

Eugene Wigner Colloquium

event of SFB 910



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“Active droplets in biological cells”

Phase separation has emerged as an important concept for the spatial organization of proteins inside cells. Since cells exist away from thermodynamic equilibrium, such droplets exhibit dynamics that are different from those typically observed in soft matter systems. In this talk, I will demonstrate that chemical reactions fueled by ATP can generate compositional fluxes, which control droplet sizes, counteract the effects of surface tension, position solid-like particles inside the droplet, and even lead to spontaneous droplet division. These examples demonstrate that cells can use driven chemical reactions to control liquid-like droplets and that active droplets are an interesting example of active matter.

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