



PostDoc at Sorbonne University in *ab initio* modeling of halide perovskite-based quantum dots

A 2-year postdoctoral position is available in the Quantum Theory of Matter (TQM) group at the IMPMC of Sorbonne University (Paris, France).

We look for highly motivated candidates with a PhD degree in condensed matter physics, material science or a related domain with a strong interest in physics. The successful candidate will have a solid background in electronic structure methods and density functional theory. She/he should have skills in at least one programming language (Fortran, C/C++, Julia, Python) and Linux. Prior experience with GW, Bethe-Salpeter, or Dynamical Mean-Field Theory calculations as well as proficiency in high-performance computing will be advantageous.

The hired candidate will perform *ab initio* many-body calculations to model and design a new generation of halide perovskite-based quantum dots for photonic applications in the framework of the joint French-Singaporean research project “DesperQD”, supported by the French National Research Agency (ANR) and the National Research Foundation Singapore. Together with experimental colleagues involved in the project, the team will use theoretical screening and experiments to identify promising novel quantum dots for single photon emission.

The postdoc will work in the Quantum Theory of Matter (TQM) group, a young and dynamic theory group with a strong background in the development of new many-body methods from first principles. It is located in the multidisciplinary IMPMC institute, at the lively Pierre and Marie Curie campus of Sorbonne University. She/he will closely collaborate with experts in machine learning and high-throughput simulations at Nanyang Technological University (NTU) in Singapore (Kedar Hippalgaonkar and coworkers).

Applicants should send their application consisting of a statement of interest, CV with publication list and contact information of two references by email to the scientific project leader of the DesperQD project at IMPMC, Benjamin Lenz (benjamin.lenz[at]sorbonne-universite.fr). Please use as e-mail subject: “PostDoc Application DesperQD 2022”. Screening of applicants will start immediately and continue until the position is filled. A starting date could be as early as March 1, 2022.

