Contents

Foreword — V

Acknowledgments — IX

List of contributors — XIII

Introduction — 1

Part I: Comparative analysis of methods for speaker identification, speech recognition, and intelligibility modification in the dysarthric speaker population

Mohammed Senoussaoui, Milton O. Saria-Paja, Patrick Cardinal, Tiago H. Falk and François Michaud

1 State-of-the-art speaker recognition methods applied to speakers with dysarthria — 7

Anusha Prakash, M. Ramasubba Reddy and Hema A. Murthy

- 2 Enhancement of continuous dysarthric speech 35
- P. Vijayalakshmi, M. Dhanalakshmi and T. Nagarajan
- 3 Assessment and intelligibility modification for dysarthric speech 67

Part II: New approaches to speech reconstruction and enhancement via conversion of non-acoustic signals

Seyed Omid Sadjadi, Sanjay A. Patil and John H. L. Hansen

4 Analysis and quality conversion of non-acoustic signals: the physiological microphone (PMIC) —— 97

Nirmesh J. Shah and Hemant A. Patil

5 Non-audible murmur to audible speech conversion —— 125



Part III: Use of novel speech diagnostic and therapeutic intervention software for speech enhancement and rehabilitation

- T. V. Ananthapadmanabha
- 6 Application of speech signal processing for assessment and treatment of voice and speech disorders —— 153

Chitralekha Bhat, Anjali Kant, Bhavik Vachhani, Sarita Rautara and Sunil Kopparapu

7 A mobile phone-based platform for asynchronous speech therapy —— 195