

17 April 2013
DGM-European Training Course
Stuttgart, Germany

DGM-Membership Number DGM-member

Date of Birth

Title, First Name(s), Name

Phone

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Date, Signature

Scope / Speakers / General Information

Microstructural modeling employing high performance computing facilities becomes more and more important regarding the development of materials. For the universal understanding of a material from the atom up to the component, multiscale simulations play a significant role. In multiscale simulations, crucial parameters for the material behavior are derived from methods applied on respective length and time scales and passed to the next higher level of hierarchy. The connection with microstructural modeling yields a better understanding of the deformation and damage behavior on the microstructural level, thus creating the basis for the development of optimized materials.

During the advanced training seminar, participants will be familiarized with numerical methods and models such as Monte-Carlo simulations and Molecular Dynamics techniques as well as with their connection to microstructural modeling and the further linking to specimen and component simulations.

The seminar is specifically addressed to industrial users and young professionals in materials development, which have had little contact with microstructural modeling of materials as well as to University staff wishing to gain an overview of currently applied numerical methods. Basic knowledge in materials technology is desirable for a general understanding.

Chairman of the seminar is **Prof. Dr. rer. nat. Siegfried Schmauder**, Institute for Materials Testing, Materials Science and Strength of Materials, University of Stuttgart.

Further speakers are:

Dr.-Ing. Peter Binkele
Dr.-Ing. Ulrich Weber

Institute for Materials Testing, Materials Science and Strength of Materials, University of Stuttgart

The seminar takes place at the Materials Testing Institute, University of Stuttgart, Pfaffenwaldring 32, 70569 Stuttgart, Germany.

Participation Fee for Members of the DGM:

Personal members or 1 non-member from a member institute/ member company: 990,- EURO

Participation fee

1.090,- EURO

The fee includes:

- Attendance of the seminar sessions
- Comprehensive handouts
- Refreshments during the sessions

Cancellation policy:

Any cancellation is subject to a cancellation fee of 50% of the fees involved. After 7 March the entire fee is due. Substitution is possible at any time.

For further information please contact:

Deutsche Gesellschaft für Materialkunde e.V.

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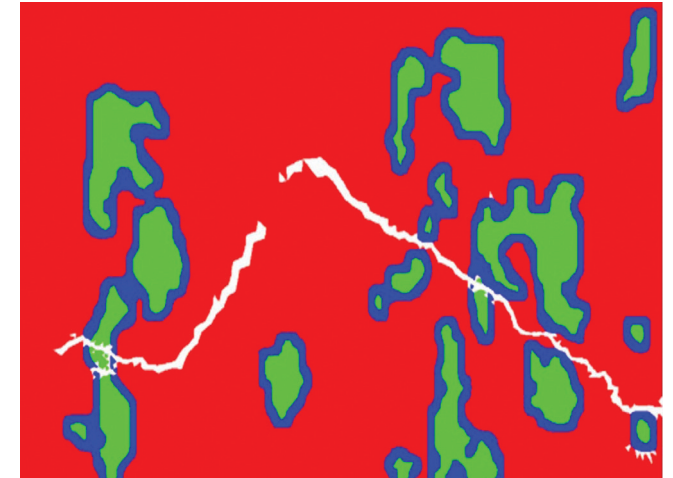
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NEW

DGM

European Training Course

Application of Microstructural Modeling in Materials Development



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University of Stuttgart

Deutsche Gesellschaft für Materialkunde e.V.

www.dgm.de

Chairman

Prof. Dr. rer. nat.
Siegfried Schmauder

New Programme

- 20.-21.02. **Kunststoffe – Bauteilprüfung und Schadenanalyse**
- 25.-26.02. **Textur - Grundlagen, Analyse und Interpretation**
- 25.-26.02. **Betrieblicher Arbeitsschutz**
- 26.-27.02. **Material- und Rohstoffeffizienz**
- 26.-27.02. **Schadensanalyse von Dichtungen aus Elastomeren und Thermoplastischen Elastomeren (TPEs)**
- 06.-08.03. **Fatigue of Structures**
- 20.-21.03. **Technische Kunststoffe**
- 08.-09.04. **Fatigue and Finite Element Analysis**
- 16.-17.04. **Marketing - Basis**
- 17.04. **Application of Microstructural Modeling in Materials Development**
- 18.-19.04. **Rostfreie Stähle**
- 23.-24.04. **Leichtbau im Automobil**
- 23.-24.04. **e-Learning**
- 24.-25.04. **Methoden der Synthese, Modifizierung und Verarbeitung von Nanopartikeln**
- 29.-30.04. **Kompetenz zeigen - Vertrauen schaffen**
- 14.-15.05. **Werkstoffe und Beschichtungen mit Kohlenstoffnanoröhrchen**
- 15.-16.05. **Innovationsmanagement - Innovationen erzeugen, erkennen und umsetzen**
- 04.-06.06. **Phase Equilibria and Transformations - Presentation of various software approaches**
- 11.-12.06. **Qualitätsmanagement**
- 03.07. **Der gesunde Tag**

Wednesday

- 9:30 S. Schmauder
Welcome
- 9:45 S. Schmauder
Multiscale Modeling
- 10:15 Coffee Break
- 10:45 P. Binkele
Monte-Carlo-Simulation
- 11:45 S. Schmauder
Molecular Dynamics
- 12:30 Coffee Break
- 13:30 U. Weber
Micromechanical Modeling
- 15:00 Coffee Break
- 15:30 S. Schmauder
Meso-, Macro- and Damage Mechanics
- 16:30 End of the Seminar

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