32nd RAP Seminar

The 32nd Seminar on RIKEN Center for Advanced Photonics

Language: English

Date: **April 15 (Fri) 15:30 - 16:30, 2016**

Location: **Cooperation Center, 3F, W319, Wako Campus, RIKEN**

(理研 和光キャンパス 研究交流棟3階会議室 W319)

Title: **Automated Processing and Quantitative Analysis of Posterior Ophthalmic OCT Scan Volumes**

眼科向けOCTにおける3次元データの自動処理と定量分析

Speaker: **Dr. Charles REISMAN**

(Topcon Advanced Biomedical Imaging Laboratory, USA)

Since the advent of high-speed spectral domain optical coherence tomography (SD-OCT) a little over a decade ago, the volume scan utility of OCT as a fundamental ophthalmic imaging modality has rapidly increased. Sometimes referred to as an optical biopsy, OCT has become a gold standard for imaging the back of the eye based on its ability to visualize key retinal structures on a micrometer-scale resolution. Recent technical advances to one-micrometer center wavelength swept source OCT (SS-OCT) enable ever faster scan acquisition speeds while simultaneously achieving improved signal penetration into and beyond the choroid. However, images alone can in many cases provide limited information. To extract maximum value from OCT volume data, automated image processing techniques including registration, layer segmentation, and disc segmentation have been developed, and these offer the ability to quantify various thicknesses and other structural measurements, thereby assisting in the diagnosis and treatment of ocular diseases such as glaucoma, diabetic retinopathy, and age-related macular degeneration. Recently, OCT angiography has emerged as a technique that serves to visualize functional blood flow to the capillary level. This carries the promise of revolutionizing the nature of eye care in the years to come. This talk presents some of our latest advancements in these exciting topics.

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