

Building functional biomaterials with protein building blocks

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Globular folded proteins are powerful nanoscale building blocks for creating biomaterials. A major challenge is to understand how the properties of an individual protein translate to the collective response of a mesoscale protein network.

Through a choice of functional protein and manipulation of protein unfolding and entanglement we create a powerful route to control the mesoscale architecture, mechanics, and dynamics of responsive protein networks. Our goal is to create smart biomaterials for applications which exploit tailored mechanical and biological functionality.

