

**Internship proposal**

- Proposal for Master M1 (3 months minimum from April)
- Proposal for Master M2 (5 months minimum from February)

<b>Title</b>
Development of omics approaches for the characterization of heritage organic matter
<b>Supervisors</b>
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<b>Place</b>
SMBP, UMR 8249 LPC, ESPCI-PSL, 10 rue Vauquelin, 75005 Paris C2RMF, Dpt. Recherche, Palais du Louvre, 75001 Paris, France / IRCP UMR CNRS 8247
<b>Topic description</b>
<p>Building upon our previous work on developing analytical strategies for the identification and characterization of complex polysaccharides and glycopeptides in plant gums found in archaeological matrices (eg Egyptian polychromy), we are extending our research to diverse matrices such as more historical objects or embalming black material. These materials are of significant interest due to their unique properties and relatively unknown organic content. Their complex compositions and advanced aging pose challenges for the detection and analysis of such minor compounds, requiring robust and sensitive approaches.</p> <p>The intern will utilize glycoproteomics techniques, such as filtration, chemical derivatization, enzymatic proteolysis, in order to prepare complex samples mixtures to be analyzed with HPLC-HRMS/MS or MALDI-TOF/TOF. Dedicated data analysis software will be employed for interpreting complex spectral data.</p> <p>We seek a highly motivated student pursuing a degree in Analytical Chemistry, Biochemistry, or a related field. While not required, knowledge in proteomics, mass spectrometry, chromatographic techniques, MS data analysis and interpretation, as well as an interest in heritage studies, are highly appreciated.</p>