

Title: POSTDOC POSITION IN MONTPELLIER. Photochemistry on Quantum Computers.

Announce:

A postdoc position is available for 18 months starting from October 1st 2021 at the Charles Gerhardt Institute of Montpellier (France), in the new departement "Chimie Physique Théorique et Modélisation" (before called "Chimie Théorique, Méthodologies, Modélisations"). The project (acronym QACTUS: Quantum Algorithms for Chemistry, Towards a Unified Strategy) is founded by the I-SITE MUSE of Montpellier and is supervised by Bruno Senjean and Benjamin Lasorne (CNRS researchers), with the external collaboration of Saad Yalouz.

This project is devoted to the implementation of theoretical photochemistry on quantum computers, with applications to dendritic molecules that have high-impact applications related to environmental protection and human health, but for which a complete understanding (such as photoinduced energy and electron transfer) is beyond reach of classical computers and require an accurate description of excited states and their nonadiabatic couplings with nuclear motions around avoided crossings and conical intersections.

The candidate is expected to develop new quantum algorithms to answer these problems. Simulations of small chemical models will be performed first on classical computers, then followed by the implementation on the latest IBM quantum devices thanks to the partnership between IBM Quantum and the University of Montpellier (project QuantUM). Programming (python) and method development skills are required, as well as knowledge in either Quantum Computing or Theoretical (Photo)chemistry / Molecular Physics.

Applications should be sent to Bruno Senjean (bruno.senjean@umontpellier.fr) including:

- a Complete Scientific CV (with list of publications)
- 1 or 2 reference letters (to be sent directly to bruno.senjean@umontpellier.fr by the person that recommends the candidate)

DEADLINE for submitting an application is November 1st 2021.

Bruno Senjean and Benjamin Lasorne.