

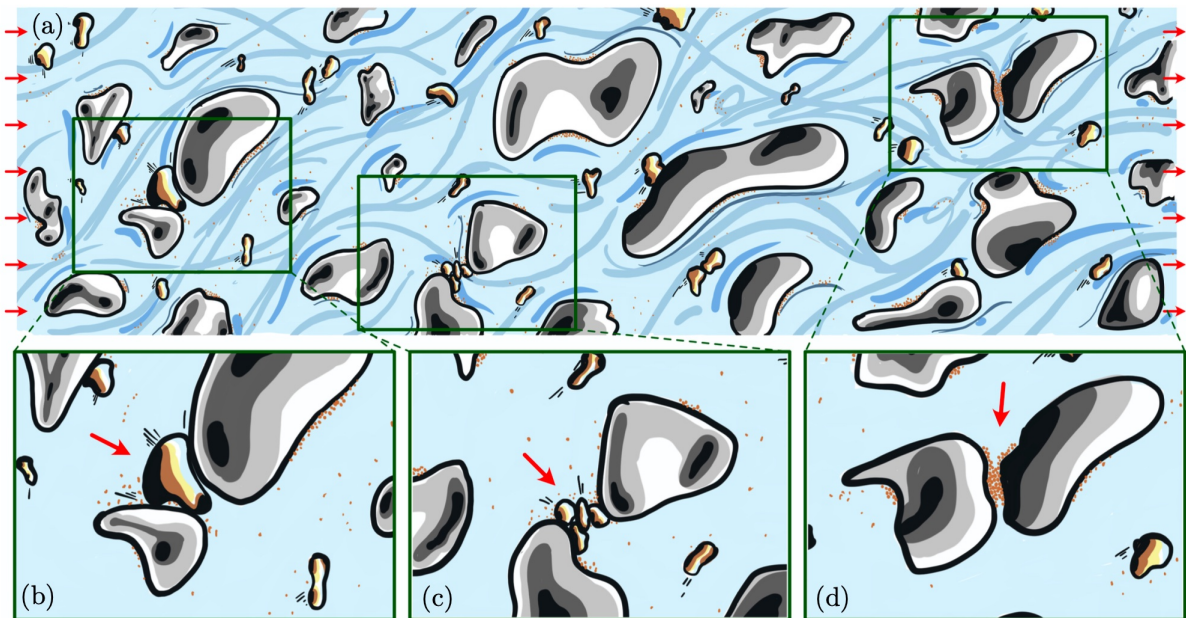
Postdoc opening

Transport and clogging of particles in fluid networks

University of California, Santa Barbara (USA)

The Multiphase and Multiscale Flow group (M&MFlowLab) at the University of California at Santa Barbara (USA) is seeking a postdoctoral researcher for a project devoted to the transport and clogging of suspensions of complex particles in fluid networks.

Our research is multidisciplinary and thrives when the members contribute a range of knowledge and experience. An ideal candidate is a trained experimentalist with experience in at least one of these areas: fluid mechanics, complex fluids, fluid-structure interactions, advanced manufacturing (3D printing). Most importantly, the candidate should be highly motivated to learn complementary skills and work in a collaborative environment.



From clogged arteries to clogged pipes to clogged highways, stopping the flow is always inconvenient and sometimes dangerous. Clogging is often observed in confined flows carrying either too many particles or too large particles. Clogging can be so inconvenient, necessitating lost time and labor, that we have historically worked very hard to try to prevent it. Many parameters influence the probability of clogging, such as the properties of the particles, the concentration of the suspension, and the geometry of the fluid system. As the governing physics are revealed, new methods and design strategies to mitigate clogging are emerging. Yet, our understanding of clogging in networks of channels, as observed in biomimetic systems, is elusive. Our overarching goal is to design complex channels using 3D printing methods to unravel the clogging conditions. This knowledge will contribute to optimizing flow in biomimetic networks but also industrial processes, in particular for bioprinting and additive manufacturing by providing an extensive “toolbox” to design clogging-resilient systems across applications.

For more information, feel free to visit our website and/or to contact A. Sauret (asauret@ucsb.edu)

The University of California is an Equal Opportunity/Affirmative Action Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability status, protected veteran status, or any other characteristic protected by law.