

## Departamento de Ciência dos Materiais



## CENIMAT in numbers (12-13)

**Papers @ WoK: 167**  
**PhD thesis: 12**  
**MSc thesis: 40**  
**Lab. prototypes: 12**  
**Patents: 10**  
**Prizes: 12**  
**Org. Conferences: 13**

You are welcome!

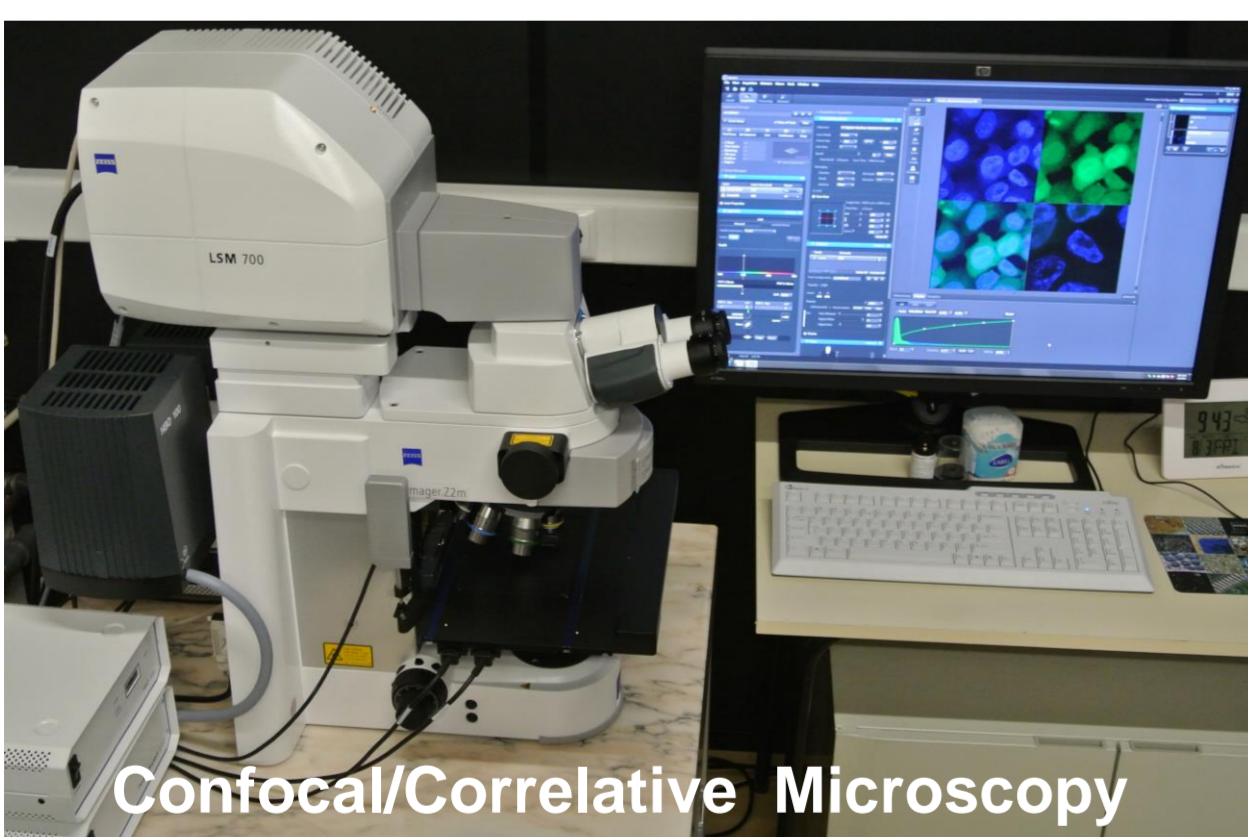


## Scientific Areas

Bio/Paper Batteries  
Bio/Nano/Paper Electronics  
Funcional Nanoparticles  
Nano/Chromogenics  
Microfluidics/Lab-on-Paper  
Plasmonics  
Solar Cells  
Thermoelectrics  
Liquid Crystals  
Nano/Cellulosic Systems  
Polymeric Based Materials  
Elastomers  
Biological Systems  
Rheology (Rheo)  
Metal Alloys



Transparent Conductive Materials  
Nuclear Magnetic Resonance  
Computational Fluid Dynamics  
Functional Graded Materials  
Cultural Materials  
Crystal Chemistry  
Ceramics and Glass Materials  
Recycling of Materials



