Abstract Submitted
for the MAR14 Meeting of
The American Physical Society

Combining the utility of Digital Holography and Epi-fluorescence for localization of HEK293 cell nuclei and protein sGC ERIC SHELDRAKE, Graduate Student, CHRISTOPHER MANN, MATTHEW GAGE, Co-Advisor — Digital Holography (DH) and Epi-fluorescence are used to analyze and localize the nuclei and the intracellular protein soluble guanylate cyclase (sGC) in human embryonic kidney 293 (HEK293) cells. DH is a non-invasive phase microscopy technique that provides three dimensional topographical information of HEK293 cells including variance of index of refraction or physical thickness. Epi-fluorescence along with fluorescent labels will be used to further studies of sGC localization. The signaling pathway including nitric oxide (NO) and sGC is studied and has been linked to various cardiovascular diseases, platelet aggregation, and variations in blood pressure via vasodilation. sGC will be labeled using an antibody and the fluorophore FITC. An understanding of how sGC interacts with its surroundings and where is localizes is vital to further research in cardiovascular disease.

Eric Sheldrake
None

Date submitted: 15 Nov 2013 Electronic form version 1.4