



Contribution ID: 111

Type: Poster

【912】 Simulation of a microfluidic system of droplets

Wednesday 28 August 2019 19:02 (1 minute)

We simulate how droplets released from a linear droplet generator arrange themselves in a three-dimensional way within a surrounding hull. During this arrangement process, droplets touching each other can form bilayers, which then can be broken up and reformed again. For studying this process, we perform macroscale Monte Carlo movement simulations with a simplified rule set for the slowing down and acceleration of droplets, embedding some extent of randomness in the change of movement and in the probabilities for bilayer formation and destruction. We aim at qualitatively reproducing the three-dimensional structures achieved in experiments performed by our EU project partners in Cardiff. As a next step, we aim at predicting the experimental outcome.

Primary author: Dr SCHNEIDER, Johannes J. (Institute for Applied Mathematics and Physics, Zurich University of Applied Sciences)

Co-authors: Mr WEYLAND, Mathias S. (Institute for Applied Mathematics and Physics, Zurich University of Applied Sciences); Dr FLUMINI, Dandolo (Institute for Applied Mathematics and Physics, Zurich University of Applied Sciences); Prof. FÜCHSLIN, Rudolf M. (Institute for Applied Mathematics and Physics, Zurich University of Applied Sciences)

Presenter: Dr SCHNEIDER, Johannes J. (Institute for Applied Mathematics and Physics, Zurich University of Applied Sciences)

Session Classification: Poster Session

Track Classification: Biophysics, Medical Physics and Soft Matter