



Colloquium

Lessons from Poison Frogs on Ecological Tuning of Animal Behavior and Physiology

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Host: Lora Sweeney

Title | Lessons from Poison Frogs on Ecological Tuning of Animal Behavior and Physiology
Abstract | Behavior and physiology are the substrates of natural selection. Our overarching goal is to understand how new traits in physiology and social behavior have evolved from existing genetic and cellular components using poison frogs as research organisms. First, we want to understand how organisms evolve ways to evade predation by using natural products that target the nervous system. Animals with a rich diversity of chemical defenses must also protect their own nervous systems from toxicity. We recently discovered toxin sponge proteins that bind deadly toxins and transport them to specific locations in poison frogs. Such a system is ripe for reverse engineering drug carriers to better understand how chemical defenses evolve. Second, we want to understand how new social behaviors evolve through changes in nervous system function using a comparative, organismal approach. We have established poison frog tadpoles as a model system for infant social behavior, where species have evolved new communication and social behaviors based on their rearing environments. Together, these research avenues are enabling us to understand the design principles of chemical defense and social behaviors.

Monday, November 9, 2026 11:30am - 12:30pm

Raiffeisen Lecture Hall



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station.

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