



Yale SCHOOL OF MEDICINE

GENETICS DEPARTMENT SEMINAR SERIES

Ecological resources and the evolution of parent-offspring interactions

Animal behavior is a key component of biological adaptations, where fitness relies on the ability to find mates, acquire food, and avoid predation. Variation in the availability of key ecological resources can drive the diversification of animal behaviors, although the neural mechanisms responsible have remained elusive. I will discuss how ecological resources have driven the evolution of parent-offspring interactions. Parental care is a key evolutionary innovation that facilitates the exploitation of novel habitats, influences fitness and survival of parents and offspring, and serves as an evolutionary precursor to the emergence of complex social behaviors. To study the link between ecology and behavioral adaptations, my lab uses poison frogs as a model system, as they show remarkable variation in parental care strategies. I will discuss how a key ecological resource drove the evolution of egg-feeding behavior in poison frogs. Mothers provide trophic, unfertilized eggs to their developing tadpoles. In turn, tadpoles beg their mothers for meals by performing a conspicuous dance display, which they are more likely to perform when they are hungry. In both cases, a general theme emerges in the brain, where the modification of neuronal circuits regulating feeding behavior also tune social interactions. Overall this body of work is providing insight into how ecological factors, like nutrient availability and predation, shape behavioral evolution through the modification of feeding-related circuitry in the brain.



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Tuesday, April 13, 2021

11:30am - 12:30pm

[Zoom Link](#)

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The Genetics Calendar of Events can be viewed on-line at
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