

## Postdoctoral position on nanofabrication of silicon photonic and phononic devices

A one-year-duration post-doctoral position on fabrication of silicon photonic and phononic devices is now opened in the context of the Laboratory of Excellence ACTION (<http://www.labex-action.fr/>).

**Job description:** The successful candidate will be in charge of process development of silicon-on-insulator-based nanophotonic and phononic devices, in connection with two research groups respectively hosted at the laboratoire Interdisciplinaire Carnot de Bourgogne and at the FEMTO-ST Institute. He/she will operate in the MIMENTO clean-room facilities of the FEMTO-ST Institute in Besançon, France, one of the large French technological facilities belonging to the Basic Technology Research (BTR) network whose objective is to support the French institutional research.

**Positioning of the project:** The project aims at developing nanofabrication processes for both photonics and phononics applications. In a nanophotonics device, light interacts in more or less complex fashions with the material, while in a phononics component, it is its interactions with sound waves that are of interest. In both cases, silicon devices with structures exhibiting dimensions ranging from 100 nm to a few tens of microns are needed. Applications relates to the development of on-chip all-optical nonlinear functions for pulse shaping and to the realization of optomechanical resonators exhibiting simultaneous photonic and phononic band gaps.

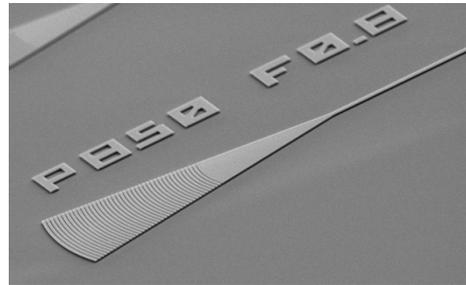


Figure 1 - Grating couplers for coupling light to and from a silicon nanocomponent.

**Application procedure:** Candidates must hold a PhD In Physics, Engineering or closely-related discipline. There are no citizenship restrictions. Applicants are expected to be skilled experimentalists with a strong experience in clean-room environment and nano-fabrication processes. Specific knowledge on fabrication of silicon-based nanophotonic devices is a definite asset, although not required. A scientific background in optics and acoustics is welcome.

**The position must be filled by December, 13<sup>th</sup> 2017.**

Please send your application to [sarah.benchabane@femto-st.fr](mailto:sarah.benchabane@femto-st.fr) and [aurelien.coillet@u-bourgogne.fr](mailto:aurelien.coillet@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 whom we can contact.