

## WORKGROUP FOR MULTIPHAS FLOWS

### Deep bed filtration in porous structures

**Grant number**

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**Project title**

Deep bed filtration in porous media

**Project leader**

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**Realized by**

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**Keywords**

Lattice-Boltzmann method, Euler-Lagrange, filtration, numerical evaluation

**Short description of the project**

The intention of the project is to simulate the filtration of a particle-laden flow in a porous media. The particles are assumed to be spherical and submicron.

Particles deposit in the porous media during the filtration. Thereby the particle layer increases with proceeding time and this particle layer causes a change of the gas flow. One aim of the project is to understand the interaction between gas flow and particle layer.

In order to implement the gas phase flow, the Lattice-Boltzmann method is used. Furthermore the motion of the particles is treated by Euler-Lagrangian approach, which include solving an ordinary differential equation.