



UNIVERSITÉ DE GENÈVE

FACULTÉ DES SCIENCES

SECTION DE PHYSIQUE

GAP - BIOPHOTONICS

University of Geneva

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Post-Doctoral Position on Soft X Ray Attosecond Spectroscopy in Liquids

Intermolecular interactions, like hydrogen bonds and van der Waals forces, play a crucial role in the structure and function of biologically relevant molecules, like DNA/RNA nucleotides and proteins. We developed a High Harmonics Generation (HHG) beam line, based on a few cycle mid-IR driving laser, which covers the soft X ray (SXR) water window up to 550 eV, and thus provides access to the crucial atomic edges for biomolecules, i.e. K-edges of C, N and O, and L edges of sulphur and phosphor (1). In the present project, we propose to investigate the reactive dynamics of nucleotides, based on the pyrimidine family of DNA/RNA bases (thymine, cytosine, uracil) in its natural aqueous environment. Using site and element specific features in the SXR transient absorption spectra will provide a fully new approach of applying coherent control strategies, allowing unprecedented specificity.

The project is funded by the Swiss National Science Foundation

We are opening a Post-Doc position on this project, dedicated to the organization and participation to the experiments, the analysis of the data as well as the redaction of publication and presentation to international Conferences. The required skills to apply to this position consist in a deep expertise (PhD) in HHG based experiments, ultrafast spectroscopy, and molecular physics.

(1) *Pertot et al, Science, 2017, vol. 355, n° 6322, p. 264-267. doi: 10.1126/science.aah6114*

We offer

The brutto salary ranges approximately from 70000 CHF/year to 100000 CHF/year depending on the experience of the candidate. Social charges amount typically 23%.

Duration : 1 year, renewable.

Starting date : as soon as possible

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<http://www.unige.ch/gap/biophotonics/>