

Contents

SECTION 1: BIOPHYSICS AND PRELIMINARY CONSIDERATIONS IN CUSTOMIZED LASIK

1. The Return of the Corneal Surface—The Evolution of Excimer Laser Surgery	3
<i>Arturo Pérez-Arteaga (Mexico)</i>	
2. Biophysics Aspects of Ophthalmic Lasers	10
<i>JT Lin (USA)</i>	
3. Critical Aspects of Scanning Lasers in Customized LASIK	18
<i>JT Lin (USA)</i>	
4. Corneal Topographers and Wavefront Aberrometers—Clinical Applications	37
<i>Tracy Schroeder Swartz, Ming Wang, Arun C Gulani (USA)</i>	
5. The Orbscan Ilz Diagnostic System and Zywave Analysis	50
<i>Gregg Feinerman, N Timothy Peters, Kim Nguyen, Marcus Solorzano, Shiela Scott (USA)</i>	
6. Nidek OPD Scan in Clinical Practice	70
<i>Gregg Feinerman, N Timothy Peters, Kim Nguyen, Marcus Solorzano, Shiela Scott (USA)</i>	
7. Orbscan Corneal Topography in Refractive Surgery	75
<i>Francisco Sánchez León (Mexico)</i>	
8. Mathematical Handbook of LASIK	86
<i>JT Lin (USA)</i>	
9. Online Optical Coherence Pachymetry (OCP)	93
<i>Kumar J Doctor, Mahendra D Dive (India)</i>	

SECTION 2: VARIOUS CUSTOMIZED LASIK TECHNIQUES AND PLATFORMS

10. Update of Customized Corneal Reshaping for Supervision	101
<i>JT Lin (USA)</i>	
11. Pearls of Rotational Eye Tracker System in Lasik Outcomes	111
<i>Bojan Pajic, Hermann Anhalm, Jörg Müller (Switzerland)</i>	
12. Customized Excimer Laser Treatment using the Wavelight Allegretto Eye Q Laser	118
<i>Johan A de Lange (South Africa)</i>	
13. Optimizing Astigmatic Parameters in Lasik Treatments using Vector Planning	141
<i>Noel Alpíns, George Stamatelatos (Australia)</i>	
14. Wavefront LASIK	148
<i>Mark Wevill, Emanuel Rosen (UK)</i>	
15. PENTACAM Technology in Customized Refractive Surgery	156
<i>Arun C Gulani (USA)</i>	
16. NAV Wave : Customized Ablation with Nidek Platform	165
<i>Masanao Fujieda (Japan), Mukesh Jain, Peter Keller (Australia)</i>	

17. Wavefront and Topography Guided Lasik	173
<i>Amar Agarwal, Sunita Agarwal, Athiya Agarwal, Ashok Garg (India)</i>	
18. Customized Topographic Repair with the New Platform: Zeiss Mel80/New CRS Master Tosca II	179
<i>Frank J Goes (Belgium)</i>	
19. Customized LASIK Treatment for Myopia: An Indepth Assessment	194
<i>Keiki R Mehta, Cyres K Mehta (India)</i>	
20. Zyoptix Laser	203
<i>Amar Agarwal, Ashish Doshi, Sonika Doshi, Nilesh Kanjani, Sunita Agarwal, Athiya Agarwal, Ashok Garg (India)</i>	
21. Wavefront Analysis and Wavefront Treatment in LASIK Eyes	208
<i>Bojan Pajic (Switzerland)</i>	
22. Wavefront Optimize LASIK	214
<i>Jerome Bovet (Switzerland)</i>	
23. Corneal Guided LASIK after Penetrating Keratoplasty	219
<i>Cyres K Mehta, Keiki R Mehta (India)</i>	
24. Corneal Wavefront Guided LASIK for Corblyopia	225
<i>Cyres K Mehta, Keiki R Mehta (India)</i>	
25. Strategic Planning in Topography-guided Ablation of Aberrated Eyes and Evaluation After Laser Refractive Surgery	236
<i>Keiki R Mehta, Cyres K Mehta (India)</i>	
26. Topography-guided Ablation with Allegretto Wave Eye Q Excimer Laser: T-CAT	247
<i>C Banu Cosar (Turkey)</i>	
27. Pharmacotherapeutics in LASIK Surgery	257
<i>Ashok Garg (India)</i>	
28. Customized LASIK	260
<i>Manoj S Venkiteshwar, Mohinder M Merchea (USA)</i>	
29. Customized and Advanced LASIK with Aspheric Ablation Profile	266
<i>Omid Kermani, Harkaran S Bains (Germany)</i>	

