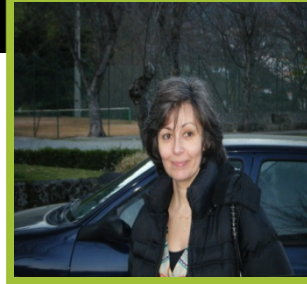


Department: DCM

Micro -MRI

CENIMAT/I3N

Polimeric and mesomorphic materials group



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Objectives

Development of new nanosystems with potentiality as powerful contrast agents for MRI (Fig.1).

Micro-imaging of animal organs for the quantification of the contrast enhancement of the new nanosystem, (Fig.2).

Localized spectroscopy in animal organs for the study of neuro- degenerative pathologies with interest for man.

Methodology

The nanosystems capacity as new contrast agents for MRI is measured by NMR relaxometry studies (relaxivities). This allows to quantify the effect of the developed nanosystem in the contrast enhancement.

The contrast enhancement will be observed and studied first in a phantom that simulates the NMR tissue properties.

In a second phase the effect on animal organs is quantify by micro-MRI

Expected Results

From this work the knowledge of the details of the effect of a particular (with the proper magnetic properties) nanosystem on the tissues relaxation will be achieved .

Development of optimized contrast agents for NMR with better properties than the ones already in the market.

Contribution to the understanding of the pathological chain of events that leads to neuro-degenerative diseases like Parkinson.

