

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

7th GAMM AG Data Workshop

Online (ZOOM)

Dec 12, 2021



Preliminary schedule

The workshop is planned to take place on Dec 15 from 13:00 until 18:00, 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:	Nov 28, 2021
Abstract Acceptance:	Dec 3, 2021
Registration & Submission of Poster:	Dec 12, 2021
Online Workshop:	Dec 15, 2021



Organizers of the workshop

Prof. Dr.-Ing. Benjamin Klusemann

Institute of Product and Process innovation
Leuphana University of Lüneburg
benjamin.klusemann@leuphana.de

Institute of Materials Mechanics
Helmholtz-Zentrum Hereon

Prof. Dr.-Ing. Felix Fritzen

Data Analytics in Engineering
Institute of Applied Mechanics
SC SimTech, University of Stuttgart
fritzen@simtech.uni-stuttgart.de



Abstract & Registration

Please submit your abstract (max. 250 words PDF) until Nov 28 to the email address

dagmar.albert@hereon.de

The template is provided on the following website

<https://www.mib.uni-stuttgart.de/en/emma/ag-data>

Every author is asked to submit a poster! Further poster submissions from participants without a talk are encouraged as well. Please submit your poster (PDF format) by email until Dec 12, 2021 to

dagmar.albert@hereon.de

Please provide the following information

- Title, Name, First Name:
- Institution:

Participation is free of charge!