

IMCB Invited Speaker



Speaker : Prof. Vytas A. Bankaitis
*Endowed E.L. Wehner-Welch Foundation Chair in Chemistry,
Texas A&M Health Sciences Center, USA*

Date : 13 May 2013 (Monday)

Time : 4:00PM - 5:00PM

Venue : IMCB Seminar Room 3-46, Level 3, Proteos, Biopolis

Host : Prof. Wanjin Hong

Seminar :

New Strategies For Highly Selective Small-Molecule-based Interference With Specific Pathways of Phosphoinositide Signaling In Cells

Phosphatidylinositol transfer proteins (PITPs) integrate diverse territories of intracellular lipid metabolism with stimulated phosphatidylinositol-4-phosphate production, and are discriminating portals for interrogating phosphoinositide signaling. These properties identify PITPs as potential, yet completely unexplored, targets for small molecule-based inhibition of select phosphoinositide signaling pathways in cells. I will discuss our recent work for how we exploited genetic and post-genomic tools the yeast system offers to validate the first small molecule inhibitors (SMIs) of the yeast PITP Sec14. These SMIs exhibit exquisite targeting specificities for Sec14 and deliver exquisite pathway selectivity in inhibiting phosphoinositide signaling in vivo. These data deliver compelling proof-of-concept that PITP-directed SMIs offer new and generally applicable avenues for intervening with phosphoinositide signaling pathways with selectivities superior to those afforded by contemporary lipid kinase-directed strategies.

About the Speaker :

Dr. Bankaitis is the Endowed E.L. Wehner-Welch Foundation Chair in Chemistry at the Texas A&M Health Sciences Center. He earned his PhD degree at the University of North Carolina School of Medicine where he studied protein translocation across the bacterial inner membrane with Dr. Philip Bassford, Jr., and was a Helen Hay Whitney Postdoctoral Fellow at the California Institute of Technology in the laboratory of Dr. Scott Emr. After progressing through the faculty ranks at the University of Illinois at Urbana-Champaign and the University of Alabama-Birmingham School of Medicine, he was recruited back to the University of North Carolina School of Medicine, where he served as Chair of the Department of Cell & Developmental Biology for 11 years. He has also served as organizer for FASEB and Gordon Conference meetings, currently serves on four journal Editorial Boards, and has also served on numerous NIH Study Section panels -- both as a member and Study Section Chair. His laboratory has made seminal contributions to the protein trafficking and lipid signaling fields, and present interests focus in the area of functional diversification phosphatidylinositol signaling.