3D and live-cell multicolor super-resolution microscopy for cell biological research

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Cell biological research relies heavily on the capabilities of light microscopes to resolve structures or processes of interest [1]. My research group is developing super-resolution technology that pushes these capabilities in particular with respect to 3D resolution, speed, live-cell compatibility and depth penetration.

In this presentation, I will report on my lab’s recent progress on imaging whole cells at sub-20 nm 3D resolution and on live-cell imaging at 50 nm resolution and below. I will summarize published work [2, 3] as well as present recent, unpublished results. Technology and method development will be present in the context of cell biological applications and discoveries.

