Cologne Evolution Colloquium

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MPI for Biology of Ageing

Decoding Cooperative and Selfish Mitochondrial behaviors in Multiscale Metabolic Networks

As remnants of ancient symbionts, mitochondria can act cooperatively to support cellular function or selfishly to prioritize the replication of their own genome. My research explores how mitochondria compete with the host cell for metabolic resources, particurlarly under conditions of stress or infection, and how this affects mitochondrial DNA (mtDNA) levels and genome size. By integrating imaging, metabolic profiling and cross-species evolutionary comparisons, I uncover mechanism that determine when mitochondria cooperate or act autonomously. This revels a hidden layer of organelle decisionmaking with implications for disease and evolution.

Wednesday, 28 May 2025, 17:00 Institute for Biological Physics, Zülpicher Str. 77a Seminar Room S0.02 Hosted by Michael Lässig