Nanoscale Imaging in, of & with Luminescent Single Walled Carbon Nanotubes

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Sub-wavelength localization of single nano-emitters allows super-resolution imaging and subtle probing of their spatio-temporal nano-environments. This can be applied to reveal exciton localization in luminescing carbon nanotubes[1] which is subject of intense investigations due to its impact on nanotube emission properties. I will present our current efforts to map luminescent defect localization in ultra-short carbon nanotube having controlled chemical and morphological properties [2].

I will also present that video-rate tracking of luminescent biocompatible carbon nanotubes allows imaging of local live brain tissue architecture and viscosity at the nanoscale[3-5]. Specific features are uncovered near identified brain structures [6] (e.g synapses) and in neurodegenerative disease animal models [7].

References

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