FASSBERG SEMINAR SERIES



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Biomolecular condensates and their implications for physiology and disease

Cells organize many of their biochemical reactions by formation and dissolution of non-membrane-bound compartments. Recent experiments show that a common mechanism for such biochemical organization is phase separation of unstructured proteins to form liquid-like compartments. These liquid-like compartments can be described by principles elucidated from condensed-matter physics and are therefore termed biomolecular condensates. I will discuss the relationship between the formation of liquid like compartments, quality control mechanisms that preserve the liquid-like state, and the onset of aggregated-protein pathology that is commonly observed in neurodegenerative diseases. I will also discuss how the decision of the Max Planck Society to build a new institute in Dresden played a crucial role in these discoveries.

Host: Patrick Cramer



