

## Postdoctoral position in nonlinear nanophotonics

The Near-field Optics Group at Université de Bourgogne Franche-Comté invites applications for a postdoc. The focus of the project is on nonlinear nanophotonics and is detailed hereafter. Only candidates with related experience should apply. We are looking for a motivated researcher to join our young and dynamic team on an innovative research project funded by the region Bourgogne Franche-Comté in the framework of the LABEX ACTION (<http://www.labex-action.fr/>). You must hold a PhD in an experimentally related area, ideally in nonlinear plasmonics. Strong analytical and programming skills (Matlab, Comsol, Labview...) are desired.

Please send your application to [benoit.cluzel@u-bourgogne.fr](mailto:benoit.cluzel@u-bourgogne.fr)

Submission documents:

- (a) a cover letter where you introduce yourself, your past research achievements and your career goals.
- (b) a full CV including undergraduate and postgraduate details
- (c) details of three academic referees who we can contact.

The position is for 1 year. Starting date: Autumn-2017.

**Deadline:** We will continue to advertise until a suitable candidate is found.

**Positioning of the project:** The project aims at exploring the nonlinear dynamics of hot electrons in gold nanoantennas with the ultimate goal to fabricate a subpicosecond plasmonic saturable absorber for integration in a fiber laser architecture. Although some preliminary results are reported in the literature, a proper integration of plasmonic nanoantennas in a fiber laser architecture is still missing and the underlying effects are not fully understood.

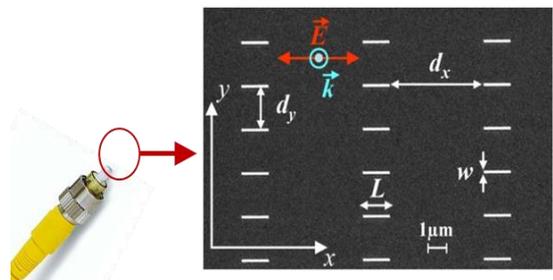


Fig.1 : Schematic view of the envisioned integration of a plasmonic array in a fiber architecture

**Job profile:** The candidate will have to design and model arrays of gold nanoantennas in order to fabricate them in clean room. He/She will have to perform the nonlinear experiments to quantify the hot electron dynamics and their related saturable absorption in the fabricated devices (timescale, energy threshold...) at telecom wavelengths. Strong skills in nanophotonics and nonlinear optics are required. A background in fiber laser dynamics or in physics of ultrafast lasers could be valuable.

**The team:** The candidate will join the young and dynamic Near-Field Optics group of the Photonics Department at the Université de Bourgogne-Franche-Comté (Dijon, France). The team has a very active world-wide network of collaborations and will allow to the postdoc to develop his own scientific network.