



# Structure and properties of interpenetrating biopolymer networks

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Abstract:

This talk will describe the mechanical properties of the interpenetrating networks of microtubules, actin and intermediate filaments. Together, the three protein networks are responsible for the stiffness of the cell, but their assembly and roles are different. Through a combination of studies of the mechanics of reconstituted networks and the observation of the behavior of the networks in cells, new insights are obtained about their mechanics and their assembly. The talk will focus on the behavior of intermediate filaments and their role in the mechanics of mixed interpenetrating networks. In addition, the phase properties of vimentin intermediate filaments will be described and a new model for their assembly will be proposed.