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Note generali	A selection of 6 invited lectures and 69 papers presented at the 6th International Conference on Photonics and Imaging in Biology and Medicine, held on the campus of Huazhong University of Science and Technology from Nov. 4-6, 2007.
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Nota di contenuto	Preface; Organizing Committee; CONTENTS; Invited Papers; Shedding Light on Life: Optical Assessment of Mitochondrial Function and Tissue Vitality in Biology and Medicine M. Avraham; 1. Introduction; 1.1. Energy Metabolism and Brain Functions; 1.2. Spreading Depression and Spreading Depression-like Depolarization; 1.3. Body Homeostatic Compensatory Mechanisms; 1.4. Pathophysiology of Critically Ill Patients; 1.5. Monitoring of Critically Ill Patients in Medical Practice; References; Interstitial Photodynamic Therapy (PDT) of Solid Tumor Z. Huang, Y. K. Chen, H. Hu and F. W. Hetzel 1. Introduction2. Photosensitizer; 3. Light Source and Light Delivery; 4. Tissue Oxygenation; 5. Biological Targets; 5.1. Direct Cytotoxicity; 5.2.

Vascular Effect; 5.3. Immune Responses; 6. PDT Dosimetry; 7. Future Prospects; Acknowledgments; References; Optical Imaging and Spectroscopy of Superficial Tissue S. P. Morgan, I. M. Stockford, J. A. Crowe and B. R. Hayes-Gill; 1. Introduction; 2. Polarization Sensitive Capillaroscopy; 2.1. Method; 2.2. Results; 3. Hyperspectral Imaging; 3.1. Method; 3.2. Results; 4. Full Field Laser Doppler Flowmetry; 4.1. Method; 4.2. Results; 5. Conclusions
 AcknowledgmentsReferences; Photoacoustic and Thermoacoustic Imaging for Biomedical Applications D. Xing; 1. Introduction; 2. Materials and Methods; 2.1 Photoacoustic Imaging System; 2.2 Thermoacoustic Imaging System; 3. Results; 4. Conclusions; Acknowledgments; References; Measuring Tissue Optical Properties In Vivo Using Reflectance-Mode Confocal Microscopy and OCT S. L. Jacques, R. Samatham, D. S. Gareau, D. Levitz and N. Choudhury; 1. Introduction; 2. Experimental; 3. Conclusion; The Enhancement of Confocal Probing with Optical Clearing I. V. Meglinski and V. V. Tuchin; 1. Introduction
 2. Materials and Methods3. Results and Discussion; 4. Summary and Conclusions; Acknowledgements; References; Topic I - Tissue Optics and Diffuse Optical Imaging; Refractive Index of Hemoglobin and Albumin Solutions Incubated with Glucose O. S. Zhernovaya and V. V. Tuchin; 1. Introduction; 2. Materials and Methods; 3. Results and Discussion; 4. Conclusions; Acknowledgments; References; Dynamics of Visible Absorbance Spectrum of Hemoglobin Solution Incubated with Glucose E. N. Lazareva and V. V. Tuchin; 1. Introduction; 2. Materials and Methods; 3. Experimental Results and Discussion
 4. ConclusionsAcknowledgment; References; Research on the Moire Chromatography Technique and its Application T. Li, H. Yan, B. Tan, Z. Li and S. Wang; 1. Introduction; 2. Basic Principle of Moire Chromatography Technique; 2.1. Beam Deflect Effect; 2.2. Formation and Characteristic of Moire Pattern; 2.3. Deflection Analysis of Moire Pattern on the Transformation Coordinate; 3. Computer Simulation Algorithm; 3.1. Series c sin Expansion Method; 3.2. Computer Network Algorithm; 4. Computer Network Algorithm; 5. Experiment and Discussion
 5.1. Utilize the Multi-Direction Moire Deflection System to Do a Simulation Test of Dual-Core Flame

Sommario/riassunto

This unique volume contains selected papers presented at the 6th International Conference on Photonics and Imaging in Biology and Medicine (PIBM 2007), held on November 4-6, 2007 at Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology, Wuhan, P R China. PIBM is designed to bring together scientists, engineers and clinical researchers from a variety of disciplines engaged in applying optical science, photonics and imaging technologies to problems in biology and medicine. The scope of this conference ranges from basic research to instrumentation engineering