

Webinar

Linking physiology, ecology, and genes: Animals in variable environments

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Under variable and changing environmental conditions, animals must carefully balance their various energetic needs. This need for energy balance becomes especially pressing for small endothermic animals such as hummingbirds, which have very high metabolic rates but store very little fat as a backup energy source. I look forward to sharing with you my research on hummingbird physiological ecology, linking evolutionary-scale patterns such as energy allometries with how animals manage their energetic needs on a daily basis, and then diving deeper into energy-saving metabolic strategies that they use at night. Hummingbirds have the incredible ability to use torpor (similar to hibernation) to lower their metabolic rates and save energy overnight. I am especially interested in how they cool and rewarm their bodies safely from this lowered metabolic state! My overarching goal is to link ecological observations with organismal physiology, and ultimately with gene expression to understand the mechanisms that animals use to survive in variable environments.

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