Scope of the GAMM AG DATA

The GAMM AG Data aims at coordinating the activities of the members of the International Association of Applied Mathematics and Mechanics (GAMM) in the field of data-based modeling, simulation and analysis in the context of microstructured materials.

In recent years, the field of imaging based experimental methods has experienced significant technological improvements. For instance, the quality and the speed of computed tomography based imaging techniques have advanced considerably, while at the same time, X-ray computed tomography devices are now available in many research facilities. By virtue of the obtained three-dimensional images, microstructures of modern natural and artificial materials can be analyzed and used directly in numerical simulations. Incorporating three dimensional microstructure data is, however, highly non-trivial from a numerical point of view. Special data-processing techniques that are able to operate on billions of unknowns, are required. Developing algorithms and data processing techniques for processing three-dimensional data sets constitute major topics within the GAMM AG Data. Innovative image processing techniques for automatic phase segmentation and microstructure reconstructions are of equal importance.

Objectives of this workshop

- To discuss the state of the art and recent trends in data-driven approaches
- Extensive online poster sessions, allowing detailed discussions and exchanges

Topics of this workshop

- data-supported modeling of the constitutive behavior of materials
- data-driven simulation techniques
- machine learning tools for materials engineering
- high-performance data-processing
- microstructure generation, simulation and analysis, e.g. via machine learning or AI tools

10th GAMM AG Data Workshop

Online (ZOOM)

Dec 19, 2023

Preliminary schedule

The workshop is planned to take place on Dec 19 from 09:00 until 14:00, including short talks (ca. 10min each) and two poster sessions (via Gather Town) of one hour each, providing the possibility for extensive discussions/interactions.

Dates

Abstract Submission:	Dec 14, 2023
Registration & Submission of Poster:	Dec 17, 2023
Online Workshop:	Dec 19, 2023

LEUPHANA UNIVERSITY OF LÜNEBURG

Helmholtz-Zentrum hereon

University of Stuttgart
Institute of Applied Mechanics (CE)

Organizers of the workshop

Prof. Dr.-Ing. Benjamin Klusemann
Institute for Production Technology and Systems
Leuphana University Lüneburg
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Institute of Materials Mechanics
Helmholtz-Zentrum Hereon

Prof. Dr.-Ing. Felix Fritzen
Data Analytics in Engineering
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DAE

Abstract & Registration

Please submit your abstract (max. 250 words **PDF & Latex**) until Dec 14 to the email address

benjamin.klusemann@leuphana.de

The template is provided on the following website
https://www.mib.uni-stuttgart.de/dae/ag-data

Every author is encouraged to submit also a poster! Further poster submissions from participants without a talk are encouraged as well. Please submit your poster (PDF format) by email until Dec 17, 2023 to

benjamin.klusemann@leuphana.de

Please provide the following information

- Title, Name, First Name:
- Institution:

Participation is free of charge!