Indian Institute of Science Education and Research Mohali

East meets West: How globalization launched a honeybee disease epidemic

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11:30 AM - 12:30 noon **Wednesday, May 04 2022** **LH-6, Lecture Hall Complex**

Abstract. Host switching allows parasites to expand their niches. However, successful switching may require suites of adaptations and also may decrease performance on the old host. As a result, reductions in gene flow accompany many host switches, driving speciation. Because host switches tend to be rapid, it is difficult to study them in real-time, and their demographic parameters remain poorly understood. As a result, fundamental factors that control subsequent parasite evolution, such as the size of the switching population or the extent of immigration from the original host, remain largely unknown. To shed light on the host switching process, my lab has been studying honeybee parasites and viral diseases. With several generations per year, in bees we can study co-evolution taking place before our eyes. Our work shows how diseases evolve and how parasite speciation takes place.

The Speaker. Professor Mikheyev is a Russian – American evolutionary biologist. He was born in Russia, but lived in the USA since his teenage years, ultimately moving to Japan after graduate school. Now, he is about to receive his Australian citizenship, having been at the Australian National University for five years. At the ANU, he leads the Evolutionary Genomics research group which applies cutting-edge tools in genomics and bioinformatics to fundamental questions in evolutionary biology. Over the past decade, Prof Mikheyev has worked on a wide variety of study systems, ranging from bees to snakes, with a general theme of understanding the molecular origin of adaptations. He is particularly fond of looking at rapid evolutionary events we can see in our lifetime, such as biological invasions, or various kinds of pests.