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Abstract for an Invited Paper  
for the MAR05 Meeting of  
the American Physical Society

**Coarse grain models for the simulation of soft matter and biomaterials**

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The talk will review recent progress in modeling of soft matter and biomaterials using coarse grain models. Applications will include the self assembly of synthetic diblock and dendritic polymer systems that can form worm-like structures and other morphologies. The talk will also examine membrane simulations with emphasis on membrane interactions with synthetic macromolecules.