



BIOLOGY COLLOQUIUM

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High Throughput, High Content Microscopic Imaging for Neurobiological Systems



By **Peter T. C. So**

Dept. of Mechanical and Biological
Engineering, Massachusetts Institute of
Technology, USA

The study of neurobiology is an area where optical imaging technology has made major impact. In this presentation, we will present some recent works on understanding neuron structural plasticity on the dendritic and synapse levels. The limitation of our current approach in studying neuronal structures has further motivated us to develop new multiphoton microscopy technologies to enable higher content imaging by implementing new spectral and lifetime resolved modalities, to image with higher resolution by employing structured light super-resolution microscopy, and to image faster by developing highly parallelized random address imaging.