GASTVORTRAG

Die Arbeitsgruppe Numerical Analysis lädt zu folgendem Vortrag ein:

Mirko Residori
TU Dresden

Fluid particle dynamics in simple porous media

In this work we simulate soft particles flowing through porous media. Simulations of this kind pose several challenges, from creating the porous domain to implementing numerical schemes that solve the underlying equations. In particular, we simulate an incompressible flow described through the Naiver-Stokes equations. Soft particles are encoded in the Naiver-Stokes equations by tuning the external forces and the viscosity coefficient. This approach is known in the literature as fluid particle dynamics. Particular attention and effort have to be paid to the grid refinement of the domain. Each simulated particle has a thin interface that needs to be resolved. This is achieved by employing grid adaptivity around each particle interface and the resulting FEM discretisation is solved to compute the velocity field in the next timestep. The simulations show how the particle size affects the velocity field and may lead to different particle spreading for long time regimes.

Zeit: **Mittwoch, 06. Juli 2022 um 11.00 Uhr**

Ort: **Technikerstraße 13/Erdgeschoss, HSB 1**

Gäste sind herzlich willkommen!

Alexander Ostermann