



Prof. Orlando Rojas



Research Highlights 2015

The year of the emulsions

This year we advanced the use of Surfactant-Oil-Water systems for the synthesis of lignin-based fuel emulsions (see cryo-replica TEM of oil drops emulsified in water) (a). Also, lignin nanoparticles were obtained from O/W emulsions (b) and were utilized to stabilize functional Pickering emulsions: see confocal microscope, **c₁** or SEM, **c₂** images. We developed ternary diagram of SOW systems (**d₁**) containing compositions leading to various emulsion morphologies, including multiple or double emulsions (dark blue zone). The emulsions (**d₂**) were used to spin fibres (**d₃**) after evaporation of the most external phase. This will open new routes for manufacture.

