!! Lecture Announcement!!

(students with background in mechanical & chemical engineering, pharmaceutical sciences, as well as chemistry are welcome!)

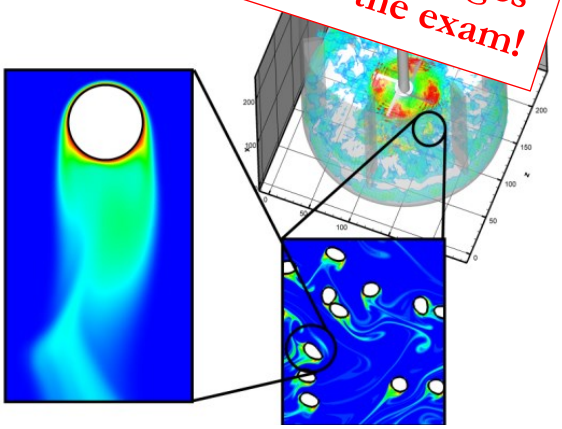
!!includes Software Training for CFD and DEM!! Use MOOC badges for part of the exam!

CHE.874UF

Design of Multiphase Flow Processes

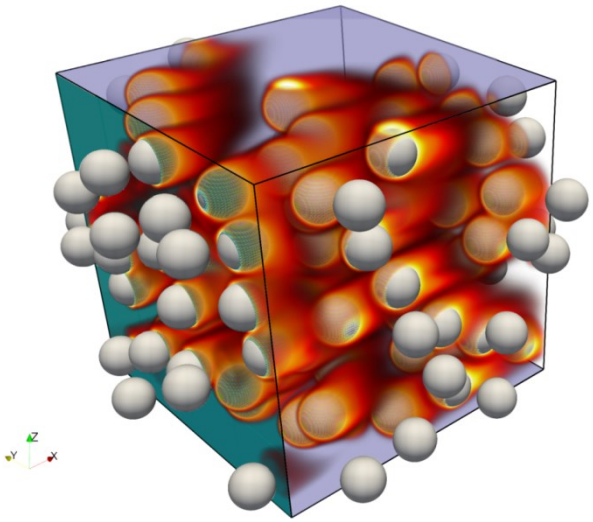
1.3 Lecture/0.7 Exercise
Summer 2024

Institute for Process and Particle Engineering,
Simulation Science Group
https://ippt.tugraz.at/SimSci



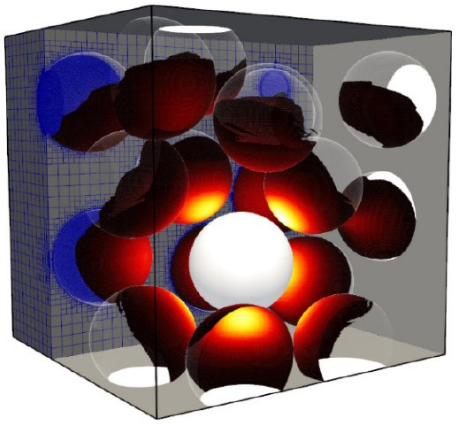
Short Description

Overview of the applications of multiphase processes will be provided, mainly focusing on fundamental design questions and selected applications in the area of "pharmaceutical engineering". For example, the influence of mixing on fast chemical reactions will be discussed. The students will gain advanced skills in the conceptual design and simulation of multiphase reactors.



Core Topics

- Basics of **Mixing and Reacting Flows**
- **Fluidized Beds and Gassed Stirred Tanks**
- **Modeling and Numerical Simulation** of Multiphase Systems (includes an introduction to the software tools **OpenFOAM®, LIGGGHTS®**, and **ASPHERIX®**)



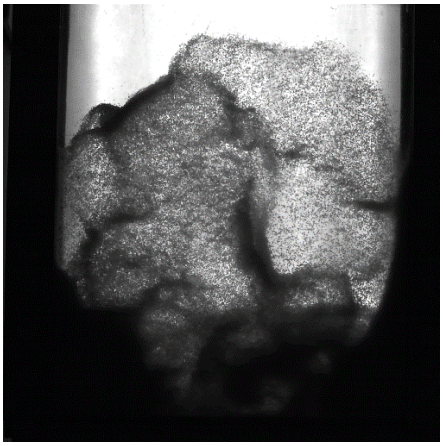
Complete the MOOC "The Discrete Element Method" (https://imoox.at/course/dem), and benefit for the exam (see details on TeachCenter page)

Expected Knowledge of the Participants

Basic skills in reaction engineering and particle technology are desired, but not required

Language

Lecture Notes will be provided **in English**. Presentations and exercises can be given in German or English.



Time

The course starts Friday, March 1st 2024 (9.00 a.m., online). The lessons will be **blocked** such that the course will end early in the semester. **The course will be "online ready", thus no physical presence is required.**

Contact and Further Details

https://tc.tugraz.at/main/course/view.php?id=579
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