Optical Coherence Tomography and Coherence Domain Optical Methods in Biomedicine XXIII

James G. Fujimoto
Joseph A. Izatt
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## Contents

<table>
<thead>
<tr>
<th>Authors</th>
<th>ix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conference Committee</td>
<td>vii</td>
</tr>
</tbody>
</table>

### ADVANCES IN TECHNOLOGY I

| 10867 04 | Enhanced depth penetration by dual-axis optical coherence tomography [10867-3] |
| 10867 06 | Tunable 1060nm VCSEL co-packaged with pump and SOA for OCT and LiDAR [10867-5] |

### FUNCTIONAL OCT

| 10867 0D | Measuring tissue dispersion using the cross-correlation of half-spectrum optical coherence tomography images [10867-12] |

### OPHTHALMOLOGY I

| 10867 0F | 3D cellular imaging of the cornea with Gabor-domain optical coherence microscopy [10867-14] |

### OCM AND FULL FIELD

| 10867 0U | Line-field confocal optical coherence tomography [10867-29] |

### ADVANCES IN TECHNOLOGY II

| 10867 14 | Development of real-time multimodal OCT with manual operation capabilities and emergence of its applications in clinical practice [10867-39] |

### IMAGE AND SIGNAL PROCESSING

| 10867 1M | Deep-learning based automated instrument tracking and adaptive-sampling of intraoperative OCT for video-rate volumetric imaging of ophthalmic surgical maneuvers [10867-57] |
Automated layer segmentation of bladder OCT images for enhanced detection of transitional cell carcinoma [10867-60]

Motion artifact removal of optical coherence tomography angiography based on tensor voting [10867-62]

**NEUROSCIENCE**

In utero optical coherence tomography reveals changes in murine embryonic brain vasculature after prenatal cannabinoid exposure [10867-68]

**ELASTOGRAPHY**

Optical coherence elastography reveals the changes in cardiac tissue biomechanical properties after myocardial infarction in a mouse model [10867-82]

Thermo-elastic optical coherence tomography [10867-83]

**POSTERS I: OCT TECHNOLOGY**

Optic axis determination in SU(2) Jones formalism [10867-86]

Complex fast phase unwrapping method for Doppler OCT [10867-87]

Volumetric absolute blood flow measurement with fully connected vasculature network using Doppler optical coherence tomography [10867-89]

OCT spectrometer calibration using B-scan Doppler shift [10867-90]

Application of Bessel beam from deep seated negative axicon in optical coherence tomography of tissue structure [10867-94]

Upper limit for angular compounding speckle reduction [10867-95]

Long axial range swept-source OCT instrument enhanced by complex master-slave processing [10867-100]

Normalized field autocorrelation function-based optical coherence tomography 3D angiography [10867-101]

Employing the phase in master slave interferometry [10867-102]

High resolution line-field SD-OCT with 2.5kHz frame rate for cellular resolution imaging of biological tissue [10867-104]
| 10867 2Y  | Swept wavelength semiconductor laser of the red spectral range [10867-105] |
| 10867 2Z  | Temperature stabilized phase reference for MEMS based swept sources [10867-106] |
| 10867 31  | Evaluation of a commercial-grade camera for line field spectral-domain optical coherence tomography [10867-108] |

**POSTERS II: IMAGE PROCESSING**

| 10867 33  | Ghosting artifact reduction of polarization sensitive optical coherence tomography images through wavelet-FFT filtering [10867-111] |
| 10867 34  | Shadow rendering for improved volumetric visualization in real time 4D-OCT [10867-113] |

**POSTERS II: CLINICAL AND RESEARCH APPLICATIONS**

| 10867 3E  | Optimization of a SS-OCT with a focus tunable lens for enhanced visualization of ocular opacities [10867-119] |
| 10867 3F  | Multimodal optical imaging as breast cancer margins assessment methods [10867-121] |
| 10867 3G  | Automatic identification of metastatic lymph nodes in OCT images [10867-123] |
| 10867 3H  | Polarization-sensitive swept-source optical coherence tomography for investigating depth, birefringence, depolarization and orientation of collagen structure of human cervix tissue [10867-124] |
| 10867 3M  | 3D high-resolution subsurface fingerprint imaging using superresolution optical coherence tomography [10867-129] |
| 10867 3S  | Index of refraction estimation using dual-angle optical coherence tomography [10867-135] |
The quantitative analysis of spectral domain optical coherence tomography was researched to acquiring interior information of biological tissues. The single-scattering model, confocal single-scattering model and multiple-scattering model were presented and discussed. An average A-scan algorithm and a nonlinear curve-fitting method were employed to explore the scattering features of Intralipid TM. Experiments show that the relation of scattering coefficients and concentrations is linear in concentrations from 1% to 10% of Intralipid TM. Furthermore, it confirm that the