



Opening position at **Université Paris-Cité**

18-month POST-DOCTORAL FELLOWSHIP on pulmonary surfactant

Research

The INHALE project, funded by the French National Research Agency (ANR), seeks to investigate the viability of surfactant replacement therapy in adults afflicted with respiratory disorders. Pulmonary surfactant is a thin fluid layer lining the alveoli within the respiratory zone of mammals, its function being to reduce surface tension between inhaled air and the pulmonary epithelium, ultimately facilitating breathing. The project aims to design new surfactant treatment strategies, using a combination of deep reinforcement learning algorithms to characterize surfactant flow in the airways, and physicochemical studies of the structure and rheology of exogenous surfactants. This knowledge will be incorporated into the simulations, refining our understanding and strategies.

Context

An 18-month postdoctoral position will commence in September 2024. The research will be conducted at the Matière et Systèmes Complexes (MSC) Laboratory, Université Paris-Cité*. The INHALE project is a collaborative endeavor featuring the contributions of Philippe Meliga and Elie Hachem from the Centre de Mise en Forme (CEMEF) in Sophia-Antipolis, Marcel Filoche from the Institut Mondor de Recherche Biomédicale in Créteil, and Jean-François Berret from the MSC laboratory in Paris. We are seeking candidates with a strong background in soft condensed matter, microfluidics, and hydrodynamics. The ideal candidate will possess excellent writing and communication skills, demonstrate the ability to work independently, and exhibit a collaborative spirit conducive to effective teamwork within our research group. We eagerly anticipate the arrival of a highly motivated and talented individual who shares our commitment to pioneering research, and aspires to make a significant impact in the field of lung science.

If you are interested in this position, please contact Dr. Jean-François Berret (jean-francois.berret@u-paris.fr). You can also visit the website: <https://www.jean-francois-berret-website-pro.fr> for more information.

Please forward your application to the provided email addresses. Include your CV, with the names and contact details of two referees. We kindly request a motivation letter as part of your application.

***Université Paris-Cité**

Laboratoire Matière et Systèmes Complexes, UMR CNRS 7057, Bâtiment Condorcet
10 rue Alice Domon et Léonie Duquet, 75013 Paris, France