Open position for a scientist in biochemical sciences (Master degree)
in the field of nutrition and health

Place: in Brussels, at the Université catholique de Louvain (UCL-Woluwé, Belgium)
Institute: Louvain Drug Research Institute (LDRI)
Promoter of the research project: Prof. Nathalie Delzenne
Position: A full-time position for 3 years
funding: Public service of Wallonia, Directorate-General Operational for Economy, Employment and Research (SPW-DGO6)
in the context of the ERA-HDHL call “biomarkers for nutrition and health” http://www.healthydietforhealthylife.eu/
Period: from 01/05/2017 to 30/04/2020

Context
The scientific rationale of recommendations in dietary fiber (DF) intake comes from the recognition of their benefits for health based on studies published many years ago. It remains unclear which key physiological effects are generated by DF in view of the diversity of the food components considered as DF, the relevance of their classification as soluble versus insoluble, and from the recent discoveries putting forward their interactions with the gut microbiota. The FiberTAG project will establish biomarkers to meet two objectives. First, the consortium will use existing cohorts to investigate the link between DF intake, gut microbial signature (composition and metabolites), and key gut biological functions. The second objective will be to develop innovative approaches to evaluate the health interest of novel insoluble DF, prone to interact with the gut microbiota. We aim at refining the concept of dietary fiber based on novel biological effects that can occur upon gut microbiota-nutrients interaction. Four academic and two industrial partners coming from Wallonia, France, Germany and Canada will constitute the interactive consortium. They will work on samples issued from existing cohorts (intervention studies with DF, cohorts relating gut microbiota composition and/or function on health) to validate novel protocols and biomarkers related to gut derived metabolites associated with key gut functions (short chain fatty acids, lipid metabolites, gut barrier biomarkers). Intervention studies in healthy or overweight individuals will be elaborated to evaluate the interest of fermentable insoluble fibers developed by industrial partners for the nutritional improvement of food products, and will allow to evaluate novel procedures for the development of biomarkers (volatile metabolites in breath test, use of stable isotope-labelled DF).

Job description
- intervention studies with processing of samples (GC-FID/GC-TCD, molecular biology)
- processing and analysis of big data using available tools developed in the laboratory
- development of innovative mathematical/statistical approaches with the aim of identifying new biomarkers
- development of adequate tools for data sharing and integration inside the FiberTAG consortium (standardization of metadata; respect of the FAIR principles; merging of datasets)
- interpretation of the data to evaluate the relevance of new biomarkers in the field of nutrition and health

Profile
Qualifications: MSc in Biochemistry, Biology, Pharmacy, Bioengineer, Biomedical Sciences, Veterinary Medicine
Required skills and knowledge:
- Experience in data management and data integration in a biological context (preferably in physiopathology and/or nutrition)
- Experience
- Experience with pearl and python programming, Cytoscape, R tools, high-throughput data generated from -omics technologies is a plus
- Scientific rigor and great motivation for research
- Ability to work in a multidisciplinary team and within international academic and industrial networks
- Fluent in English (min B2)

Contact
Application (motivation letter, CV and references) must be sent by email to audrey.neyrinck@uclouvain.be
UCL/LDRI/MNut, Avenue Mounier 73, box B1.73.11, B-1200 Brussels, Belgium