

---

# Contents

## Part I Anatomy

- 1 Anatomy of the Ocular Vasculatures . . . . . 3**  
Gerard A. Luty, Imran Bhutto, and Donald Scott McLeod

## Part II Measurement of Ocular Blood Flow

- 2 Determination of Ocular Blood Flows  
with the Microsphere Method . . . . . 25**  
Siv F.E. Nilsson and Albert Alm
- 3 Laser Doppler Flowmetry in Animals . . . . . 49**  
Jeffrey W. Kiel and Herbert A. Reitsamer
- 4 Oxygen Measurements in Animals . . . . . 65**  
Robert A. Linsenmeier
- 5 Measurement of Ocular Blood Flow: Angiography . . . . . 95**  
Sebastian Wolf
- 6 Measurement of Retinal Vessel Diameters . . . . . 101**  
Gerhard Garhöfer and Walthard Vilser
- 7 Laser Doppler Techniques for Ocular  
Blood Velocity and Flow . . . . . 123**  
Charles E. Riva
- 8 Color Doppler Imaging . . . . . 147**  
Ingeborg Stalmans, Selim Orgül, and Leopold Schmetterer
- 9 Other Approaches . . . . . 159**  
Gerhard Garhöfer and Leopold Schmetterer

## Part III Physiology

- 10 Systemic Determinants . . . . . 173**  
John V. Lovasik and Hélène Kergoat
- 11 Local Determinants . . . . . 211**  
Jeffrey W. Kiel

<b>12 Neural Control of Ocular Blood Flow</b> . . . . .	243
Anton Reiner, Malinda E.C. Fitzgerald, and Chunyan Li	
<b>13 Endothelial and Adrenergic Control</b> . . . . .	311
Gerhard Garhöfer and Leopold Schmetterer	
<b>14 Retinal Ischemia in Relation to Glaucoma and Neuroprotection</b> . . . . .	347
Neville N. Osborne	

#### Part IV Disease

<b>15 Ocular Blood Flow in Diabetes: Contribution to the Microvascular Lesions of Diabetic Retinopathy</b> . . . . .	365
Tim M. Curtis and Tom A. Gardiner	
<b>16 Age-Related Macular Degeneration: Hemodynamic Changes</b> . . . . .	389
Constantin J. Pournaras, Efstratios Mendrinou, and Jean-Antoine C. Pournaras	
<b>17 The Role of Ocular Blood Flow Abnormalities in the Pathogenesis of Glaucoma</b> . . . . .	411
Balwantray C. Chauhan	
<b>18 Ocular Blood Flow in Disease: Other Diseases</b> . . . . .	429
Makoto Araie and Junko Kami	
<b>19 Systemic Diseases: Cardiovascular Disease and Ocular Manifestation</b> . . . . .	433
Ghazaleh Gouya and Michael Wolzt	
<b>Index</b> . . . . .	451

Ocular Blood Flow

Schmetterer, L.; Kiel, J. (Eds.)

2012, VI, 457 p., Hardcover

ISBN: 978-3-540-69468-7