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Nota di contenuto	About the Special Issue Editor -- Michael Pircher Special Feature Development and Application of Optical Coherence Tomography (OCT) doi: 10.3390/app7101507 -- Bernhard Baumann Polarization Sensitive Optical Coherence Tomography: A Review of Technology and Applications doi: 10.3390/app7050474 -- Jun Zhu, Conrad W. Merkle, Marcel T. Bernucci, Shau Poh Chong and Vivek J. Srinivasan Can OCT Angiography Be Made a Quantitative Blood Measurement Tool? doi: 10.3390/app7070687 -- Hartmut Schneider, Kyung-Jin Park, Matthias Hfer, Claudia Rger, Gerhard Schmalz, Felix Krause, Jana Schmidt, Dirk Ziebolz and Rainer Haak Dental Applications of Optical Coherence Tomography (OCT) in Cariology doi: 10.3390/app7050472 -- Peter Cimalla, Julia Walther, Claudia Mueller, Seba Almedawar, Bernd Rellinghaus, Dierk Wittig, Marius Ader, Mike O. Karl, Richard H. W. Funk, Michael Brand and Edmund Koch Improved Imaging of Magnetically Labeled Cells Using Rotational Magnetomotive Optical Coherence Tomography doi: 10.3390/app7050444 -- Olivier Thouvenin, Clement Apelian, Amir Nahas, Mathias Fink, and Claude Boccaro Full-Field Optical Coherence Tomography as a Diagnosis Tool: Recent Progress with Multimodal Imaging doi: 10.3390/app7030236 -- Christian Schnabel, Maria Gaertner and Edmund Koch Optical Coherence Tomography (OCT) for Time-Resolved Imaging of Alveolar Dynamics in Mechanically Ventilated Rats doi: 10.3390/app7030287 -- Marcel Lenz, Cristian Mazzon, Christopher Dillmann, Nils C. Gerhardt, Hubert Welp, Michael Prange, and Martin R. Hofmann Spectral Domain

Optical Coherence Tomography for Non-Destructive Testing of Protection Coatings on Metal Substrates doi: 10.3390/app7040364 -- Samuel Lawman, Bryan M. Williams, Jinke Zhang, Yao-Chun Shen and Yalin Zheng Scan-Less Line Field Optical Coherence Tomography, with Automatic Image Segmentation, as a Measurement Tool for Automotive Coatings doi: 10.3390/app7040351 -- Tong Wu, Qingqing Wang, Youwen Liu, Jiming Wang, Chongjun He and Xiaorong Gu Extending the Effective Ranging Depth of Spectral Domain Optical Coherence Tomography by Spatial Frequency Domain Multiplexing doi: 10.3390/app6110360 -- Mingchuan Zhou, Hessam Roodaki, Abouzar Eslami, Guang Chen, Kai Huang, Mathias Maie, Chris P. Lohmann, Alois Knoll and Mohammad Ali Nasserri Needle Segmentation in Volumetric Optical Coherence Tomography Images for Ophthalmic Microsurgery doi: 10.3390/app7080748 -- Cosmin Sinescu, Adrian Bradu, Virgil-Florin Duma, Florin Topala, Meda Negrutiu and Adrian Gh. Podoleanu Effects of Temperature Variations during Sintering of Metal Ceramic Tooth Prostheses Investigated Non-Destructively with Optical Coherence Tomography doi: 10.3390/app7060552 -- Julia Walther and Edmund Koch Flow Measurement by Lateral Resonant Doppler Optical Coherence Tomography in the Spectral Domain doi: 10.3390/app7040382.

Sommario/riassunto

This special feature issue has been initiated to celebrate the 25th anniversary of Optical Coherence Tomography (OCT). In OCT, broad bandwidth light is used in order to produce cross sectional images of turbid and translucent samples with high axial resolution (in the order of a few μm). The imaging speed of OCT can be as high as several millions of depth scans (A-scans) per second which allows for various applications in different fields. This special feature issue consists of three overview papers covering OCT angiography, polarization-sensitive OCT and dental applications of OCT. Additional applications and the latest developments in OCT are covered in nine research papers. The latest developments presented in this issue include magnetomotive OCT, resonant Doppler OCT, full field OCT, new segmentation algorithms and depth range extension. Applications of OCT are widely spread and range from quality control in tooth prostheses and coating thickness measurements in the automotive industry to the assessment of degradation of coatings and alveolar dynamics.
