4 PhDs and 3 postdoc positions (fully-funded) on microscale fluid dynamics at the University of Twente in The Netherlands
Group: Lab-on-a-chip group, part of the Max Planck Center for Complex Fluid Dynamics, Twente.

There are three separate projects, as follows.

[1] 2 PhDs and 1 postdoc position on 'Microfluidic microbubble formation for functional ultrasound sensing', ERC funded.
See this page for a brief project description (MICOMAUS).
For applications and/or more information, please send an email to t.j.segers@utwente.nl.
Applications to the PhD positions are also welcome via this link.
The postdoc position is not yet online but applications are welcome via email.
Please apply/inquire as soon as possible.
Closing date: Feb 15, 2024.

[2] 1 PhD and 1 postdoc position on 'Fundamentals of microfluidic lipid nanoparticle (LNP) formation'
The microfluidic formation of LNPs is achieved when a stream of lipids (surfactants) dissolved in ethanol is mixed with water such that the solubility of the lipids decreases below a critical threshold at which the lipids and therapeutics phase separate and self-assemble into LNPs (~100nm diameter). This is very similar to, but much more complex than, a famous fluid dynamical problem: the Ouzo (Greek alcoholic drink) effect, where nano- and micro-droplets of oil nucleate when the Ouzo is diluted with water. Your task within this project is to unravel the coupling between the fluid mechanics of the convective and diffusive mixing and the physicochemistry of the self-assembly of the lipid and therapeutic molecules.

For applications and/or more information, please send an email to t.j.segers@utwente.nl.
Applications for the PhD position are also welcome via this link.
The postdoc position is not yet online but applications are welcome via email.
Closing date: Feb 15, 2024.

[3] 1 PhD and 1 postdoc position on 'Fundamentals of drug delivery with monodisperse (targeted) microbubbles and ultrasound'
We will use organ on-chip devices (e.g. BBB on-chip) in combination with monodisperse bubbles, ultra-high-speed (fluorescence) imaging, confocal imaging, and transendothelial electrical resistance measurements (also using multi-electrode arrays) to study the fundamentals of bubble-cell (barrier) interaction.
For more information, please send an email to t.j.segers@utwente.nl.
The opening will be closed as soon as suitable candidates are found.