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

Seminar

A Conserved Ion Channel at the Intersection of Taste, Thirst, and Osmoregulation

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Staying hydrated is vital for survival, but so is knowing when to stop drinking. Inability to stop drinking, or polydipsia, can lead to life-threatening conditions such as water intoxication. Animals, including humans, rely on both internal signals from the body and sensory cues like taste to maintain this delicate balance. Yet, the gustatory mechanisms that signal when we have had enough water remain poorly understood. Using the fruit fly as a model system, I discovered that a conserved ion channel in peripheral taste organs promotes water satiety. Unexpectedly, this same channel also contributes to osmoregulation, suggesting that a shared water-sensing pathway regulates both intake and excretion. Together, these findings uncover an evolutionarily conserved strategy for maintaining fluid balance.

Thursday, Sep 25th 2025

16:00 Hrs (Tea / Coffee 15:45 Hrs)

Seminar Hall, TIFRH