



**UNIVERSITY OF CENTRAL FLORIDA**  
CENTER FOR RESEARCH IN COMPUTER VISION

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**“Retinal Imaging and Image Analysis”**  
Wednesday, February 25, 2015 · 11:00AM · CREOL 103



## ABSTRACT

Many important eye diseases as well as systemic diseases will be manifested in the retina. This talk focuses on retinal imaging and image analysis. Following a brief overview of the most prevalent causes of blindness in the realistic world that includes age-related macular degeneration, diabetic retinopathy, and glaucoma, this talk is devoted to retinal imaging and image analysis methods and their related clinical applications. Specific focus is devoted to 3-D OCT images analysis, describing methods for segmentation and analysis of retinal layers, 3-D detection of symptomatic exudate-associated derangements, detection of disruption area in external limiting membrane, retinal layer intensities analysis, as well as detection of disruption area in is/os layer.

## BIOGRAPHY

Xinjian Chen received the PhD degree in 2006 from the Center for Biometrics and Security Research (with honor), Institute of Automation, Chinese Academy of Sciences, Beijing, China. After graduation, he entered Microsoft Research Asia and researched on Handwriting Recognition. From Jan. 2008 to May 2012, he has conducted the Postdoctoral Research at several prestigious groups: Medical Image Processing Group, Department of Radiology, University of Pennsylvania (Jan.2008 - Oct. 2009); Department of Radiology and Image Sciences, Clinical Center, National Institutes of Health (Oct. 2009 - Aug. 2011); Prof. Milan Sonka's Group, Department of Electrical and Computer Engineering, University of Iowa (Sep. 2011 - May 2012).

Untill now, he has published more than 60 top international journal/conference papers, which includes IEEE Transactions on Medical Imaging, IEEE Transactions on Image Processing, IEEE Transactions on Biomedical Engineering, Radiology, Medical Physics, etc. He has also been granted with 3 patents. In 2012, He was the recipient for "One Thousand Young Talents" Award in China.

Currently, he is a Distinguished Professor and Director of Medical image processing, analysis and visualization lab at Soochow University. The lab has 6 faculties now, and 20 Ph.D and master students. Xinjian leads the group working on medical image analysis field, and have made substantial achievements within two years. The lab currently have more than ten National and Provincial level grants, including China National Basic Research Program of China (973) Young Scientist grant which is top competitive to get in China. And have published numerous top journal papers, such as IEEE Transaction on Medical Imaging, IEEE Transactions on Biomedical Engineering et al.