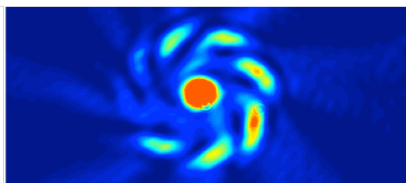


CALL FOR PhD CANDIDATES

PhD research project on chiral optical fields and chiral optical forces



A funded PhD position in Physics is open at the Institut de Science et d'Ingénierie Supramoléculaires ISIS University of Strasbourg (UNISTRA) France

Context: Following recent predictions made by the host group at ISIS [1,2], the project aims at studying how chiral plasmonic near fields can act on chiral nano-objects, ranging from chiral nanoparticles to chiral molecules.

Two main objectives will constitute the core of the PhD program:

- Reaching a full understanding of the connections between near-field optical chirality and structural chirality of specifically designed plasmonic nanostructures, including spin-orbit interaction effects.
- Exploiting such plasmonic nanostructures with practically inexhaustible design possibilities in order to tailor unique designer force fields in a chiral context.

We envision that the unique field topologies associated with chiral surface plasmons will induce new types of dynamical interactions in the near field with new perspectives in the field of nano-optics manipulation and for chiral resolution/separation technology.

Training program: The PhD student will be trained in nanofabrication techniques (FIB, e-beam litho, etc.), optical characterization techniques (near vs. far field polarimetry) and in optical force measurement techniques, including high-resolution optical trapping.

Host institute: UNISTRA is one of France's top research university and the host institute ISIS, founded by Nobel Laureate J.-M. Lehn, offers a perfect inter-disciplinary environment at the crossroads between fundamental physics, surface science and chemical physics with most advanced techniques available.

Interested candidates must hold a Master degree in Physics with a strong background in experimental optics.

Please send **before June 2nd 2016** your detailed CV including at least two references to:
Cyriaque Genet - genet@unistra.fr / tel +33 368 855 196.

[1] A. Canaguier-Durand, J.A. Hutchison, C. Genet, and T.W. Ebbesen, Mechanical separation of chiral dipoles by chiral light, *New J. Phys.* 15, 123037 (2013)

[2] A. Canaguier-Durand and C. Genet, Chiral near fields generated from plasmonic optical lattices, *Phys. Rev. A* 90, 023842 (2014)