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An overview of protein phase behavior

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A homogenous protein solution can undergo several transformations when the conditions are changed. The proteins can form crystals, dense liquid phases, aggregates and gels. These transformations are central to numerous practical applications, such as protein x-ray crystallography, protein condensation diseases and the industrial purification of proteins. In this talk I review the efforts that have been made over the past twenty years to understand protein phase behavior from a physical perspective with an emphasis on globular proteins in aqueous solution. I also present recent insights and conclude with some ideas for future directions.