

## POST-DOC: MICROPARTICLE AND DROPLET FORMATION AND MANIPULATION IN MICROFLUIDIC DEVICES

Duration: 1y

Application/start: immediately

Microfluidics is an exciting and rapidly growing field leading to many exciting novel concepts and impact in a variety of disciplines. The production of tailored monodisperse droplets and functional particles with is highly promising for e.g. pharmaceutical, textile and sensor industries, but the main hurdle for valorization is the limited throughput of microfluidic (e.g. nozzle type of) devices. In the present project, we will tackle this problem by further developing, broadening the scope and further optimizing our patented 3D nozzle array emulsifier concept. With this concept, we can produce several 100 kg of product per day, paving the road for valorization of a variety of droplet-based applications. The research will take place at the Free University of Brussels (supervision of Prof. Wim De Malsche). The vacancy concerns in first instance a 1y post-doc position. Continuation on other ongoing projects after this 1y period is possible.

### Job description

Your work will be very versatile, offering to learn different aspects of microfluidics. One goal is aiming at achieving in situ polymerization of microdroplets in microfluidic devices. A second is applying a monolayer on the channel surface of a silicon chip. Third, microparticles will be manipulated in micron-sized channel flows. To develop an efficient design, simulations of the flow behavior will be made.

### Your profile

You have a PhD in chemistry, chemical engineering, physics, material sciences, or electrochemistry. Knowledge of emulsions, simulation tools (Comsol), particle control, polymerization, surface coatings is considered advantageous. You are creative, are comfortable with both experimental and theoretical work, can function independently as well as in team. You have at least a working knowledge of English.

Interested? Contact Prof. Wim De Malsche ([Wim.De.Malsche@vub.be](mailto:Wim.De.Malsche@vub.be)) or Benoit Thienpont ([Benoit.Thienpont@vub.be](mailto:Benoit.Thienpont@vub.be))