

Analysis of Immune Cell Function with using Imaging Flow Cytometry.

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This talk will cover theory and application of statistical microscopy for the measurement of immune cell function as performed by Amnis' high speed imaging cytometers. Microscopy affords the information content necessary for many cell-based assays, but statistics are often lacking and choosing the best quantitative analysis strategy is a significant challenge even for users well-versed in image-based algorithms. We will demonstrate methods enabled by the ImageStream high speed imaging cytometer that provides statistically objective discrimination of cells based on their appearance. Applications of increasing analytical complexity will be discussed include nuclear translocation of NFkB and subcellular trafficking of viral DNA within primary plasmacytoid DC, and a novel approach for quantifying autophagy.