Locations

Karlsruhe Institute of Technology (KIT)
Campus South, Kaiserstr. 10
D-76131 Karlsruhe, Germany

Lectures:
Otto-Ammann-Platz
Building 10.81, HS 62 (Room 153)

Meetings, coffee break
Kaiserstr. 10
Building 10.23, 3rd Floor (Seminar-Room 308.1)

See also `www.kit.edu/visit/directions.php`

Workshop Material will be provided after the participant´s registration.

W-Lan will be provided.

Informal Meeting will be organized in the evening of September 29, 2014.

Accommodation:
The workshop-participants are requested to arrange their accommodation themselves. Recommendations:

Guesthouse (on KIT Campus South)
`www.gdh.kit.edu/english/index.php`
Renaissance Hotel Karlsruhe, Mendelssohnplatz
`www.marriott.de/search/findHotels.mi`
Hotel Markgräfler Hof
`www.hotel-markgraefler-hof.de`

Organizer

RoLiCer Consortium
Dr. Andreas Kailer
Ass. Prof. Iyas Khader
Fraunhofer-Institute for Mechanics of Materials (IWM)
Freiburg, Germany

Local Organizer

Prof. Dr.-Ing. Thomas Böhlke
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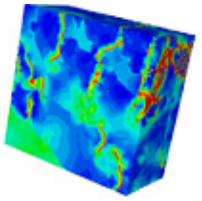
RoLiCeR

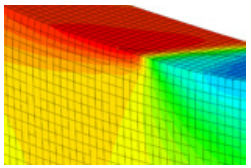
Karlsruhe Institute of Technology
Institute of Engineering Mechanics

KIT Karlsruhe Institute of Technology

Trainings-Workshop

Multiscale Lifetime Modeling for Ceramics





September 29 - 30, 2014
Karlsruhe, Germany

Fraunhofer IWM

SEVENTH FRAMEWORK PROGRAMME

The RoLiCer Project

RoliCer is an EU-project funded by the 7th Framework Programme under the call "Nanosciences, Nanotechnologies, Materials and new Production Technologies NMP". As collaborative research project RoLiCer covers companies and research institutions within Germany, Austria, the Czech Republic and the Nederlands. The scientific aim of RoLiCer is to obtain "Enhanced reliability and lifetime of ceramic components through multiscale modeling of degradation and damage" by studying silicon nitride ceramics from atomistic up to macroscopic scale applying simulations as well as experimental methods.

Objective of the Trainings-Workshop

The training-workshop aims at getting young scientists familiar with the application of multi-scale lifetime modeling in various engineering applications. The focus of this training week will be on the degradation mechanisms in ceramic based materials.

In particular, the following topics will be addressed

- Experimental observation of degradation
- Fracture mechanics of brittle materials
- Using microstructural information for lifetime estimations
- Modeling concepts for fatigue and wear

Lectures

The lectures will be given by members of the RoLiCer consortium as well as by further leading experts for lifetime modeling of ceramics of KIT. The total duration of each lecture is 90 minutes, including a discussion time of 30 minutes.

Schedule of Lectures

Monday, September 29, 2014

- 09:00-10:30h: Thomas Böhlke (KIT)
  L1: Foundations of Continuum Mechanics
- 10:30-12:00h: Thomas Seelig (KIT)
  L2: Foundations of Fracture Mechanics
- 12:00-13:00h - Lunch -
- 13:00-14:30h: Heinz Riesch-Oppermann (KIT)
  L3: Fracture Statistics Reliability Assessment for Brittle Materials
- 14:30-16:00h: Karl-Heinz Lang (KIT)
  L4: Fatigue of Ceramic Materials
- 16:00-16:30h - Coffee break -
- 16:30-18.00h: Iyas Khader, Andreas Kailer (RoLiCer)
  L5: Tribology of Advanced Ceramics

Tuesday, September 30, 2014

- 09:00-10:30h: Rainer Oberacker/Michael Hoffmann (KIT)
  L6: R-Curves in Silcon Nitride
- 10:30-12:00h: Tanja Lube (RoLiCer)
  L7: Reliability and Lifetime Prediction for Ceramic Components
- 12:00-13:00h - Lunch -
- 13:00-14:30h: Tanja Lube (RoLiCer)
  L8: Concepts for Modeling of Fatigue in Ceramics
- 14:30-15:15h: Francesco Colonna (RoLiCer)
  L9: Atomistic Simulations for Modeling Ceramic Microstructures
- 15:15-16.00h: Rahul Raga (RoLiCer)
  L10: Damage Initiation and Evolution in Ceramics
- 16:00-16:30h - Coffee break -
- 16:30-18.00h: Iyas Khader (RoLiCer)
  L11: Numerical Modeling of Wear in Ceramics

Deadlines

- Registration: July 30, 2014
- Fee: EUR 50,00
- Training-Workshop: September 29 - 30, 2014

Registration

Due to the limited number of participants, your registration is necessary by **E-Mail to workshop.rolicer@itm.kit.edu** until **July 30, 2014**

- Title, Name, First Name
- Institution
- Postal address
- Tel.-/Fax-No.
- E-Mail

Registration-Fee

Please transfer the amount of **EUR 50,00** (registration fee incl. coffee break) by **September 1, 2014**, latest, to the following account:

- Deutsche Bundesbank, Filiale Karlsruhe
- Recipient: KIT, Amtskasse Campus Süd
- BIC / SWIFT: MARK DE F1660
- IBAN: DE57 6600 0000 0066 0015 08
- Reference: Name, Surname,
  RoLiCer Trainings-Workshop 2014,
  Project: XD 20348 71051 -