SECTION 3: CUSTOMIZED LASIK COMPLICATIONS AND MANAGEMENT

30. Pitfalls in Customized LASIK : How to Avoid them?	277
<i>Claes Feinbaum (Poland)</i>	
31. Post LASIK Corneal Ectasia: The Orbscan Analysis	284
<i>Erik L Mertens (Belgium), Arun C Gulani, Paul Karpecki (USA)</i>	
32. Update on Management of LASIK Complications	294
<i>Melania Cigales, Jairo E Hoyos, Jairo E Hoyos-Chacon (Spain)</i>	
33. Vital Issues Affecting LASIK Procedure Outcomes	311
<i>JT Lin (USA)</i>	

34. Management of Post Lasik Diffused Lamellar Keratitis	317
<i>Alexander Hatsis (USA)</i>	
35. A Refined Algorithm for Controlling Post Operative Corneal Asphericity in Lasik	329
<i>JT Lin (USA)</i>	
36. Dry Eye Management after Lasik Surgery	338
<i>Jorge L Alio, Claes Feinbaum (Spain)</i>	
37. Post Lasik Dry Eye and Lasik Hinge Location	354
<i>David T Vroman, Luis E Fernández de Castro, Kerry D Solomon (USA)</i>	

SECTION 4: RECENT ADVANCES IN CUSTOMIZED LASIK TECHNIQUES

38. Customized Flap Cutting with Femtosecond Laser	361
<i>Bojan Pajic (Switzerland)</i>	
39. The Custom Refractive and Custom Therapeutic Surgical Platform	365
<i>Carlo Francesco Louisolo, Charles Wm. Stewart (Italy)</i>	
40. Customized LASIK : Aspherical Treatments with ESIRIS Schwind Platform	378
<i>Samuel Arba Mosquera, David Piñero, Dolores Ortiz, Jorge L Alio (Spain)</i>	
41. Comparison of Wavefront Guided vs Wavefront Optimizing LASIK Procedure with Allegretto Wavelight Laser	396
<i>Jerome Jean Bovet (Switzerland)</i>	
42. Aspheric Ablation with Nidek Platform	404
<i>S Bharti (India)</i>	
43. Recent Advances in LASIK Techniques	411
<i>Bojan Pajic (Switzerland)</i>	
44. Pearls of Aberrometric Correction of Presbyopia: An Evidence Based Update	422
<i>Franco Bartoli (Italy)</i>	
45. Bifocal Corneal Reshaping for Presbyopia	434
<i>JT Lin (USA)</i>	
46. Zyoptix Aspheric	438
<i>Mahipal S Sachdev, Ashu Agarwal (India)</i>	
47. Customized LASIK for Presbyopia : PML™ (Presbyopic Multifocal LASIK) Technique	443
<i>Roberto Pinelli, Sara Turella (Italy)</i>	
48. Advanced Custom Ablation: New Technology for Better Quality of Vision	452
<i>Keiki R Mehta, Cyres K Mehta (India)</i>	
49. Customized Bifocal Lasik for Presbyopic Eyes	461
<i>JT Lin (USA)</i>	
50. Customized Aspherical Ablation for Minimum Aberration	466
<i>JT Lin (USA)</i>	
51. Customized Presby LASIK	476
<i>Frederic Hehn (France)</i>	

52. Recent Advances in Customized LASIK	485
<i>Sanjay Chaudhary, Amit Gupta, Vidyasagar Paul (India)</i>	
53. Advances in Refractive Surgery: Surface Ablation and LASIK	494
<i>Ronald Singal (USA), Mikhail Pojaritsky, Dimitrii Dementiev (Italy)</i>	
54. Solid State Lasers for Refractive Surgery	500
<i>Emanuel Rosen (UK), Tarak Pujara (Australia)</i>	
55. Future of LASIK Surgery	510
<i>Arun C Gulani, Tracy Schroeder Swartz (USA)</i>	
56. CustomVis Solid State Laser	516
<i>Mukesh Jain, Neil Vice, Tarak Pujara (Australia)</i>	
57. Wavefront Guided Correction of the Irregular Cornea	528
<i>Jorge L Alio, Robert Montés Micó (Spain)</i>	
58. CustomVue™ Treatment with the VISX STAR S4 Excimer Laser System	536
<i>Noshir M Shroff, Dariel Mathur, Ranjan Dutta (India)</i>	
<i>Index</i>	<i>551</i>