

Color conversion and OLED based on perovskite materials

Context:

The objective of this post-doc position is to study the conversion of color by using perovskite materials as demonstrated by J. Harwell et al. [ACS Nano 2019, 13,4, 3823] and develop perovskite material based organic light emitting diode (PeLED).

Tasks:

1. Study and optimize the growth of perovskite materials by vacuum evaporation;
2. Fabrication of PeLED with encapsulation techniques;
3. Photoluminescence characterization of perovskite films;
4. Electroluminescence characterization of PeLED.

Work Environment:

Contractually, the main employer of the candidate will be CEA research center of Grenoble. Nevertheless, the post-doc candidate will work in the "Nanomaterial for optics" team at Institut Jean Lamour (IJL, France), which is internationally recognized for its expertise in semiconductor spin-optonics. The group has abundant experience in electron spin injection and detection in semiconductors. The study will also benefit from the multi-UHV chamber interconnected platform TUBE in IJL, which allows to fabricate hybrid structures and make in-situ characterization without breaking the vacuum. The candidate will also closely work with CEA group on the fabrication of color conversion layers to be integrated onto blue LED devices.

The position will be opened from 1 Dec. 2019 with a duration of 18 months. The net salary will be around 2200 euros/month, which will also depend on the experience of candidate after getting PhD degree.

Candidate Profile:

A solid training and knowledge in perovskite material and photoluminescence and electroluminescence will be necessary. Creativity, rigor, and taste for teamwork are qualities that will be highly appreciated. Good communication skills (English or French) are also required.

Application deadline: 20 Novembre, 2019

Documents required:

CV with publication list, 2 recommendation letters from previous supervisors.

Information supplementary:

Once the candidate is chosen, we need to submit all information of the candidate (CV, passport, research subject) for French security control procedure and CEA control procedure. Concerning the variation of delay time of the procedure, the post-doc could start the work in IJL from **December 15, 2019**.

Contact:

Etienne QUESNEL (CEA-LETI, etienne.quesnel@cea.fr)

Yuan LU (Institut Jean-Lamour, yuan.lu@univ-lorraine.fr)