UNIVERSITÉ LIBRE DE BRUXELLES

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Job vacancy: PhD hybrid organic waveguides for quantum photonics

Project

Topic : Hybrid organic waveguides for quantum photonics

The project consists in creating a new type of photonic waveguides from organic crystals and use those waveguides for nonlinear and/or quantum photonics application. During the first year, the work will focus on material science aspects while the content of three following years is either the continuation of the work on material science or can take a stronger focus on nonlinear and quantum optics (frequency conversion of single photons). The project includes many aspects of physics engineering: theory, design, fabrication, and experimentation both in material science and photonics.

Skills/Qualifications

At the starting time of the contract, the applicant must hold a master's degree in physics, physics engineering, photonics engineering or any closely related field.

A basic knowledge of optics and a good knowledge of solid states physics are required. Cleanroom training is a plus, and so is experience with numerical simulation. Good knowledge of English and/or French is required.

Responsibilities

- Perform research in an increasingly independent way

- Reporting on the research

- Communication to peers orally at conference and via specialized journal publications

- A limited amount of teaching hours is foreseen (8 full days / year)

Benefits

The monthly salary amounts for 2055 euros exempted from taxes. Benefits include mandatory health insurance, laptop, travel to conferences and doctoral schools. The contract is for an initial duration of 1 year to be extended to reach a normal PhD duration of 4 years.

Eligibility criteria

Because of funding regulations, candidates having finished their master more than a year ago won't be considered. Applications are possible as early as June 2020 and applications will be assessed until the positions is filled (without any hard deadline). The contract can start as soon as possible and no later than 1 October 2020. To apply, submit your CV and a cover letter to Stéphane Clemmen by email (sclemmen@ulb.ac.be). References and possibly your master thesis can also be helpful.

Institution

The project will take place primarily at the Université Libre de Bruxelles under the supervision of Stephane Clemmen and Simone Napolitano. Stéphane Clemmen is affiliated with OPERA-photonics and the Quantum information laboratory that share a large lab dedicated to nonlinear and quantum optics. Simone Napolitano heads the Experimental Soft Matter and Thermal Physics that focus on organic and polymer physics. Both the science faculty and the engineering school offer regular scientific talks and events, as well as courses and social events dedicated to PhD students.