Tata Institute of Fundamental Research
Survey No. 36/P, Gopanpally Village, Serilingampally, Ranga Reddy Dist., Hyderabad – 500 046

Internal Webinar

Metabolic rewiring of mitochondrial heterogeneity under starved and high fed nutrient states

Thanishta Kumar

TIFR, Hyderabad

Metabolic disorders such as malnutrition, diabetes and obesity profoundly alter cellular metabolism, in which mitochondrial physiology plays a central role, although its metabolic crosstalk spatiotemporally is under explored. Using mammalian myoblasts, we mimicked early malnutrition (starvated state) and pre-diabetes/early obesity (high-fed state), and examined mitochondrial form, function, turnover, stress resilience and regulatory cues spatially, at single-cell resolution. The findings show differential mitochondrial plasticity across the high fed and starved states, which could further implicate exact targets that mediate metabolism, at early stages of metabolic disorders.

Monday, Nov 2nd 2026

11:30 Hrs