

NANO PhD Prospectus Defense

Time: 2:00PM Friday, Feb 11, EP254

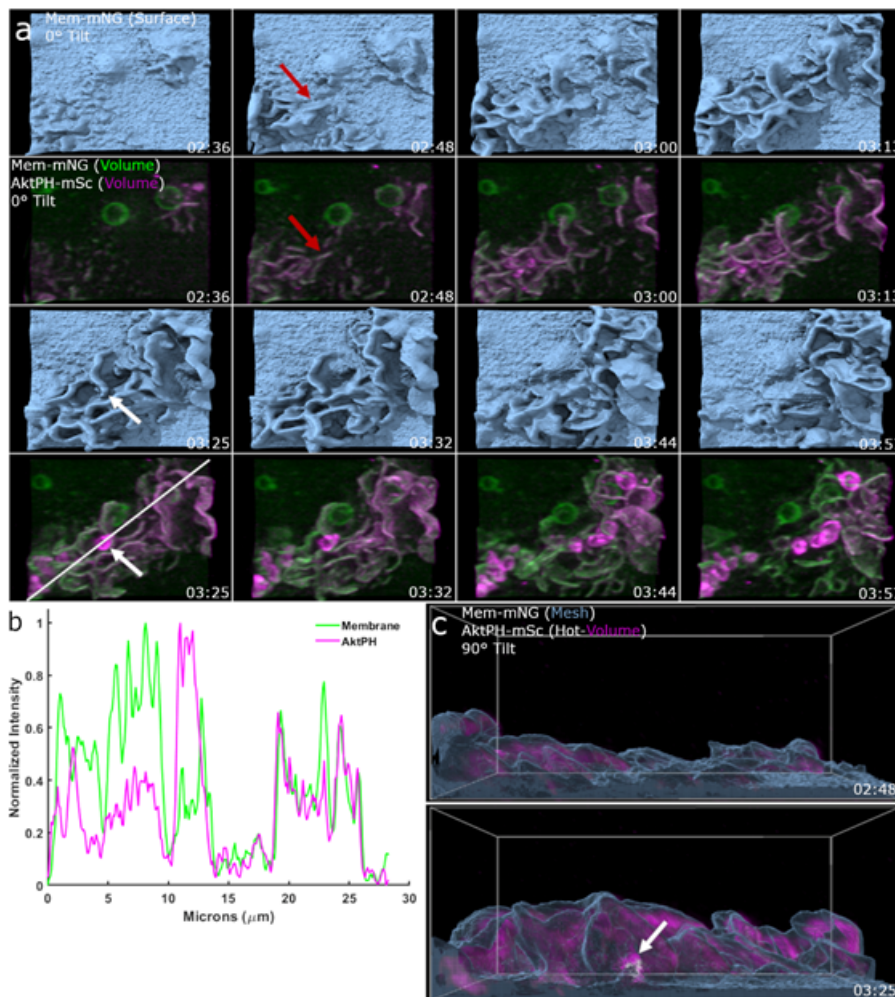
<https://sdsmt.zoom.us/j/93835560532?pwd=OVhMd3VyVkVMcWlGK2dQRzZEU3hZZz09>

Meeting ID: 938 3556 0532 Passcode: 479721

Structural dynamics of macropinosome formation and the role of phosphoinositols using lattice light sheet microscopy¹

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Early PI3K activity leads to amplification of PIP₃/PIP₂ in developing ruffles, macropinosome formation, and post closure recruitment. a) Top view of an Mem-mNG isosurface rendering provides depth for 3D visualization of ruffle extension. Dual-color volumetric intensity display comparing the recruitment of AktPH-mSc to early and expanding ruffles as well as sealed macropinosomes (Region 21x19μm x,y). b) Intensity line-scan of the volumetric Mem-mNG and AktPH-mSc shows their co-scaled relative intensities for extending membrane ruffles, as well as recruitment around a sealed macropinosome. c) Side view of the isosurface mesh plasma membrane and volumetric AktPH-mSc (Magenta Hot scale) from a shows that the early stages of ruffle development is filled with AktPH-mSc and the resulting macropinosome (white arrow) receives a final intense AktPH-mSc recruitment around the bottom of the ruffle (Region 21x19x15μm).

¹ Quinn SE, Huang L, Kerkvliet JG, Swanson JA, Smith S, Hoppe AD, Anderson RB, Thiex NW, Scott BL. The structural dynamics of macropinosome formation and PI3-kinase-mediated sealing revealed by lattice light sheet microscopy. *Nat Commun.* 2021 Aug 10;12(1):4838.