

Biology Seminar



Western
UNIVERSITY · CANADA

12:30 - 1:30 pm
Friday, November 24, 2023
BGS 0165



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Environmental change and the determinants of genetic diversity: recent progress and new challenges

Explaining patterns of genetic diversity is a core objective of evolutionary biology. A crucial gap in our knowledge is to understand how continual environmental change influences genetic diversity. Recent empirical advances have allowed us to observe the dynamics of evolution in insects and annual plants in unprecedented genetic and temporal detail. This empirical work has revealed rapid evolutionary adaptation to changing environmental conditions involving substantial allele frequency change at large numbers of loci across the genome. In a familiar echo of other diversity paradoxes across ecology/evolution, we lack a compelling explanation for how so much fitness-relevant genetic variation is maintained and if continually changing environmental conditions hold the key. I will give a non-technical review of these issues including my own contributions to building a compelling quantitative theoretical explanation.

