

**Angle Controlled Bending and Oscillation of Azobenzene
Liquid Crystal Polymer Network Cantilevers**

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This presentation will summarize our recent work examining the photodirected bending of cantilevers composed of azobenzene liquid crystal polymer networks. These effects can be classified as forward/reverse bending in polydomain azo-LCN (Tabiryan et al, Optics Express 2005) and polarization controlled angle bending (White et al, J. Materials Chemistry 2009) and oscillations (White et al, Soft Matter, 2008) in monodomain azo-LCN. These effects are generated through an optical exposure utilizing blue-green laser light of either 442 nm or 457-514 nm that has the potential to induce trans-cis-trans reorientation of the azobenzene mesogens. Additionally, novel directed locomotion of free-standing films will be presented using polarization control of the actuating laser light.