

# ECOLE DOCTORALE DES SCIENCES CHIMIQUES - ED 040

## Proposition de sujets de thèse pour la rentrée 2022 / 2023

<b>Titre de la thèse</b>	<b>Synthesis and Characterization of Magnetic Liquid-Crystals</b>
<b>Descriptif du sujet</b>	Some molecule-based materials based on transition metals could be used as potential systems to store an information at a molecular level or as molecular units in optical or mechanical devices. Prototypes using the dual properties of spin-crossover and thermochromism have been developed by our team in the recent years [ <i>Scientific Report</i> 2018, 8, 8016]. One of the major problems being the shaping of these magneto-optic materials, our team has oriented a part of its researches to elaborate new hybrids of these unique systems [ <i>J. Am. Chem. Soc.</i> 2018, 140, 98 ; <i>Inorg. Chem.</i> 2012, 51, 5417]. In the frame of this project, the research work will be devoted to the synthesis and characterization of a new family of spin-crossover complexes obtained by chemical functionalization of the coordinating ligand in order to implement them into devices such as microelectromechanical systems (MEMS). This research project is also supported by a post-doctoral Marie-Curie fellowship obtained in 2021. The selected PhD student will thus work closely with a postdoctoral researcher for at least the first year of the PhD.
<b>Compétences souhaitées (nom du DEA, ou MASTER, etc...)</b>	Tout MASTER mention chimie
<b>Financement (connu ou espéré)</b>	Selon les opportunités de financement en cours d'année et l'étudiant intéressé...
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