Post-doc position on “the development of atomically precise metal nanoclusters selectively labelled to disordered proteins for molecular sensing capabilities”

Atomically precise metal (gold, silver, platinum) clusters represent a promising family of ultra-small theranostic agents for the diagnostic and the treatment of many diseases such as cancer, neurological or cardio-vascular pathologies. We recently demonstrated how generating assembly of gold nanoclusters (Au NCs) led to outstanding new photonic properties (ACS Nano **2016**,10, 2591; Nanoscale **2019**, 11, 12092).

In the **NanoGold** project funded by ANR, we intend to design multidimensional controlled assemblies of atomically precise AuNCs using intrinsically disordered proteins (IDPs) as matrix and to investigate the structural and photophysical properties of these new nanosystems with innovative advanced techniques. Creating these controlled assembly of AuNCs will pave the way to tailor new nanostructures for biophotonic applications and answer fundamental questions on the origin of their fluorescence.

In this purpose, one of the tasks of the NanoGold project relies on the synthesis and the functionalization of new AuNCs for selective bindings to IDPs with a deep investigation of their physico-chemical and optical properties as well as their detection in microfluidic devices and in cells by near infrared imaging (NIR-I (600-900 nm) /NIR-II (900-1700 nm)). The post-doctoral fellow might be involved also with collaborators in Montpellier (CBS) and in Lyon (ILM) on the structural investigation of these news nanostructures.

The candidate will work in a multidisciplinary environment with chemists, biologists and physical engineers. The work is taking place at Chimie du Département Moléculaire (University of Grenoble Alpes) for the chemistry side and at the Institute for Advanced Biosciences for the biological side both located at closed distance in Grenoble (France).

Duration: 18 months **Starting date:** October 2022/January 2023 **Location:** Grenoble, France

Applicant profile:
We are looking for a motivated and enthusiastic Post-doc that should have background in fields related to nanochemistry/biotechnology and spectroscopy. Skills in bioimaging will be a plus but is not mandatory.

Application:
The candidate should send a cover letter, Cv, grade transcripts, and recommendation letters to Dr. Xavier Le Guével. xavier.le-guevel@univ-grenoble-alpes.fr
If you have any further question, do not hesitate to contact me +33 476 549 554 (phone),