



Department of Chemical Engineering presents

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Goergen Hall 101 @ 3:25pm

“Liquid Crystalline/Polymer Films with Dynamic Optical Properties”

Responsive thin films of polymer/liquid crystal mixtures which exhibit dynamic coloration and/or diffraction properties are explored. Various stimuli to induce changes in coloration/diffraction have been explored including electric and light irradiation. Several vignettes of responsive thin films of polymer/liquid crystal mixtures which exhibit dynamic optical properties will be discussed. Thin film architectures with novel periodic properties including the typical z-axis modulation of refractive index and films with spatial periodicity of the director orientation in the x-y plane (diffractive waveplates) are explored. Second, the structure/property relationships of polymer-containing cholesteric systems which exhibit dynamic electro-optic properties are examined. Third, the fabrication of polymer-poor (LC-rich) systems where the polymer is mesogenic (instead of isotropic) is explored from a fast modulator and diffraction grating perspective (both electrically driven and optically driven).