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CALL FOR APPLICATIONS 2025 – FELLOWS

Supervisor	Guillaume Mériguet
Supervisor page	https://phenix.cnrs.fr/annuaire-user/?uid=guillaume-meriguet
Host Institution	Sorbonne Université https://www.sorbonne-universite.fr/en
Research Lab	PHENIX laboratory https://phenix.cnrs.fr/en/home/
Research Team	Multiscale Experiments and Modelling https://phenix.cnrs.fr/en/research-topics/modelisation-et-experiences-multi-echelles/

Project Title

Probing the mesoscale dynamics of polyectrolytes solutions by NMR relaxation: from fundamentals to applications

Project Description

Polyelectrolytes exhibit a wide range of dynamic processes depending on the scale of observation. NMR relaxation dispersion is a particularly well-suited technique for accessing this multiscale information, as the study of the frequency dependence of NMR relaxation provides access to molecular dynamics at the corresponding time scale.
The aim of the project is to experimentally determine chain, ion and solvent behaviors for systems of interest, and to develop the corresponding dynamic model.

Keywords

polyelectrolytes, nmr, molecular dynamics

Description of the Host Research Lab

PHENIX's research focuses on the physical chemistry of electrolytes and multi-scale interfacial materials such as colloidal systems and porous materials. One of its key strengths is the close interaction between experiments and modeling. Research topics include the elaboration and functionalization of inorganic nanoparticles, the use of multiscale magnetic materials for environmental applications, the development and study of of magnetic particles for biomedical applications, the study of molten salts for the upstream and downstream electro-nuclear cycle, energy storage in accumulators and supercapacitors, where the original design of electrodes and understanding of their operation are essential, the modeling and experimental monitoring of the transport and retention properties of fluids and charged species in multi-scale interfacial systems.

To submit your application, please send an email with the required documents to
msca-pf@sorbonne-universite.fr