

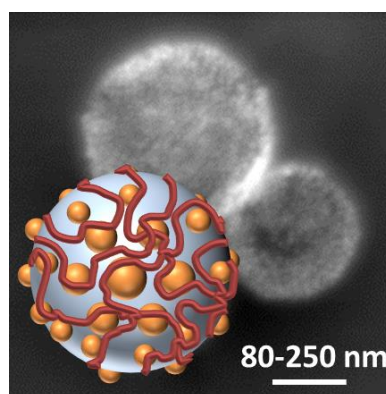
## PhD offer

### Polyvalent nanoplateforms for nanomedecine

#### Institut des Sciences Chimiques de Rennes (ISCR), Rennes, France

We have recently achieved and patented an innovative process for the elaboration of a new type of hybrid nanocapsules (hybridosomes<sup>®</sup>), based on nanoparticles and polymers. Hybridosomes<sup>®</sup> open up many perspectives for nanomedecine. Indeed, these vesicles can be used as contrast agent for various type of imaging modalities (MRI, fluorescence...) depending on the type of nanoparticles used. In addition, drugs can be encapsulated and finally, they can be functionalized to target a specific cell, or infectious organism.

The project will have two main objectives. The first one will be the optimization of the elaboration process and properties of hybridosomes<sup>®</sup> (scale up, formulation, characterization). Then we will seek to design hybridosomes<sup>®</sup> for nanomedecine. Particularly, one of the major objectives is to achieve the functionalization for *in vivo* targeting of therapeutic. We will also assess the efficiency of these assemblies for radiotherapy, thermotherapy, and imaging.



**Reference:** F. Sciortino, G. Casterou, P-A. Eliat, M-B. Troadec, C. Gaillard, S. Chevance, M. L Kahn, and F. Gauffre Simple Engineering of Polymer–Nanoparticle Hybrid Nanocapsules, *ChemNanoMat* 2016, 2, 796 – 799

**ISCR website:** <https://iscr.univ-rennes1.fr/umr/>

**Team CORINT website:** <https://iscr.univ-rennes1.fr/corint/>

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