



POSTER #8

**PIXEL-BY-PIXEL TIME-AUTOCORRELATION FOR RAPID
REAL-TIME ANALYSIS OF (ANTIBODY) NANO ARRAYS**

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The existing bio-sensing technologies are time consuming, not portable, expensive and does not allow multiplexed detection. Microarray is one such technology which allows multiplexed detection, but it's not portable and requires long incubation time. In this work we have miniaturized the microarray with help of Nano- fountain pen (NFP) and coupled the miniaturized microarray with microfluidic system and used a software-based approach for rapid real-time detection of microarrays. We have written a software that calculates the autocorrelation function (time) of each pixels form stack of images and creates a representative image whose intensity profile correlates with the diffusion coefficient of the target molecules. Based on the aforementioned software, we can detect the biomolecular interactions real-time, because the diffusion coefficient of the target molecules will be low around the immobilized capture molecule spots due to the bimolecular interaction, and high in the capture molecule free areas.