

Contents

1	Introduction	1
	Christos D. Giachritsis and Angelika Peer	
Part I Psychophysical and Behavioral Basis		
2	Active Movement Reduces the Tactile Discrimination Performance	7
	Marco P. Vitello, Michael Fritschi, and Marc O. Ernst	
3	Weight Perception with Real and Virtual Weights Using Unimanual and Bimanual Precision Grip	35
	Christos D. Giachritsis and Alan M. Wing	
4	The Image of Touch: Construction of Meaning and Task Performance in Virtual Environments	51
	Miriam Reiner	
5	Psychological Experiments in Haptic Collaboration Research	65
	Raphaela Groten, Daniela Feth, Angelika Peer, and Martin Buss	
6	Human-Robot Adaptive Control of Object-Oriented Action	91
	Satoshi Endo, Paul Evrard, Abderrahmane Kheddar, and Alan M. Wing	
7	Cooperative Physical Human-Human and Human-Robot Interaction	105
	Kyle B. Reed	
Part II Technology and Rendering		
8	Data-Driven Visuo-Haptic Rendering of Deformable Bodies	131
	Matthias Harders, Raphael Hoyer, Serge Pfeifer, and Thibaut Weise	
9	Haptic Rendering Methods for Multiple Contact Points	157
	Manuel Ferre, Pablo Cerrada, Jorge Barrio, and Raul Wirz	

10 Artificially Rendered Cutaneous Cues for a New Generation of Haptic Displays 171
Enzo Pasquale Scilingo, Matteo Bianchi, Nicola Vanello,
Valentina Hartwig, Luigi Landini, and Antonio Bicchi

11 Social Haptic Interaction with Virtual Characters 189
Zheng Wang, Jens Hölldampf, Angelika Peer, and Martin Buss

12 FMRI Compatible Sensing Glove for Hand Gesture Monitoring . . . 215
Nicola Vanello, Valentina Hartwig, Enzo Pasquale Scilingo, Daniela
Bonino, Emiliano Ricciardi, Alessandro Tognetti, Pietro Pietrini, Danilo
De Rossi, Luigi Landini, and Antonio Bicchi

13 Improving Human-Computer Cooperation Through Haptic Role Exchange and Negotiation 229
Ayse Kucukyilmaz, Salih Ozgur Oguz, Tevfik Metin Sezgin, and
Cagatay Basdogan

Index 255

Immersive Multimodal Interactive Presence

Peer, A.; Giachritsis, C.D. (Eds.)

2012, XIV, 258 p., Hardcover

ISBN: 978-1-4471-2753-6