

Internal Seminar

Building a novel setup for Fluorescence Correlation Spectroscopy measurements in a conventional cuvette

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Fluorescence Correlation Spectroscopy (FCS), a powerful high sensitive technique used in addressing many biophysical processes *in vivo and in vitro*. Conventionally, FCS measurements are carried out in microscope which has many possible limitations including i) the samples cannot be stirred, ii) temperature dependent studies cannot be done, iii) in situ change of sample condition cannot be done etc. We overcome these limitations by using high NA ELWD objective lens and a cuvette based modified FCS set up. We obtained a good S/N ratio with cpm being > 50 kHz. We demonstrate monitoring of real-time aggregation by continuous acquisition, protein folding by chemical and heat denaturation, and time dependent protein-protein interaction. Our setup can easily be integrated to a commercial fluorimeter for application in a multitude of systems. This technique stands uniquely since the experiments can be carried out in concentration as low as 10-50 nM unlike the other techniques used for similar applications. I will discuss some of our initial finding on globular proteins as well as IDPs.

Thursday, Jun 1st 2017

2:00 PM (Tea/Coffee at 1:45 PM)

Seminar Hall, TCIS