1. Record Nr. UNINA9910566466103321

Autore	Assfalg Michael
Titolo	Protein Adsorption and Conformational Changes
Pubbl/distr/stampa	Basel, : MDPI - Multidisciplinary Digital Publishing Institute, 2022
Descrizione fisica	1 electronic resource (100 p.)
Soggetti	Research & information: general Biology, life sciences Biochemistry
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	Protein adsorption to solids, nanomaterials, and biological surfaces is of central interest in many fields, including biomedicine, bioanalytical chemistry, materials engineering, bio-nanotechnology, and basic biomolecular research. Although protein adsorption may sometimes occur with little consequence on molecular structure, interactions with surfaces frequently cause changes in local or global conformations and dynamics, perturbations to secondary structures or tertiary folds, eventually resulting in dramatically altered protein function. Importantly, surfaces may trigger protein misfolding and self-aggregation, or, conversely, promote protein structure formation. The use of nanoscale surfaces to remodel the conformational landscape and the aggregation pathways of amyloidogenic peptides and proteins has been proposed as a promising strategy against several severe human diseases. The rapid growth of applications and technological innovation which is based on or concerned with protein adsorption necessitates renewed efforts to provide molecular-level insights into adsorption-induced protein structural perturbations. In this Special Issue, we gathered the recent findings of experimental and computational investigations that contributed novel insights into protein adsorption with a focus on the structural and dynamic aspects of proteins.