

Contents

1	Biometric Technologies for Forensic Science and Policing: State of the Art	1
	Christophe Champod and Massimo Tistarelli	
Part I Analysis of Fingerprints and Fingermarks		
2	Capture and Analysis of Latent Marks	19
	Mario Hildebrandt, Jana Dittmann and Claus Vielhauer	
3	Automated Fingerprint Identification Systems: From Fingerprints to Fingermarks	37
	Davide Maltoni, Raffaele Cappelli and Didier Meuwly	
4	Challenges for Fingerprint Recognition—Spoofing, Skin Diseases, and Environmental Effects	63
	Martin Drahanský, Ondřej Kanich and Eva Březinová	
5	Altered Fingerprint Detection	85
	John Ellingsgaard and Christoph Busch	
Part II Face and Video Analysis		
6	Face Sketch Recognition via Data-Driven Synthesis	127
	Nannan Wang, Shengchuan Zhang, Chunlei Peng, Jie Li and Xinbo Gao	
7	Recent Developments in Video-Based Face Recognition	149
	Jingxiao Zheng, Vishal M. Patel and Rama Chellappa	
8	Face Recognition Technologies for Evidential Evaluation of Video Traces	177
	Xingjie Wei and Chang-Tsun Li	

9	Human Factors in Forensic Face Identification	195
	David White, Kristin Norell, P. Jonathon Phillips and Alice J. O'Toole	
Part III Human Motion, Speech and Behavioral Analysis		
10	Biometric Evidence in Forensic Automatic Speaker Recognition	221
	Andrzej Drygajlo and Rudolf Haraksim	
11	On Using Soft Biometrics in Forensic Investigation	241
	Paulo Lobato Correia, Peter K. Larsen, Abdenour Hadid, Martin Sandau and Miguel Almeida	
12	Locating People in Surveillance Video Using Soft Biometric Traits	267
	Simon Denman, Michael Halstead, Clinton Fookes and Sridha Sridharan	
13	Contact-Free Heartbeat Signal for Human Identification and Forensics	289
	Kamal Nasrollahi, Mohammad A. Haque, Ramin Irani and Thomas B. Moeslund	
Part IV Statistical Analysis of Forensic Biometric Data		
14	From Biometric Scores to Forensic Likelihood Ratios	305
	Daniel Ramos, Ram P. Krish, Julian Fierrez and Didier Meuwly	
15	Dynamic Signatures as Forensic Evidence: A New Expert Tool Including Population Statistics	329
	Ruben Vera-Rodriguez, Julian Fierrez and Javier Ortega-Garcia	
Part V Ethical and Legal Issues		
16	Ethics and Policy of Forensic Biometrics	353
	Emilio Mordini	
	Index	367

Handbook of Biometrics for Forensic Science

Tistarelli, M.; Champod, C. (Eds.)

2017, VIII, 369 p. 139 illus., 89 illus. in color., Hardcover

ISBN: 978-3-319-50671-5