



**Technische
Universität
Braunschweig**

Graduiertenkolleg 2075
Modelle für die Beschreibung
der Zustandsänderung bei
Alterung von Baustoffen



Vortrag im Gästeprogramm des GRK 2075

MUSEN Kolloquium im Sommersemester 2017

Prof. Dr. Ulrich Ruede

Friedrich-Alexander-Universität Erlangen-Nürnberg- Deutschland

Towards the direct numerical simulation of complex flows at the extreme scale

Donnerstag, 06.04.2017, 16.45 bis 18.00 Uhr
Okerhochhaus, Seminarraum EG
Pockelsstraße 3, 38106 Braunschweig

The dynamics of many complex flows is often characterized by several phases that are interacting on a microscopic scale. Examples are bubbly flows or flows with a suspended solid phase. Modern supercomputers enable fully resolved simulations where e.g. each solid particle is represented with its individual geometric shape and where its dynamics is computed with fluid-structure interaction methods. However, modeling larger ensembles with this kind of direct numerical simulation requires enormous compute power because extreme resolutions become necessary. To reach this, the parallel scalability of the algorithms is one necessary prerequisite. Furthermore, a co-design of the models, algorithms, and data structures is needed to exploit the complex hierarchical structure of modern supercomputers. The talk will discuss current and future trends for the direct simulation of multiphase flows.

Kontakt

Graduiertenkolleg 2075
Technische Universität Braunschweig
Beethovenstraße 51
38106 Braunschweig
0531 - 391-3668
grk-2075@tu-bs.de
www.tu-braunschweig.de/grk-2075

MUSEN - Center for Mechanics, Uncertainty and Simulation in Engineering
Technische Universität Braunschweig
Bienroder Weg 87
38106 Braunschweig
0531 - 391-94360
MUSEN@tu-bs.de
www.tu-braunschweig.de/musen