



Sadagopan Krishnan

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Clinical Biosensors and Bio- Electrocatalysis

Wednesday, April 29
215 Shillman
3:00pm – 4:15pm

Refreshments will be served

ABSTRACT Simple, novel clinical biosensing tools for diagnosing type of diabetes in complex clinical samples represent an important research area to manage the current epidemic growth of type-2 diabetes. With this goal, our group has developed an electrochemical mass picosensor coupled to an optical microarray imager for directly measuring serum insulin levels with multi-detection features to accomplish reliable diagnosis. In a separate project, we are examining electrocatalytic properties of redox enzymes and complex subcellular liver fractions on π - π stacked carbon nanotubes with pyrene linkers on electrodes to be useful as stable and scalable green bioreactors for drug metabolites and fine chemicals syntheses, in the development of *niche* biological fuel cells, and for biosensing applications. We are also focusing on detecting small molecule biomarkers and anticancer drug candidates by devising sensitive optical microarrays and electrochemical methods. Some of our findings in the above mentioned research projects will be discussed.

BIOGRAPHY Sadagopan Krishnan obtained his PhD under the supervision of Prof. Jim Rusling at the Univ of Connecticut, USA (2010). He pursued his post-doctoral research work 2010-2012

under Prof. Fraser Armstrong at Oxford University, UK. He joined the Chemistry Faculty at Oklahoma State University in the Fall 2012. His research interests are in Point-of-care methods, Clinical Biosensors, Biocatalysis, Biomarker validation, Novel anticancer Drug-screening arrays, Bioelectrochemistry, and Biological fuel-cells. He has published over 34 peer-reviewed articles including 2 cover page articles and 2 book chapters. His research group has made over 35 presentations in regional and national meetings in the past 3 years. He has been a peer-reviewer for nearly 2 dozen chemistry journals and as a review panelist for NSF Graduate Fellowship program, DoD, Netherlands Organization for Scientific Research (NWO), and for the New Zealand Ministry of Business, Innovation & Employment. He has received **the 2014** Sigma Xi Young Investigator Award (Oklahoma State University Chapter), NIH Academic Research Enhancement Award (June 2014). He was nominated for the Bioanalysis Young Investigator Award (2011), and was honored as an Electrochemical Society Summer Fellow in 2007 during his graduate studies (J. W. Richards summer fellowship).