

Department of Materials Science - CENIMAT / I3N

Liquid Crystal Applications

Polymeric and Mesomorphic Materials Group
at DCM/FCT/UNL and Cenimat / I3N



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(Assistant Professor)

- 5 year degree in Materials Science and Engineering, FCT/UNL, 1997.
- PhD in Materials Science and Engineering, FCT/UNL, 2004.
- Current Research Interests: Liquid crystals; Applications; Electro-optical devices, NMR.

Objectives

- Study of Liquid Crystalline systems. Characterization and applications.
- NMR studies, namely diffusion, Rheo-NMR and solid state.
- Cellulose and cellulose derivatives characterization and application.
- Rheological characterization of complex biological systems.

Methodology

- Polarized Optical Microscopy
- NMR Spectroscopy
- Electro-optical measurements
- Rheological measurements
- Mechanical properties measurements

Expected Results

- Better understanding of the liquid crystalline phases, defects, and their interaction with external stimuli (eg. electrical, mechanical or temperature fields).
- Optimize the application of known phenomena in products towards commercialization.
- Understand the physics of biological systems.

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