

**Post-Doc position opening in the Antezza's group on :**

**“Quantum Technologies:  
Many-Body Quantum Coherences and Energy  
Management in Non-Equilibrium Systems”**

**Keywords: Energy Management, Quantum Technologies, Casimir Effect, Radiative Heat Transfer, Nanophotonics, Quantum Materials, Quantum Thermodynamics**

**Context :**

In view of realizing new quantum technologies, it becomes crucial to manage energy exchanges and thermodynamic tasks at the level of singles quantum systems, where quantum effects may play an important role. In this spirit, this project will explore, from the theoretical point of view and in collaboration with experimental groups, new kinds of quantum machines, based on elementary quantum systems (i.e. atoms, quantum dots, quantum defects, superconducting qubits) driven out of thermal equilibrium thanks to a stationary non-equilibrium electromagnetic bath generated by macroscopic nanostructured objects held at different temperatures. Electromagnetic and thermal properties of new emerging materials (hBN, Graphene, ....) will be exploited.

The post-doc researcher will join the “Theory of Light Matter and Quantum Phenomena” group (**web**) at the Laboratoire Charles Coulomb in Montpellier (France), and the position will tentatively start in September 2022 (with some flexibility). The duration will be of 18 months with a possible extension.

Candidates are needed to possess a solid formation in Physics, and have experience is some of the followings subjects: Quantum Physics, Open Quantum Systems, Electromagnetism, Statistical Physics, Computational Physics, Radiative Heat Transfer, Casimir Effect, Thermodynamics.

For further details, contact Prof. M. Antezza ([mauro.antezza@umontpellier.fr](mailto:mauro.antezza@umontpellier.fr)).