

Biology Seminar



Western
UNIVERSITY · CANADA

12:30 - 1:30 pm
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Via ZOOM



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Evolution of sexual communication through species interactions

Sexual communication plays a central role in animal behavior, and sexual signals and responses evolve through species interactions at multiple levels: Closely related species with similar mating signals may cause communication interference, secondary metabolites of host plants may cause stress, and pathogens and parasites may directly or indirectly affect sexual signals and responses. Our research focuses on night-active Lepidoptera (moths), because they are one of the most diverse group of animals (~140.000 species), with well-defined sex pheromones. Through a combination of genetic analyses and behavioral lab and field experiments, we aim to discover the genetic changes underlying sexual interactions that lead to population divergence (1,2,3), measure the ecological selection forces affecting sexual attraction (4,5,6), including parasites and pathogens (7,8), and extrapolate changes at micro-evolutionary scale to macro-evolutionary biodiversity patterns (9).

- 1) Lassance et al 2010, *Nature* 466; 2) Koutroumpa et al 2016, *PNAS* 113; 3) Unbehend et al. 2021, *Nat Comm* 12; 4) Groot et al 2006, *PNAS* 103; 5) Van Wijk et al 2017, *Sci Rep* 7; 6) De Pasqual et al. 2021, *TREE* 36; 7) Barthel et al 2015, *BMC Evol Biol* 15; 8) Gao et al. 2019, *J Invert Pathol* 170; 9) Groot et al 2016, *Annu Rev Entomol* 61.

