The Singapore Bioimaging Consortium (SBIC)
presents a seminar

on

"Milk and Mice: Adventures in Site-specific Mutation and Combining EPR and NMR to Detect Nitric Oxide"

Speaker: **Lawrence J. Berliner**
Professor
Department of Chemistry & Biochemistry
University of Denver, USA
Date : **Friday, 21 June 2013**
Time : **3pm – 4.00pm**
Venue : **SBIC Seminar Room, 11 Biopolis Way**
Level 2, Helios Building
Singapore 138667
(Please use Level 1 entrance)

Abstract

The milk protein, α-lactalbumin has recently been shown to exist in a partially unfolded state bound to certain lipids, it becomes a tumor killing protein. In an effort to understand its calcium supported stability, he found that the native form of a protein was less stable and disordered than a recombinant mutant containing the ubiquitous N-terminal methionine. It was concluded that the N-terminus of the protein dramatically affects both stability and function as manifested in calcium affinity. Nitric oxide is an important physiological mediator that sometimes manifests itself in certain pathological states such as sepsis, shock and epilepsy. It is possibly by EPR to directly detect NO in vivo. In addition the more spatially sensitive MRI method can be utilized. This work reports in vivo and ex-vivo EPR studies as well as NMR images of NO distribution in mice and rats.

About the Speaker

Lawrence J. Berliner was educated in chemistry and biophysical chemistry at UCLA (B.S.). He obtained his PhD from Stanford University and spent his postdoctoral years in Oxford, UK. He spent 32 years at The Ohio State University before moving as Department Chair to the University of Denver in 2001. He is a pioneer in the spin labeling technique and his biological work covers protein structure, free radicals and in vivo EPR methods. His biochemical interests have covered several of the proteins in the blood coagulation cascade, fibrinolysis, and the biochemistry of lactation. His laboratory was the first to demonstrate EPR imaging and detection of free radicals in vivo. He is the editor of over 32 books on biological magnetic resonance. He is currently President of the International EPR Society and has been recognized as a Fellow of the American Chemical Society, American Academy of Arts and Sciences,

the Silver Medal in Biological EPR and the Lifetime Achievement Award from Ohio State University in 2005.

--- Admission is free and all are welcome ---