



Marie Skłodowska-Curie  
Actions



**DCU Faculty of Engineering and Computing**  
**Dublin City University**

The Photonics Systems and Sensing lab (PSSL) is looking to host an experienced researcher via funding through Marie Skłodowska-Curie Individual Fellowships. In order to secure funding, the experienced researcher must develop a proposal with the host for the September 9<sup>th</sup>, 2020 deadline.

### **Organisation Description**

The PSSL is focused on the experimental and theoretical study of optical devices for communications. The lab has an expertise in the generation of optical frequency comb (OFC) by exploiting gain switch semiconductor lasers. The expertise has led to the creation of Pilot Photonics Ltd. The main advantage of this technology is to exhibit a good spectral flatness, high-frequency stability, low linewidth, tunable free spectral range, tunable central wavelength. This expertise has naturally led us to use the OFC in optical sensing, and high capacity networks.

**Research Field:** Laterally coupled diode lasers are two semiconductor lasers sitting side by side. These lasers would be considered as independent from each other if the distance between them was not close enough so there is an optical coupling between lasers. These coupled lasers have a specific dynamic behaviour determined by their coupling.

In this project, the student will develop a simulation tool to predict the dynamic performances of the laterally coupled diode lasers in the view to assess this laser scheme as a directly modulated source for data transmission.

### **Researcher Requirements**

- The researcher must fulfil the MSCA-IF mobility and experienced researcher requirements.<sup>1</sup>
- Applicants should have a PhD (or more than 4 years of research experience) in a relevant area of semiconductor laser simulation and characterisation and demonstrate a promising track record of early research achievements.

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<sup>1</sup> **MSCA-IF mobility:** The researcher must not have resided or carried out the main activity (work, studies, etc.) in the country of the beneficiary for more than 12 months in the 3 years immediately before the call September 9<sup>th</sup> deadline (flexible 36 months in the 5 previous years if eligible for career restart or reintegration fellowship <https://www.iua.ie/irish-marie-curie-office/funding-calls/individual-fellowships/> )

**Experienced researcher requirements:** The researcher must have at least 4-years full time research experience or hold a doctorate before the September 9<sup>th</sup> deadline.



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## **Application procedure**

The applicant should provide:

1. A short CV
2. A one-page research proposal
3. A short statement with an indication of why DCU and the PSSL would be the best host institution for your research project

## **Contact information**

If you are interested in applying for a MSCA-IF with DCU PSSL please email Dr. Pascal Landais and Dr Prince Anandarajah ([pascal.landais@dcu.ie](mailto:pascal.landais@dcu.ie) and [prince.anandarajah@dcu.ie](mailto:prince.anandarajah@dcu.ie)) and Dr Ines Perić ([ines.peric@dcu.ie](mailto:ines.peric@dcu.ie)) as early as possible.