

Biology Seminar



Western
UNIVERSITY · CANADA

12:30 - 1:30 pm
Friday, March 15, 2019
BGS 0153



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Protein engineering approaches to study the Evolution and Diversity of enzymes in Specialized Metabolism

Protein engineering coupled with structural biology is a powerful approach to interrogate the evolution of protein function. Nature has provided us with a limited repertoire of protein folds, however this has not hindered the diversity of protein functions. Our group has focused on a well-studied metabolic route, the shikimate pathway, to investigate the diversification and evolution of protein function. I will discuss how protein engineering can be utilized in this aspect. This presentation will look at how microbe and plant enzymes of the pathway have diversified in function, yet their overall three-dimensional structure is retained with only subtle variations in their amino acid sequences. The talk will be on a number of projects that serendipitously converged on a common research theme. The shikimate pathway plays important roles in plants and microbes, therefore our recent findings provide novel avenues for biotechnological applications in agriculture and drug development.

