Special Section Editorial

This is the second part of the special section on ''Interferometry in Biomedicine,'' the first part of which, with nine papers, was published in the January 1998 issue of the *Journal of Biomedical Optics.* The splitting of the special section into two parts was necessitated by the large number of high quality papers we received on the topic. Five papers are included in this second part. The first two papers deal with speckle techniques. To compensate for eye movements which disturb blood flow measurements in the retina, Aizu and co-workers, in their paper ''Compensation of eye movements in retinal speckle flowmetry using flexible correlation analysis based on the specific variance,'' used a flexible correlation analysis by which blood flow information can be extracted from erroneous data influenced by displacement of the measuring point. They demonstrated their technique in a glass capillary model and in human retinal vessels. In his paper ''Speckled speckle statistics with a small number of scatterers: implication for blood flow measurement,'' S. Ulyanov studied the implication of speckle statistics on blood flow measurements in the case of a small number of scatterers. He showed that the Doppler bandwidth in the scattered light depends essentially on the spatial velocity distribution in the blood flow.

The third paper, ''Laser interferometric investigations of pulsatile choroidal blood flow: review and new results on the validity of the technique,'' deals with the measurement of choroidal blood flow. Schmetterer and Wolzt measured the pulsatile component of choroidal blood flow by a laser interferometric method, a technique particularly suitable for pharmacodynamic studies. They discuss the reproducibility and sensitivity of their technique and compare the results with other methods.

The last two papers relate to low coherence interferometry and optical coherence tomography (OCT). Wälti et al., in ''Rapid and precise *in vivo* measurement of human corneal thickness with optical low-coherence reflectometry in normal human eyes,'' report on a new low-coherence reflectometer for measurement of the thickness of the human cornea. Compared to standard clinical ultrasound pachometers, they obtained superior precision and shorter measurement time. Haberland and co-workers, in their paper ''Chirp optical coherence tomography of layered scattering media,'' report on an alternative method of optical coherence tomography. They used a tunable laser source to obtain cross-sectional images of scattering materials by chirp OCT and demonstrated their method in phantoms of different scattering coefficients and different anisotropy factors.

The high quality of the fourteen papers published in the special section on ''Interferometry in Biomedicine'' clearly demonstrate the intense research efforts and importance of interferometric applications in the biomedical field.

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Special Section Editors