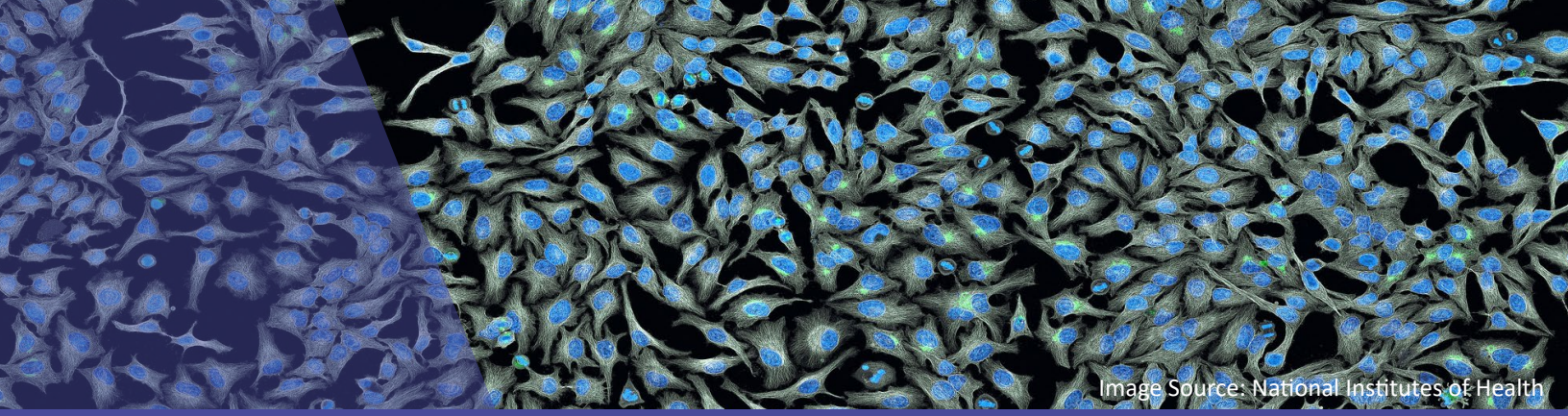

Robert H. Lurie Comprehensive Cancer Center of Northwestern University

Lurie Cancer Center's Basic Research Seminar Series

Creatine Mediated Thermogenesis Drives Time Restricted Feeding

Tuesday, April 8, 2025

*** CANCELED***

Searle Seminar Room, 1st Floor

Robert H. Lurie Medical Research Center
303 E. Superior St., Chicago, IL

Misalignment of feeding rhythms with the light-dark cycle leads to disrupted peripheral circadian clocks and obesity. Conversely, restricting feeding to the active period mitigates metabolic syndrome through mechanisms that remain unknown. Genetic enhancement of adipocyte thermogenesis through ablation of the zinc finger protein 423 attenuates obesity caused by consumption of a high-fat diet during the sleep phase by increasing futile creatine cycling. Circadian control of adipocyte creatine metabolism aligns thermogenesis with the light/dark cycle, and genetic enhancement of adipocyte circadian rhythms ameliorates obesity. Our studies have identified coupling of transcriptional and mitochondrial rhythms underlying rhythmic thermogenesis.

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