214th WPI-IIIS Seminar

Dancing Proteins: Choreographing Circadian Rhythms

Terrestrial life has evolved circadian rhythms to align with Earth's 24-hour rotation. Aligning cellular processes with this cycle is crucial. Our study reveals ATXN2 and ATXN2L as key regulators of rhythmic translation in mammals, orchestrating phase separation in the suprachiasmatic nucleus. This oscillating mechanism ensures the timely progression of mRNA processing to protein synthesis for key genes. Moreover, we are exploring more aspects of phase separation in regulating circadian rhythm, investigating how compartmentalized protein translation is influenced by the properties of protein phase separation. Our discovery underscores the cellular condensates' role in tuning circadian clocks and opens avenues to explore their broader impact on rhythmic regulation.

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Date: **Tuesday, November 26, 2024**
Time: **11:40 – 12:30**
Venue: **1F Auditorium, IIIS Building**

*On-site participation only

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