



4TH WORKSHOP OF THE GAMM AG DATA

Lüneburg / Geesthacht May 3 – 4, 2018

» www.leuphana.de/ppi



GAMM ACTIVITY GROUP DATA-DRIVEN MODELING AND NUMERICAL SIMULATION OF MICROSTRUCTURED MATERIALS

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 voxel 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 of the GAMM AG Data. Innovative image processing techniques for automatic phase segmentation and microstructure reconstructions are of equal importance.

TOPICS OF THE WORKSHOP

- data-supported modeling of the constitutive behavior of materials
- data-driven simulation techniques
- high-performance data-processing
- microstructure generation and analysis

OBJECTIVES OF THE WORKSHOP

- To discuss the state of the art and recent trends in computational and experimental research
- To plan the AG Data activities
- Explore possible collaborations with DGM
- Lab tours with focus on modern experimental techniques for microstructure characterization at the Helmholtz-Zentrum Geesthacht



ORGANIZERS OF THE WORKSHOP

Prof. Dr.-Ing. habil. Benjamin Klusemann
Institute of Product and Process Innovation
Leuphana University of Lüneburg
Institute of Materials Research, Materials Mechanics
Helmholtz-Zentrum Geesthacht

Dr.-Ing. Dipl.-Math. techn. Felix Fritzen
Emmy-Noether-Group EMMA
Institute of Applied Mechanics, University of Stuttgart

VENUE

May 3rd
Leuphana University of Lüneburg
Universitätsallee 1, C 40.704 (Central Building)
21335 Lüneburg

May 4th
(bus transfer will be offered free of charge)
Helmholtz-Zentrum Geesthacht
Max-Planck-Straße 1, Building 27, Großer Hörsaal
21502 Geesthacht

HOW TO GET TO THE UNIVERSITY

» www.leuphana.de/en/services/travel-directions

KEYNOTE SPEAKERS

- **Prof. Michael Ortiz**, California Institute of Technology, USA and Rheinische Friedrich-Wilhelms-Universität Bonn
- **Prof. Alexander Hartmaier**, Interdisciplinary Centre for Advanced Materials Simulation, Ruhr-University Bochum and Chairman DGM Executive committee

PRELIMINARY SCHEDULE

- **3rd May 2018**
 - 10:00 h (optional) City tour Lüneburg
 - 12:00 h Informal get together and lunch
 - 13:00 h Start of workshop
 - 19:00 h Workshop dinner in Lüneburg
- **4th May 2018**
 - 08:30 h Bus transfer to Geesthacht
 - 09:15 h Start of workshop in Geesthacht
 - 12:30 h Lunch
 - 13:30 h Lab tour Helmholtz-Zentrum Geesthacht
 - 16:00 h Transfer to Lüneburg/Hamburg

ABSTRACT

Please submit the abstract (max. 250 words, LATEX and PDF) until 15.3.2018 to the email address i.kanzler@leuphana.de

The template is provided on the following website » www.mechbau.uni-stuttgart.de/EMMA/ag-data

DGM ARBEITSKREIS MIKROSTRUKTURMECHANIK

The DGM Arbeitskreises Mikrostrukturmechanik (Prof. Dr. Dr. h. c. Siegfried Schmauder) will hold its meeting on Wednesday 2.5.2018 at the Helmholtz-Zentrum Geesthacht (organized by Ingo Scheider). All participants are encouraged and invited to attend this workshop as well. The participation will be free of charge. For all participants, an optional city tour through Lüneburg will be organized on Thursday morning before the 4th Workshop of GAMM AG Data starts. More information will be made available after registration.

Leuphana University of Lüneburg

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REGISTRATION

Please register by email until 30.3.2018 to i.kanzler@leuphana.de

Please provide the following information

- Title, Name, First Name
- Institution, Postal address
- Telefon

CONFERENCE FEE

The workshop fee of EUR 100 covers workshop participation, printed program/book of abstracts, coffee breaks, workshop dinner, lunches.

Please transfer the amount by April 1st, 2018 latest, to the following account:

Bank: Norddeutsche Landesbank
Account holder: Leuphana Universität Lüneburg
BIC/SWIFT: NOLADE2H
IBAN: DE64 2505 0000 0106 0322 61
Reference line: GAMM AG Data, In favor of: 84400022

**The abstract submission deadline
has been extended to 15.03.18!**

DATES

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| Abstract Submission: | 15.3.2018 |
| Abstract Acceptance: | 19.3.2018 |
| Registration: | 30.3.2018 |
| Workshop: | 3.5. – 4.5.2018 |

