

THE DEPARTMENT OF ELECTRICAL & COMPUTER ENGINEERING SPEAKER SERIES

PRESENTS

Title: Nephropathology - An Introduction and Why We Need Computer Vision for It



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Virtual Zoom Meeting:

<https://zoom.us/j/9762699678?pwd=RUp5ZmN3cHUyQ1FvUExVQjVsc1hVUT09>
Meeting ID: 976 269 9678
Passcode: K91Bwy

LECTURE ABSTRACT

Abstract: In this talk, I will introduce you to the field of nephropathology. Nephropathology is a branch of anatomic pathology concerned with the diagnosis and characterisation of non-tumor medical disorders of the kidneys. Kidney pathologists in academic settings collaborate closely with nephrologists and transplant surgeons, who often collect diagnostic specimens by percutaneous renal biopsy. To get a definite diagnosis, the renal pathologist must combine evidence from light microscopy, electron microscopy, and immunofluorescence. Specifically, pathologists often look at the glomerulus, tubules and interstitium, vasculature, or a combination of these structures. I will then explain why computer vision will play an important role in nephropathology in the near future.

SPEAKER BIOSKETCH

JU Becker has been driving progress in clinical nephropathology through transcriptome analysis, immunohistochemistry, transmission electron microscopy for three years now through machine learning. He has been developing machine learning solutions in native and transplant nephropathology. His nephropathological partners in these efforts include collaborators from premium institutions worldwide, such as Cedars Sinai Medical Center, Weill-Cornell University, Imperial College, Amsterdam, Rotterdam, Paris, Leuven, Szeged, Bari, Vienna, Leicester. He has held leading roles for the Banff Foundation, the European Rare Kidney Disease Network, and the Renal Pathology Society.

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