

July 2018

PhD position in supercontinuum light sources and applications

A 3-year PhD position is open in [LEUKOS](#), Limoges, France in connection with [XLIM](#) research institute in the frame of [SUPUVIR](#), a new European Marie Skłodowska-Curie Action Innovative Training Network (*SUPERcontinuum broadband light sources covering UV to IR applications*). The PhD scholarship will be part of a European wide collaboration to investigate the generation and application of supercontinuum radiation for the use in fundamental and applied science applications. The SUPUVIR consortium includes 10 organisations (6 academic, 4 industrial) from six European countries. This will give the 15 PhD students a unique chance to develop a wide set of technical and transferrable skills.

The present PhD project relates to “**Supercontinuum sources in emerging wavelength regimes for biomedical applications**”. The research and development efforts will especially focus on nonlinear fibre optics and supercontinuum system design according to the technical specifications of definite biomedical applications. The PhD student will also participate to the development of new methods of multiphoton/multimodal microscopy based on supercontinuum excitation (coherent anti-Stokes Raman scattering (CARS), stimulated Raman scattering (SRS), second harmonic generation (SHG), two-photon fluorescence (TPF), etc.). In particular, electro-CARS spectroscopy will be applied to the investigation of cell membrane optoporation. This latter point will be subject to collaboration with the [Laboratory for vectorology in anticancer therapy](#) of Gustave Roussy institute, Villejuif, France, the premier cancer centre in Europe.

Keywords: laser, supercontinuum, spectroscopy, microscopy, biomedical applications

Required skills: the candidate should hold a master degree in physics, optical engineering or a related discipline. Any experience in the following fields will be appreciated: experimental optics, nonlinear optics, lasers, spectroscopy/microscopy, biophotonics.

Starting date: as soon as possible

Conditions of access: applicants can be of any nationality, but must not have resided or carried out their main activity (work, studies, etc.) in France for more than 12 months in the last 3 years.

Candidates are requested to send by email:

- a *curriculum vitae*,
- a cover letter,
- detailed academic transcripts,
- name and contact of professional references.

Contact details:

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