LABORATOIRE de CHIMIE PHYSIQUE – MATIERE et RAYONNEMENT
UNITE MIXTE de RECHERCHE UPMC – CNRS (UMR 7614)
4 Place Jussieu – 75252 PARIS CEDEX 05 FRANCE -boite courrier 1140
TEL: +33 (0) 1 44 27 63 05 courriel: richard.taieb@upmc.fr FAX: +33 (0) 1 44 27 62 26

Post-doctoral position in Quantum Chemistry for Attosecond Science

Laboratoire de Chimie Physique - Matière et Rayonnement (LCPMR)
Laboratoire de Chimie Théorique (LCT)
Sorbonne Université, Paris, France

We are offering a one-year postdoctoral position to develop original tools for modeling molecular photoemission at the attosecond time scale.

Over the last 20 years, attoscience has developed the technologies and concepts for tracking the motion of electrons and light nuclei on the attosecond scale, providing the key for understanding matter changes at a most fundamental level. In this context, the emerging field of attochemistry aims at tracking ultrafast elementary processes in larger molecules and eventually control chemical matter and transformations at their ultimate timescale.

This postdoctoral project is focused on the study of anisotropic molecular photoemission, and on the influence of the chemical environment in inner shell photoemission dynamics. The scope is thus to develop original numerical tools to compute accurate molecular continuum states and transition probability amplitudes in polyatomic molecules, to be interpreted in terms of photoemission dynamics. It will follow an incremental work plan aimed at providing results of interests at intermediate stages of its realization.

This work will be co-supervised by experts in theoretical attosecond science at **LCPMR** and in quantum chemistry methodology at **LCT** – two research laboratories belonging to the Chemistry Department of Sorbonne Université, Paris, France – in a broader environment driven by long standing collaborations with experimentalists. The postdoc fellow will have a central role in programming, running simulations, analyzing, and publishing the results in scientific journals and at conferences.

The candidate should hold a PhD in theoretical quantum physics and/or chemistry, with a strong expertise in developing quantum chemistry codes and a pronounced interest in attosecond science. The successful candidate is expected to have a track record for performing research with autonomy and enthusiasm as well as effective written and verbal communications skills.

Details:

★ 1 year contract based in central Paris with a salary ranging within 2200-2500 € net/month

★ Beginning date: before December 31st 2023

★ Health, pension and unemployment securities included

★ Sorbonne Université is an equal opportunity employer and places particular emphasis on fostering career opportunities for women. Qualified women are therefore strongly encouraged to apply.

Contacts:

LCPMR : Jérémie Caillat, jeremie.caillat@sorbonne-universite.fr
LCT : Emmanuel Giner, emmanuel.giner@sorbonne-universite.fr