

2010
MRS



FALL
MEETING

Boston, MA • November 29–December 3

CALL FOR PAPERS

Abstract Deadline: June 22, 2010

REMINDER:

In fairness to all potential authors,
late abstracts will not be accepted.

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MRS Symposium L: Liquid-Crystal Materials—Beyond Displays

With the explosion of liquid-crystal-display (LCD) TVs and other display devices into commercial markets across the world, the notion that liquid crystals are the “forgotten state of matter” is retreating in relevance. However, the properties that enable the utility of liquid crystals in display applications can also be leveraged in a number of other areas including, but not limited to, optics, electronics/photonics, robotics, and biological applications. The utilization of liquid crystals in these areas encompasses low-molar mass, polymeric, and composites thereof, which range from synthesis to device physics, that aim to integrate these materials as functional elements in real-world systems.

The focus of the symposium will be on next-generation liquid-crystal materials including the utilization of them in burgeoning, nontraditional applications such as artificial muscles, microfluidic components, chem-bio sensors, optical elements, metamaterials, mechanical actuators, and materials for energy generation/harvesting.

Session topics will include:

- Nanostructured liquid-crystal materials for optical and bio-based applications
- Liquid-crystal polymers and elastomers for actuation
- Dynamic liquid-crystal optical elements
- Metamaterials utilizing liquid crystals
- Ion-conductive liquid-crystal materials for battery applications
- Stimuli-responsive liquid crystals as smart optical elements/sensors
- Fundamentals of liquid-crystal/nanomaterial composites
- Polymer/liquid crystal composites
- Chiral molecular motors
- Liquid-crystal lasers
- Liquid crystals for energy generation/harvesting

Invited speakers include:

Noel Clark (Univ. of Colorado): *Bio-based Applications of LCs*; **Harry Coles** (Univ. of Cambridge, United Kingdom): *LC Photonics and Lasing*; **Ben Feringa** (Univ. of Groningen, Netherlands): *Chiral Molecular Motors*; **Allan Guymon** (Univ. of Iowa): *LC-Templated Polymers for Biological Applications*; **Tomiki Ikeda** (Tokyo Inst. of Technology, Japan): *LC Polymers for Robotics and Artificial Muscles*; **Iam-Choon Khoo** (Pennsylvania State Univ.): *LCs and Metamaterials*; **Robert Lindquist** (Univ. of Alabama, Huntsville): *LC Materials for Sensing*; **Masanori Ozaki** (Osaka Univ., Japan): *Tunable LC Lasers*; **Peter Palffy-Muhoray** (Kent State Univ.): *LCs and Metamaterials*; **Bahman Taheri** (AlphaMicron, Inc.): *LC Applications in Optics*; **Casper van Oosten** (Peer+, Netherlands): *LC Applications in Energy Harvesting*; and **Shin-Tson Wu** (Univ. of Central Florida): *LC Photonics*.

Symposium Organizers

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