

# Posdoctoral position in high-Q optical resonators

LAAS is offering a 12-month post-doctoral position in the area of microresonators and non linear optics.

## Project description

Since 2005, the advent of T. Hänsch and J. Hall work on optical frequency combs enabling a coherent link between optical and microwave frequencies, the research activity in optical frequency metrology has been growing steadily. This allowed the discovery of new technologies and the development of numerous applications like coherent terabit telecommunication, ultra-short pulse generation, optical waveform synthesis, astronomical spectrometry, comb spectroscopy, low phase noise microwave and terahertz signal generation. High Q optical resonators with strong nonlinear index are key components for so called “Kerr frequency combs” generation based on four wave mixing effect. The goal of this one year postdoctoral fellowship is the design and enhancement of a high finesse single mode fibre based Fabry-Perot miniresonator. This collaborative project between LAAS-CNRS and CNES (French space agency) in Toulouse (France) is supported by STAE (Science and technology for aeronautic and space foundation).

## Qualifications

Candidates should have a Ph.D. degree in fiber optics and optical communications devices, ideally with an experience in optical thin film filters design and/or characterization of optical nonlinear systems. An interest for theoretical/numerical design and optimization of thin film filters will be particularly appreciated. The successful candidate should be able to smoothly integrate into the research group and to interact with partners. He should demonstrate capability for independent research. Good communication skills in English are required.

## About LAAS

LAAS (Laboratory of Analysis and Architecture of Systems) is a research unit of the French National Centre for Scientific Research (CNRS). LAAS-CNRS, located in Toulouse (France) is one of the major CNRS laboratories and is attached to two institutes INS2I and INSIS. Research activities being developed cover a wide spectrum of the fields of Science and Technology of Information and Communication and of Systems Engineering.

The successful candidate will carry out research in the Microwave & Optics: from Electromagnetism to Systems (HOPES) department, in the Microwave and Opto-microwaves for Telecommunication Systems (MOST) team and will interact with researchers from Photonics (PHOTO) team. More information about LAAS can be found at: <http://laas.fr>.

## **Further information**

Further information may be obtained from Arnaud Fernandez ([afernand@laas.fr](mailto:afernand@laas.fr))

## **Application procedure**

Please submit your application at your earliest convenience by e-mail to: [afernand@laas.fr](mailto:afernand@laas.fr).  
The position will be filled as soon as a suitable candidate has been identified. Please clearly indicate the reference of the position in the subject field of your application e-mail.

Your application should include :

- Cover letter
- Detailed CV
- Copy of Ph.D. degree
- Grade transcripts, if applicable
- List of publications
- Contact details of two references.