

BIOCHEMISTRY SEMINAR

Brian M Paegel, Ph.D.

Chair, Department of Pharmaceutical Sciences
Professor, Chemistry & Biomedical Engineering
University of California, Irvine



“Activity-based and cellular encoded library screening technology for drug discovery at the attomole scale”

Targets for drug discovery are increasingly complex and require more elaborated and custom chemical matter to fuel early discovery. Encoded library modalities, such as DNA-encoded (small molecule) and mRNA display (peptide) libraries have addressed this need, allowing one to prepare arbitrarily complex and custom chemical diversity sets for screening. However, interrogation of these libraries is limited to binding affinity selection. We have developed automated, miniaturized attomole-scale encoded library synthesis and analytical screening technologies that allow one to measure direct biochemical and cellular activity from vanishingly small quantities of material. The lecture will explore these concepts in the context of several contemporary clinical drug targets involved in anti-coagulant, cardiovascular, and cancer immunotherapy drug discovery.