

## **Optimized Biocatalysts through Enzyme Immobilization**

Enzyme immobilization research has significantly grown in the last few decades due to a wide range of applications. Immobilized enzymes have wide reaching applications in chemical analysis, effective monitoring of environmental contaminants, medical diagnoses, genomics and genome sequencing, and protein microarrays. One of the fastest growing applications for immobilized enzymes is biocatalysis where enzymes provide a green alternative to chemocatalysis and typically exhibit superior chemo-, regio-, and stereo-specificity.

Traditional enzyme-surface immobilization techniques suffer from several obstacles. These include protein leaching from the surface and an inability to control attachment orientation. Herein we present our research toward superior control of the enzyme immobilization for improved activity.