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**Bottom-up proteomics for the diagnosis of human infection diseases:
from instrumental development to clinical evaluation**
*Protéomique ascendante pour le diagnostic des maladies infectieuses humaines :
du développement instrumental à l'évaluation clinique*

Institut des Sciences Analytiques – UMR 5280
PhD supervisor/Directeur de thèse: Jérôme Lemoine

We are looking for a highly motivated PhD student, preferably with skills in biochemistry, analytical chemistry, bioinformatics, ideally trained in mass spectrometry (MS), and who is interested in developing and using state-of-the-art mass spectrometry methods for infection disease characterization.

The project is in line with the long-standing record of research within the *Bioanalytical Mass Spectrometry* group at the Institut des Sciences Analytiques (Lyon/Villeurbanne, France), in the investigation of quantitative Omics approach for clinical and environmental applications. This project is related to an interdisciplinary research program (ANR grant funding, RHU IDBIORIV - 2019-2026) including physicians, clinical microbiologists, and statisticians (Institut des Agents Infectieux, Centre International de Recherche en Infectiologie), with the aim of developing new mass spectrometry-based methods and computational workflows to reduce the turnaround time of infection diagnosis in blood, urine, or any other biological matrix. For this purpose, the candidate will develop new sample preparation strategies as well as optimize high-end analytical platforms (Evosep One coupled to the new zeno-tof 7600 hybrid mass spectrometer (Sciex) and 6500+ low resolution triple quadrupole mass spectrometer (Sciex)), and acquisition modes, mostly in SWATH/DIA.

PhD students of the Bioanalytical Mass Spectrometry Group are encouraged to attend and present their work at international workshops and meetings (ASMS, MSACL, ECCMID...).

The PhD position will be supervised by Prof. Jérôme Lemoine and Prof. François Vandenesch.

We are specifically looking for candidates with the following profile:

- first hands-on experience with mass spectrometers, liquid chromatography
- affinity with both instrumental techniques and data analysis software
- Master degree in Analytical Chemistry, Biochemistry, Computational Biology
- independent, flexible, enterprising, organized, solution-oriented
- capable of working in an interdisciplinary, academical, and international environment
- attractiveness for innovation and technology transfer

Application

Please submit your application including a cover letter (explaining background and motivation), CV, academic transcripts, and the contact addresses of two references to jerome.lemoine@univ-lyon1.fr. Review of applications will begin immediately.

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