

**NUS Graduate School for Integrative Sciences and Engineering
Research Project Write-up**

Title of Project : Imaging through turbid media

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Short Description

Most biological tissues are opaque to visible and near-infrared light (NIR) due to strong scattering and absorption. In the so called optical window (700-900 nm), the absorption coefficient is much smaller than the scattering coefficient. This fact allows deep penetration of NIR light into soft tissues. Imaging of human organs with NIR is attractive because NIR light is non-ionizing. However, strong scattering alters the photon trajectories so often that the projection images are severely blurred. Advance instruments and novel imaging reconstruction algorithms are needed to provide high spatial resolution and contrast. The developed methodologies will have a wide variety of applications in clinical diagnostics and basic research involving animal models.