

## Contents

Preface.....	S. Ishizaka	v
Morphometry of Non-Random Structures Related to Oxygen Flow in the Mammalian Respiratory System.....	E. R. Weibel	1
Three-D Computational Geometry: The “Form” of Vascular Tree as Expressed by the Distribution of Distance in the Space, Its Organ Difference and Significance in Blood Flow.....	T. Takahashi and T. Chiba	17
Correlating Structure with Function in Developmental Neurology Using Stereological and Confocal Microscopical Techniques.....	V. Howard, M. B. Rassoli and G. McKerr	31
Confocal Scanning Laser Microscopy: from 3-D Data Collection to 3-D Image Visualization and Analysis.....	G. J. Brakenhoff, H. T. M. van der Voort, E. A. van Spronsen, and N. Nanninga	39
3D Dynamic Morphometry by Diffraction Pattern on Confocal Plane.....	S. Ishizaka	47
Confocal Microscopy of Biological Specimens.....	C. J. R. Sheppard and C. J. Cogswell	61
A Real Time Confocal Microscope.....	D. Awamura, T. Ode, and M. Yonezawa	81
Submicrosecond Imaging under a Pulsed-Laser Fluorescence Microscope. Electroporation of Cell Membrane Time- and Space-Resolved.....	K. Kinoshita, Jr., M. Hibino, M. Shigemori, I. Ashikawa, H. Itoh, k. Nagayama, and A. Ikegami	97
3D Imaging of X-Ray Microscopy.....	H. Kihara	105
X-Ray Microscopy with Synchrotron Radiation and 3-Dimensional Image Data Processing.....	L. Jochum and B. Niemann	115
Electron Spin Resonance (ESR) Microscopes as a 2D-Imaging.....	M. Ikeya, M. Furusawa, and H. Ishii	135
Clinical Application of Three Dimensional Computed Tomography in Diagnostic Radiology.....	P.-J. P. Lin and A. K. Poznanski	147
Quasi-Static Simulation of Liquefaction Phenomena in Granular Materials.....	Y. Kishino	157
Computer Simulation of Rapidly Flowing Granular Solids ...	O. R. Walton	175
3D Structure Estimation from 2D Images by the Image Analyzer.....	A. Kimura, K. Tanabe, and K. Aikawa	191
3D Shape Analysis of Solids via the Discrete Fourier Sine(Cosine) Transformation.....	T. Shibata and K. Yamaguchi	199

Understanding Forms by Man and Computer Using Computer Graphics and Image Processing..... J. Toriwaki, H. Ohshita, and T. Saito	219
Symposium Program.....	233
List of Participants.....	237
Author Index.....	241