

MATERIALS SCIENCE GRADUATE PROGRAM

SEMINAR ON LIQUID CRYSTALS

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**WEDNESDAY,
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AMLCI 101



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The Contribution of “Liquid Crystallinity” to the Thermomechanical Response of Liquid Crystalline Elastomers

Liquid crystalline materials are pervasive in our homes, purses, and pockets. It has been long-known that liquid crystallinity in polymers enables exceptional characteristics in high performance applications such as transparent armor or bulletproof vests. Extensive prior research has examined liquid crystalline polymer networks with suppressed T_g (e.g., elastomers), typically due to an increase in molecular weight between crosslinks. These so-called liquid crystalline elastomers are distinct in exhibiting dramatic stimuli-response associated with order-disorder transitions as well as exceptional nonlinearities to mechanical perturbation. This presentation will summarize the preparation of liquid crystalline elastomers with nontraditional liquid crystalline segments with a special emphasis on functional implications in robotics, optics, and in health care.



Materials Science
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