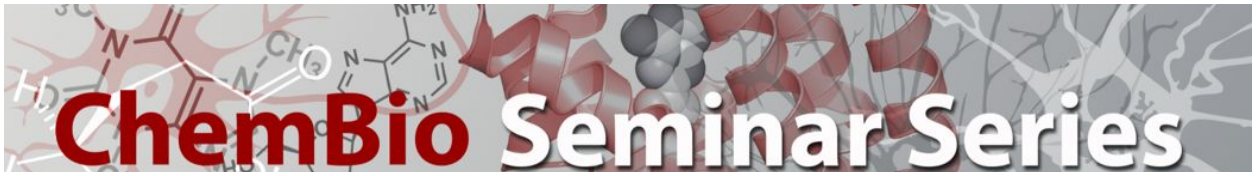

Thursday, March 8, 2018, 12:30 pm
Seaver Science Library, Room 150
SSC Auditorium next to the library

Professor Minkui Luo

Chemical Biology Program
Memorial Sloan Kettering Cancer Center

Chemical Interrogation of Protein Methyltransferases: Function, Inhibition and Mechanism

Abstract:

Protein methyltransferases (PMTs) are involved in numerous epigenetic processes. Their dysregulation has been implicated in many diseases including cancer. Among >60 PMTs found in humans, most of them remain to be characterized. The oncogenic roles of certain PMTs were implicated via methylation-mediated dysregulation of oncogenes or tumor suppressors, and thus present these PMTs as emerging anti-cancer targets. However, pharmacological perturbation of these PMTs requires high-quality chemical probes, with few documented in literature. These situations were intriguing to the Luo laboratory, which then focused on developing chemical tools to interrogate and perturb the functions of PMTs. To profile the targets and annotate the downstream biological functions of PMTs, we pioneered the Bioorthogonal Profiling of Protein Methylation (BPPM) technology to profile proteome-wide/genome-wide methylation of designated PMTs. With the aid of this method, we revealed multiple nonhistone methylation events of biological importance. Through rational design strategy, we developed several inhibitors of PMTs through distinct modes of interactions and demonstrated their uses as chemical and structural probes. My presentation will outline several recent important findings in these aspects.

Hosted by Professor Chao Zhang

The scientific community is invited

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