

Part I Imaging Techniques

1 Use of Videodermatoscopy in Dermatology	3
Francesco Lacarrubba, Franco Dinotta, Cecilia Santagati, and Giuseppe Micali	
2 Visioscan-Driven ULEV Method	27
Gérald E. Piérard, Claudine Piérard-Franchimont, and Sébastien Piérard	
3 Optical Coherence Tomography	35
Julia Welzel	
4 PRIMOS 3D Digital Frame Projection	41
Sören Jaspers and Christian Benderoth	
5 FOITS (Fast Optical In Vivo Topometry of Human Skin)	55
Mathias Rohr and Andreas Schrader	
6 In Vivo Confocal Microscopy in Skin Oncology	65
Caterina Longo, Barbara De Pace, Simonetta Piana, and Giovanni Pellacani	
7 In Vivo Reflectance Confocal Microscopy for Inflammatory Skin Diseases' Assessment	73
Marco Ardigò, Marina Agozzino, and Leonardo Abraham	
8 In Vivo Reflectance Confocal Microscopy for Oral Mucosa Assessment	81
Maria Contaldo, Marina Agozzino, and Marco Ardigò	
9 Multiphoton Laser Microscopy and Fluorescence Lifetime Imaging for the Assessment of the Skin.	89
Stefania Seidenari	
10 Application of Laser Scanning Microscopy in Dermatology and Cutaneous Physiology	101
J. Lademann, S. Lange-Asschenfeldt, M. Ulrich, M.E. Darwin, K. König, M.C. Meinke, and B. Lange-Asschenfeldt	

11	Telethermography	115
	Aldo Di Carlo	
12	Capillaroscopy	127
	Marianna Mazzullo, Giuseppa Marina Miceli, Alessio Adamo, and Salvatore Amato	
13	Sonography of the Skin	135
	Stephan El Gammal, Claudia El Gammal, Peter Altmeyer, and Michael Vogt	
14	New Ultrasound Techniques in Clinical Dermatology	157
	Francesco Maria Solivetti, Fulvia Elia, and Carlo De Mutiis	
15	Multimodal Magnetic Resonance Imaging of the Human Skin	169
	Bernard Querleux	
16	Skin Capacitance Imaging	177
	Jean Luc L��v��que	
17	Tissue Viability Imaging for Assessment of Skin Erythema and Blanching	187
	Gert Nilsson	

Part II Skin Analysis

18	Interaction Between Free Radicals and Antioxidants in Human Skin	203
	J. Lademann, M.E. Darvin, J.W. Fluhr, and M.C. Meinke	
19	Raman Spectroscopy	217
	Anke Sieg	
20	Imaging Drug Delivery to Skin with Coherent Raman Scattering Microscopy	225
	Natalie A. Belsey, Luis Rodrigo Contreras-Rojas, and Richard H. Guy	
21	Assessment of Mechanical Properties of Skin by Shearwave Propagation and Acoustic Dispersion	233
	Eduardo Ruvolo Jr. and Nikiforos Kollias	

Part III Superficial Skin Analysis

22	Cyanoacrylate Skin Surface/Follicular Stripping	253
	G��rard E. Pi��rard, Claudine Pi��rard-Franchimont, Philippe Delvenne, and Pascale Quatresooz	
23	Corneosurfametry and Corneoxenometry	263
	G��rard E. Pi��rard, Claudine Pi��rard-Franchimont, and Marie-Annick Reginster	
24	Sebumetry and Sebumtape	269
	Bernard Gabard, Andr�� O. Barel, and Peter Clarys	

25	Biophysical Assessment of Skin Desquamation and Scaliness Using Tape Strips and Adhesive Discs.	279
	Kristien De Paepe, Yvan Vander Heyden, and Vera Rogiers	
26	Stripping Techniques: Tape Stripping	287
	Razvigor Darlenski, Joachim W. Fluhr, and Jürgen Lademann	
27	Stratum Corneum Quantification	293
	Frank Dreher	
28	Utilisation of Infrared Densitometry in Stratum Corneum Research	297
	Rainer Voegeli and Anthony V. Rawlings	
 Part IV Skin Mechanics		
29	Cutometer®	315
	Hristo Dobrev	
30	Ballistometer	339
	Gregor B.E. Jemec	
 Part V Water and Stratum Corneum Hydration		
31	TEWL, Closed-Chamber Methods: AquaFlux and VapoMeter	345
	Bob Imhof, Perry Xiao, and Irena Angelova-Fischer	
32	Transepidermal Water Loss (TEWL)	353
	Joachim W. Fluhr and Razvigor Darlenski	
33	Skin Capacitance.	357
	André O. Barel and Peter Clarys	
 Part VI Erythema and Blood Flow		
34	The Use of Visual Grading Scales in Evaluating Skin Irritation and Sensitization: A Historical Perspective.	369
	Miranda A. Farage, Howard Maibach, Klaus E. Andersen, Jean-Marie Lachapelle, Petra Kern, Cindy Ryan, Jeanne Ely, and Amita Kanti	
35	Surface Skin Temperature in Tests for Irritant Dermatitis	383
	Miranda A. Farage, Baiyang Wang, Kenneth W. Miller, and Howard Maibach	
36	Measurements of Lymph Flow.	395
	Michael Weiler and J. Brandon Dixon	

Part VII Hair and Follicles

37	Digital Imaging for Measuring of Hair Growth on the Human Scalp	413
	Rolf Hoffmann, Holger Lüdtke, Maciej Hoffman-Wecker, and Betsy J. Hughes-Formella	
38	Tensile Properties of Hair	423
	Leszek J. Wolfram	
39	Use of Videodermatoscopy in Scalp Disorders	431
	Franco Dinotta, Francesco Lacarrubba, Paola Di Mauro, and Giuseppe Micali	

Part VIII Nails

40	Nail Surface Topography and Onychochronobiology	443
	Gérald E. Piérard and Claudine Piérard-Franchimont	
41	Combined Technology for Measuring Skin Diseases with Molecular Imaging	451
	Gyu Man Park, Sang Wook Son, Gun Woo Lee, Seung Han Ha, On Seok Lee, Jae Young Kim, and Chil Hwan Oh	
	Index	471