

Abstract Submitted  
for the MAR15 Meeting of  
The American Physical Society

**Mesoscale Polymer Assemblies** SATYAN CHOUDHARY,  
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— Materials encompassing structural hierarchy and multi-functionality allow for remarkable physical properties across different length scales. Mesoscale Polymer (MSP) assemblies provide a critical link, from nanometer to centimeter scales, in the definition of such hierarchical structures. Recent focus has been on exploiting these MSP assemblies for optical, electronic, photonics and biological applications. We demonstrate a novel fabrication method for MSP assemblies. Current fabrication methods restrict the length scale and volume of such assemblies. A new method developed uses a simple piezo-actuated motion for de-pinning of a polymer solution trapped by capillary forces between a flexible blade and a rigid substrate. The advantages of new method include ability to make MSP of monodisperse length and to fabricate sufficient volumes of MSP to study their physical properties and functionality in liquid dispersions. We demonstrate the application of MSP as filler for soft materials, providing rheological studies of the MSP with surrounding matrices.

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Date submitted: 14 Nov 2014

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