

# Biology Seminar



Western  
UNIVERSITY · CANADA

12:30 - 1:30 pm  
Friday, October 1, 2021  
On ZOOM



**David Pfennig**  
Researcher  
Department of Biology  
University of North Carolina,  
Chapel Hill

## Phenotypic plasticity and the evolutionary origins of novel traits

One of biology's most significant unresolved problems is to understand how novel, complex traits originate and subsequently diversify. A growing number of biologists have been asking whether environmentally initiated phenotypic change—phenotypic plasticity—precedes, and even facilitates, evolutionary innovation and diversification. However, this 'plasticity-led evolution' hypothesis remains controversial, primarily because comprehensive tests from natural populations are generally lacking. In my talk, I'll briefly describe the plasticity-led evolution hypothesis, present key criteria to allow tests in diverse natural systems, and discuss a test of these criteria using natural populations of spadefoot toads. Generally, phenotypic plasticity might play an underappreciated role in promoting adaptive evolution..

