

# Soft.Matter@PT 2015

## Paulo Teixeira

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**Expertise:** Interfaces and wetting of simple fluids and liquid crystals

	Colloids	Liquid Crystals	Polymers and Gels	Interfaces, surfactants	Foams, emulsions	Granular materials	Biological	Other (specify)
Experimental								
Computational	✓	✓		✓				
Theoretical	✓	✓	✓	✓	✓			

### Description of expertise:

- Calculation of phase behaviour of simple fluids using thermodynamic theories.
- Calculation of density profiles and surface tension using density-functional theory.
- Calculation of structure of confined liquid crystals using density-functional theory.
- Calculation of phase behaviour of patchy colloids using Wertheim's theory.
- Calculation of the structure of liquid foams.
- Modelling phase separation in polymer blends and solutions.

### Selected Publications (max 5):

- *Reentrant phase diagram of network fluids*, Physical Review Letters 106, 085703 (2011).
- *Helical twisting of electrospun cellulose-based micro- and nanofibres*, Advanced Materials 20, 4821 (2008).
- *Ordering of hard particles between hard walls*, Journal of Physics: Condensed Matter 13, 4715 (2001).
- *The effect of dipolar forces on the structure and thermodynamics of classical fluids*, Journal of Physics: Condensed Matter 12, R434 (2000).