## Technologies / Facilities

**X-Ray Diffraction**  
(temperature, micro diffraction, grazing, texture, stress analysis)

**Thermal Analysis - DTA/DSC/TG**  
(-170 – 2000 °C)

**Optical Microscopy with Fluorescence**

**Confocal Microscopy**  
(Laser lines: 405/488 nm)

**Electron Microscopy**  
(SEM-FIB and EDS)

**Correlative Microscopy**

**NMR**  
(High resolution, Solids, Diffusion and Micro-Imaging)

**Rheology**  
(Electro, Optical and High Pressure options)

**Mechanical Testing**  
(tensile, micro/macro-hardness, impact)

**X-ray Fluorescence**

**Melt Spinning**

**Hall Effect and Kelvin Probe**

**FTIR with ATR**

**UV-vis-NIR Spectrophotometry**

**Contact Angle**

**Spectroscopic Ellipsometer**

**Potenciostat**

**Profilometry**

**AFM**

**Dielectric Spectroscopy**  
(frequency and time domain)

**Ferroelectric Hysteresis**

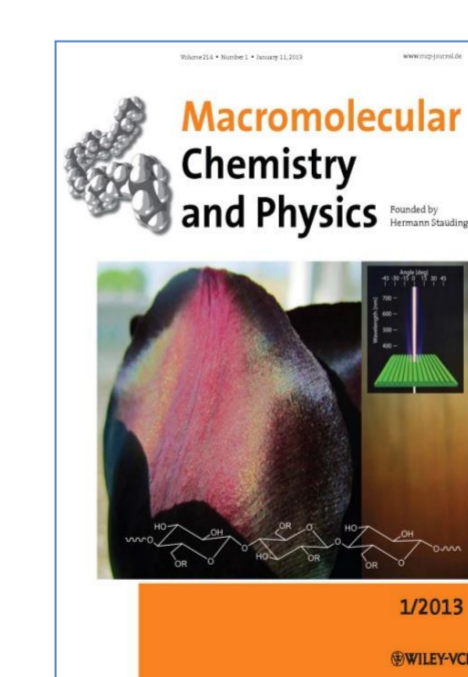
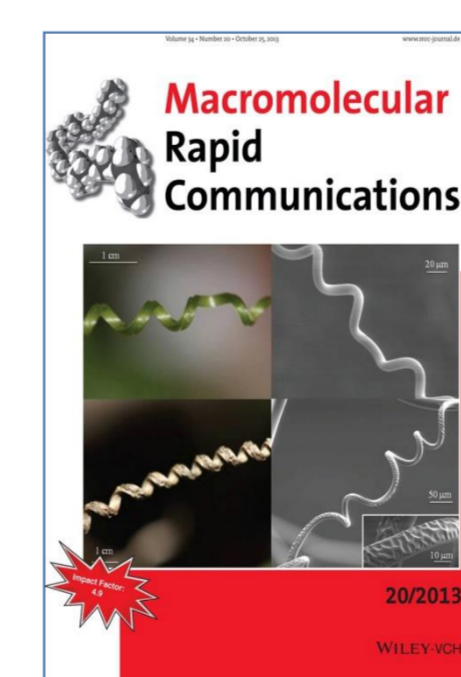
**Thermally Stimulated Discharge Currents**

**Dynamic Light Scattering**

**Melt Flow Index**

**Automatic Ubbelohde Viscometer**

**Materialography**



## Running Projects



## Recent Publications

A.P. Duarte, J.F. Coelho, J.C. Bordado, M.T. Cidade, M.H. Gil, *Progress in Polymer Science*, 37(8), 1031 (2012).

J.P. Canejo, J.P. Borges, M.H. Godinho, P. Brogueira, P.I.C. Teixeira, E.M. Terentjev, *Advanced Materials*, 20(24), 4821 (2008).

B. Veigas, R. Branquinho, J. V. Pinto, P. J. Wojcik, R. Martins, E. Fortunato, and P. V. Baptista, *Biosensors & Bioelectronics*, vol. 52, pp. 50-55, Feb 15 2014.

J. Loureiro, N. Neves, R. Barros, T. Mateus, R. Santos, S. Filonovich, S. Reparaz, C. M. Sotomayor-Torres, F. Wyczisk, L. Divay, R. Martins, and I. Ferreira, *Journal of Materials Chemistry A*, vol. 2, pp. 6649-6655, 2014 2014.

S. Pereira, A. Goncalves, N. Correia, J. Pinto, L. Pereira, R. Martins, and E. Fortunato, *Solar Energy Materials and Solar Cells*, vol. 120, pp. 109-115, Jan 2014.

M.L. Coutinho, V.S.F. Muralha, J. Mirão, J.P. Veiga. *Applied Physics A*, 114 (2014) 695-703.