P²S² Peptides and Proteins Society (Singapore)

P²S² SEMINAR SERIES

Date: 20th Sept 2019
Time: 11 am - 12 pm
Venue: Seminar Room Level 6, Neuros
8 Biomedical Grove
A*STAR, 138665

Host: **Dr. Charles JOHANNES, Ph.D.**
President, P²S²
Principal Scientist, P53 lab
Principal Investigator, Peptide Engineering Programme, A*STAR

Accelerating synthetic combinatorial discovery

Dr. Zachary Gates
Postdoctoral Scientist
Department of Chemistry
Massachusetts Institute of Technology (MIT)
Cambridge, MA, USA

Speaker:

Zak was born and raised in the midwestern United States, where he discovered scientific research as an undergraduate at The University of Chicago. He completed his graduate studies in 2014 under the supervision of Prof. Stephen Kent, and has since been engaged in postdoctoral studies in the laboratory of Prof. Bradley Pentelute at the Massachusetts Institute of Technology. Zak is broadly interested in protein molecules – their atomic-level structures, how and why they fold, how they interact, and how mutations disrupt their normal function to cause disease – and in the use of chemical methods to facilitate their study.

Abstract:

Combinatorial libraries have revolutionized the fields of peptide and protein engineering. Generally, successful combinatorial approaches employ genetic encoding to determine the amino acid sequences of compounds identified by selection procedures. In this talk, I will describe the development of a proteomics-inspired, tandem mass spectrometry-based sequencing approach applicable to complex mixtures of synthetic peptides. This approach enables the use of selection procedures that operate directly in solution, without the need for solid support beads or encoding tags. For example, by the use of LC-MS/MS sequencing, we have extended the diversity of libraries amenable to size exclusion chromatography-based affinity selection by 5 orders of magnitude, up to ~106 members. Immunoproteomics-inspired approaches have increased accessible diversities even further, to 108–109. These diversities are on par with those achieved by early phage display, and are expected to significantly extend the utility of synthetic libraries for identifying peptide and miniprotein-based binding molecules.

No registration is required.
We encourage you to be there early to get a seat as spaces are limited

Join us at our first ever P²S² Social to network among society members, to hear exciting updates from young scientists, and to advocate interest in peptides and proteins

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