

## Special Issue

# Advanced Research on Protein Structure and Protein Dynamics

### Message from the Guest Editor

Proteins are critical “workhorses” in the cells of all living organisms and are essential for a variety of processes, such as signal transduction, cell division, and metabolic pathways. Biophysical and biochemical studies have revealed that proteins are not static entities but are subject to dramatic molecular movements that span from femtosecond vibrations of atoms to slow motions of domains that can last for micro-to-milliseconds. The field of protein dynamics endeavors to study these complex molecular motions. Advances in biophysical and computational techniques are providing new insights into these protein structural changes. For example, the use of cryogenic-electron microscopy (cryo-EM) has led to greater insight into the molecular motions of G-protein coupled receptors upon ligand binding and activation. Combining structural studies with molecular dynamic simulations has been instrumental in investigating the protein folding problem and led to new hypotheses and avenues of research. The latest generation of computing hardware combined with artificial intelligence (AI) promises to advance the field of protein dynamics.

### Guest Editor

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### Message from the Editor-in-Chief

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