

Elucidating and Leveraging the Dynamic Computations of Life

APERO
after the
colloquium



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Friday
November 7th
14:15
CM1 2

Survival requires processing internal and external signals in a timely manner: Cells must decide when to divide under stress, proteins must switch states in response to cues, and neurons must coordinate activity across timescales to generate behavior. Yet, the principles that govern many of these dynamic processes remain insufficiently understood to enable reliable prediction or design. We seek to advance the **biophysics of dynamics and computation** and to leverage these insights for creating new functions in cells and proteins. In this talk, I will present our discoveries in these fields which have opened up new avenues for a predictive and design-based understanding of living systems.