



Donnelly Centre
for Cellular + Biomolecular Research
UNIVERSITY OF TORONTO



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"Custom Protein Binding: Computational Design to Address Protein Engineering Challenges"



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Monday, March 17, 2014 | 11:00 a.m.
The Donnelly Centre
James Friesen | Cecil Yip
Red Seminar Room

Abstract:

As interactions between proteins form the basis of almost all biological processes, the ability to understand and to rationally design them will not only help us to dissect and manipulate cellular processes, but also provide potential new avenues for developing diagnostics and biological therapeutics. We recently developed a set of new methodologies to computationally design new protein-protein interactions that allow the design of proteins with specific binding functionalities and programmable molecular properties. I will introduce our computational and experimental methods while discussing the generation of a pH-sensitive IgG binding protein. Furthermore, I will present an example of how we can use self-assembly and geometry-based design to efficiently block the receptor binding site of the Influenza virus and thereby neutralize the virus.

Host: Sachdev Sidhu