

Biological Sciences Seminar

Feeding colds and starving fevers? Evolutionary theory illustrates why appetite during illness matters



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Thursday, March 14 @ 3:30 SCEN 604
Pre-seminar snacks 3:00pm, SCEN 502

Talk abstract: A perplexing quirk of many host-parasite interactions is that hosts typically reduce their food intake when infected, or merely exposed to, infectious agents. This behavior is well-documented, yet the ecological factors that influence it, how it affects disease outcomes, or why it evolved remains poorly resolved. Synthesizing recent studies, we show that this behavior functions as a 'master switch' (which parasites can manipulate) that governs within-host energetics, physiology, and immune functions. Consequentially, resource intake can fundamentally alter how sick a host becomes, how long the infection lasts, and how many new infections arise. We use evolutionary theory to examine these disparate scenarios, potential mechanistic explanations and evolutionary drivers. We then highlight key evidence needed to rigorously address this evolutionary mystery.