



**MSCA**

Marie Skłodowska-Curie Actions

*Developing talents,  
advancing research*

## Postdoctoral Fellowships



### CALL FOR APPLICATIONS 2025 – FELLOWS

<b>Supervisor</b>	Carole Diederichs
<b>Supervisor page</b>	<a href="https://www.researchgate.net/profile/Carole-Diederichs">https://www.researchgate.net/profile/Carole-Diederichs</a>
<b>Host Institution</b>	Centre National de la Recherche Scientifique (CNRS) <a href="https://www.cnrs.fr/en">https://www.cnrs.fr/en</a>
<b>Research Lab</b>	Laboratoire de Physique de l'Ecole Normale Supérieure <a href="https://www.lpens.ens.psl.eu/">https://www.lpens.ens.psl.eu/</a>
<b>Research Team</b>	Nano-optics <a href="https://www.lpens.ens.psl.eu/research/quant/equipe-01/?lang=en">https://www.lpens.ens.psl.eu/research/quant/equipe-01/?lang=en</a>

#### Project Title

Cavity-enhanced superfluorescence of perovskite quantum dot lattices

#### Project Description

Superfluorescence (SF) was recently demonstrated in perovskite quantum dot superlattices, making them rare solid-state quantum emitters capable of collective emission. Our group is working on cavity quantum electrodynamics with various solid-state emitters. This project aims to integrate perovskite quantum dot lattices into an open fibered-microcavity to mediate the dipole-dipole coupling to longer length, enhancing SF with improved brightness and coherence, and potentially achieving SF lasing.

#### Keywords

perovskite quantum dots, microcavity, superfluorescence

#### Description of the Host Research Lab

The Laboratoire de Physique de l'École Normale Supérieure is an interdisciplinary fundamental research laboratory in physics and its interfaces. The laboratory's scientific activities cover a vast exploratory field in fundamental or applied physics, experimental or theoretical, and are organized into six axes: Astrophysics, Biophysics, Fluids and Interfaces, Fundamental Interactions, Quantum Materials and Devices, Statistical Physics.

To submit your application, please send an email with the required documents to  
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