



## 2 positions for Postdoctoral research officer

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Organisation: University of LIMOGES

Research Field: Physics - Optics

Application deadline: 28 May 2021

Offer starting date : 01/06/2021

Responsible to: Prof. Fetah Benabid

Location: Xlim Institute

123, avenue Albert Thomas, Limoges 87060, France

Type of contract : Temporary

Job status : Full-time

EU research framework : H2020 / FETOPEN

### Purpose of the job:

To conduct academic research into the design and development of alkali loaded photonic microcell based on hollow-core photonic crystal fiber within the context of the FETOPEN project CRYST<sup>3</sup> funded by the European Research Council.

### Duties and Responsibilities:

1. To work with others in the Gas-Phase Photonic and Microwave Materials group to design, fabricate and characterise hollow-core photonic crystal fibres tailored at atom and cold atom optics.
2. To set-up optical experiments for the photonic microcell assembly.

3. To prepare written reports for the project, to attend project meetings, and to interact with other parties involved in the project.
4. To prepare scientific papers for publication, both in international journals and at conferences. To attend conferences in order to present the results of research and to interact with the broader scientific community.
5. To work on related scientific projects as required
6. To report on a regular basis to the project investigator.

*The Gas-Phase Photonic and Microwave Materials group (GPPMM) at Xlim CNRS research Institute, University of Limoges, France, invites applications from scientists with exceptional ability in the field of photonics, fibre photonics and atom optics for a postdoctoral research position.*

*The GPPMM is world-renowned research group for its mix of experimental and theoretical investigations into new hollow-core photonic crystal fibres (HC-PCF) and their applications in nonlinear and quantum optics applications. The group works in an inventive and highly interactive environment, with internal interactions being complemented by active international collaborations. Limoges is a pleasant and attractive city in the west-central France, close to Bordeaux and just 2½ hours by train from Paris.*

*The positions are part of the European project CRYST<sup>3</sup>. The latter aims to create a paradigm shift in the field of miniaturized quantum sensors. This implies, among other, (i) building an alkali-atom photonic-technology by tailoring HCPCF and PMC to the requirements of quantum sensing applications and accelerating their time-to-market; (ii) building innovative tools -and achieving seminal experimental demonstrations- for in-fiber cold-atom science and technology at the frontier of photonics, ultra-cold atoms and QED.*

*Two positions are available and involve undertaking an original research project in experimental, numerical or theoretical atom optics in hollow-core photonic crystal fibres in an exciting and interdisciplinary environment. The research program requires mastering the following three disciplines: (i) photonic crystal fibre, (ii) atom optics and (iii) laser metrology.*

*The prospective postdoctoral fellows should have a background in one or more of the following: fibre photonics, nonlinear and quantum optics, atom optics and laser metrology. We accept applications where the PhD degree is not yet granted but nearing fulfilment. The appointments will run up to 2.5 years with possible extensions starting from 1<sup>st</sup> June 2021.*

*For more information on the position please contact Prof Fetah Benabid ([f.benabid@xlim.fr](mailto:f.benabid@xlim.fr), in Cc [benoit.debord@xlim.fr](mailto:benoit.debord@xlim.fr)), send CV and motivation letter.*

### Skills/Qualifications:

- REQUIRED LANGUAGES : ENGLISH: Excellent
  
- QUALIFICATIONS : PhD or equivalent level in optics or photonics-related discipline
  
- EXPERIENCES/KNOWLEDGE :  
Experimental optics  
Optical fibres  
Laser metrology  
Atom optics
  
- SKILLS :  
Time management  
Team work  
Scientific writing
  
- ATTRIBUTES:  
Team worker  
Motivated  
Initiative  
Ability to communicate