

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 the workshop

- To discuss the state of the art and recent trends in data-driven approaches
- Exchange between researchers in this field
- To plan the AG Data activities

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

6th GAMM AG Data Workshop

Online (ZOOM)

20.10. - 21.10.2020

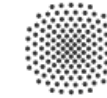


Preliminary schedule

The workshop is planned to take place on 20.10. from 13:00 until 18:00 and on 21.10., from 09:00 until 14:00, including sufficient virtual coffee breaks and possibility for discussions/interactions.

Dates

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|----------------------|---------------------|
| Abstract Submission: | 30.09.2020 |
| Abstract Acceptance: | 09.10.2020 |
| Registration: | 12.10.2020 |
| Online Workshop: | 20.10. - 21.10.2020 |



University of Stuttgart
Institute of Applied Mechanics (CE)

Organizers of the workshop

Prof. Dr.-Ing. Benjamin Klusemann

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Institute of Materials Research
Helmholtz-Zentrum Geesthacht

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Abstract & Registration

Please submit the abstract (max. 250 words PDF) until 30.09.2020 to the email address

dagmar.albert@hzg.de

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

Please register by email until 12.10.20 to

dagmar.albert@hzg.de

Please provide the following information

- Title, Name, First Name:
- Institution:

Participation is free of charge!