Tenure Track position at LG2A-Amiens, France

**Laboratory strategy**

Glycochemistry is a domain of organic chemistry involving specific synthetic and characterization methodologies. Based on complex and plural retrosynthetic schemes, glycochemistry and its numerous applications in glycobiology remain emergent compared to Proteomic and Genomic approaches. Our laboratory possesses the following expertises: oligosaccharide synthesis, sulfur or nitrogen containing analogues synthesis, modification of polysaccharides from biomass, modification of cyclodextrins, and in the study of sugar-protein interactions and supramolecular self-assembly.

Some examples of recent or current projects: ANR OLIBLOCK (oligosaccharide block polymers), ANR CARBOPHOTON (photochemical oxidation of sugars), Hauts-de-France Region Stimule Exploratoire SULFONATES (sulfonate analogues of sulfated sugars), Hauts-de-France Region INHIBASE (multivalent glycosidases inhibitors) and PIA Excellences (2023-2026) « MAIA, Mastering Artificial Intelligence Applications » (on saccharide synthesis and supramolecular chemistry).

**Summary of the Scientific Project**

The scientific project will be based on the synthesis of new glycosidic analogues for chemobiology in a general way, and more specifically for the study of sugar-protein interactions and/or the development of corresponding analytical tools and methodology. The project must be based on biosourced plateform molecules respecting the concepts of green/sustainable chemistry.

For example, target compounds able to achieve selective inhibition of enzymes involved in carbohydrates biosynthesis or metabolism (glycosidases, glycosyltransferases). In this context, the project could involve the synthesis and biological evaluation of new inhibitors like S-, N-, or C-glycosidic analogues, in order to target bacterial enzymes or enzymes related to some diseases as the α-glucosidase (diabetes of type II) or heparanase (cancer metastasis).

Proposals involving others aspects of glycochemistry and the study of sugar-protein interactions and supramolecular assemblies, or still methods of structural analysis, can also be envisaged.

**Summary of Teaching Project**

The selected applicant will be in charge of organic chemistry courses in the Licence (Bachelor) in Chemistry and in the Master in Chemistry, specialized in « Chimie Durable-Organique » (Sustainable Organic Chemistry) and in « Analyse, CONTRÔLE-QUALITÉ » (Analysis, Quality Control) at the Université de Picardie Jules Verne (UPJV). He/she will participate in the different courses of organic synthesis, supramolecular chemistry, characterization techniques as NMR, chromatography and/or mass spectrometry. He/she will take part in the creation of new teaching modules in different levels (Bachelor, Master, PhD) linked to the MAIA project on artificial intelligence on syntetic and supramolecular chemistry aspects. He/she will take the responsibility of a year and/or a specialization.

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Dead-line: 18/10/2022