

Plenary Talk

PLV XI Fri 8:30 HSZ/AUDI

Phase separation in Cell Physiology and Disease — ●ANTHONY HYMAN — Pfotenhauerstraße 108

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.