

Optical Coherence Tomography and its Applications

A Seminar of the IEEE WA joint EDS/SSCS/IPS Chapter

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**Venue: Billings Room 3.04, 3rd floor. Electrical & Electronic Engineering Building
University of Western Australia, Crawley**

This seminar is open to the public and admission is free to all IEEE members and non-members

Abstract:

What is optical coherence tomography (OCT)? How can we explain OCT in terms of light? In the first part of the talk, I am going to present the basics of optics, for example, what are light and its main characteristics, what is an interferometer, and what are the key parts in an OCT system. For the second part, I am going to explain in detail what OCT is and how it works, the different types of OCT, for instance to measure flow or tissue structure, the technologies involved into developing these systems, and its wide range of applications in the biomedical field. Finally, I will show some biomedical images and videos taken in the Optical+Biomedical Engineering Laboratory at UWA.

Biography:

Dr. Joel Cervantes studied Physics Engineering at Guanajuato University. He holds a Master's and Ph.D. in Optics from the Optical Research Centre (CIO), Mexico. After finishing his Ph.D., Joel joined Prof. Barry Cense's lab at the Centre for Optical Research and Education at Utsunomiya University, Japan, where he worked on Jones-matrix optical coherence tomography for retinal imaging. After that, he joined the Digital Holography Lab under the supervision of Prof. Yoshio Hayasaki at the same university. He is currently an associate professor at the University Center of Exact Sciences and Engineering from Guadalajara University, Mexico. His research interest includes diffraction, imaging processing, polarization-sensitive optical coherence tomography, and optical instrumentation related to the biomedical field.

