

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

Title of Project : **Bead based microarrays for multiplexing bioassays**

Name of Supervisor : Zhang, Yong

Contact Details: Tel: 65164871, Email: biezy@nus.edu.sg

Short Description

Compared to the microarrays fabricated on planar substrates, bead based microarrays are more robust as microbeads are ideal reagent delivery vehicles providing large reactive surface areas and have become omnipresent in biomedical applications. A technique is developed to fabricate a microfluidic device with unique dome-shape structures for high efficiency immobilization and patterning of single microbeads. We have also fabricated polymer porous films with tunable pore sizes by employing non-lithographic “breadth figure” method and colloidal template method, for patterning of microbeads. Our research aims to use arrays of encoded microbeads for high-throughput multiplexing bioassays.

