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Molecular Interactions at the Interface of Physical and Biological Systems

Dawn A Bonnell
The University of Pennsylvania, Nano/Bio Interfaces Center

ABSTRACT

Many of the nanotechnology enabled advances in the next decade will rely on the processes that occur at the interfaces of physical and biological systems. These include some of the most promising strategies in medical diagnostics, targeted therapeutics, energy harvesting, and for shepherding the health of the environment. The Nano/Bio Interface Center designs and controls molecular interactions to yield new functional behavior, enabled by interfaces with inorganic materials. This talk will highlight recent advances based on engineered protein-nanostructure hybrid systems with opto-electronic and chemical detection function. The role of molecular/atomic level characterization of complex properties will be demonstrated.