introduction to Modern Sleep Technology
Chiang, R.P.-Y.; Kang, S.-C. (Eds.)
2012, XXIV, 296 p., Hardcover
ISBN: 978-94-007-5469-0