

## Announcement

Workshop on

## Future Directions in Fatigue Simulations

Haus der Freunde / ICAMS

Bochum

14. and 15. May 2009

## ICAMS

Interdisciplinary Centre for  
Advanced Materials Simulation



## Objective

The workshop aims at identifying and discussing the open issues in metal fatigue simulations. By inviting renowned scientists, we try to synthesize the current understanding of fatigue. We aim to derive future directions in fatigue simulations. To facilitate an open discussion we will limit the number of participants to 20. Registration deadline is April 30th 2009.

## Particular topics addressed

- a) What is the influence of micro-structure (GBs, phase boundaries, inclusions, precipitates) on fatigue?
- b) What is the influence of loading state and its change on fatigue crack initiation?
- c) Which part of the fatigue life is spent during fatigue crack initiation? What is different about short cracks compared to long cracks?
- d) How can low cycle simulation results be extrapolated to obtain high-cycle conclusions? How can simulations predict Manson-Coffin and Basquin parameters?
- e) Where is the need for future numerical studies and small scale experimental validation?

## Invited speakers

The invited speakers have confirmed their participation.

Prof. Christ (Siegen)

Dr. Eberl (Karlsruhe)

Prof. Vehoff (Saarbrücken)

Prof. Vormwald (Darmstadt)

## Format

The invited speakers give short (7min) back-to-back presentations about the session topic. A round-table discussion immediately following the presentations will allow for extensive discussion. The English language is encouraged, während Deutsch vorgeschlagen wird, wenn es der Diskussion zuträglich ist.

During a special session, every participant is encouraged to give one short (7min) presentation. Participants are required to notify the organizers ahead of time of their presentation interest.

Legal format: To facilitate a very open discussion, Gordon Meeting rules apply (see attachment). No information can be cited or used in any form. Any information shared is private and meant to guide research. Formal collaborations as a result of the workshop are encouraged.

## Schedule

### 14. May

9.45 - 10.00am	Welcome
10.00 - 11.00am	Topic: Microstructure
11.00 - 11.15pm	Break
11.15 - 12.15pm	Topic: Loading state
12.15 - 1.30pm	Lunch
1.30 - 2.45pm	Topic: Short cracks
2.45 - 3.00pm	Break
3.00 - 4.30pm	Topic: Extrapolation of results
6.00 -	Dinner

### 15. May

9.30 - 10.15pm	Contributing audience presentations I
10.15 - 10.30am	Break
10.30 - 12.00pm	Contributing audience presentations II
12.00 - 1.15pm	Lunch
1.15 - 2.30pm	Topic: Future studies & Outlook & Closing

## Costs

The workshop is free of charge and lunch will be provided. Transportation, accommodation and the costs of the dinner are to be paid by the participants directly.

## Deadlines

**April 23rd** Deadline for notifying the organizing committee about intention to give oral presentation (7min).

**April 30th** Deadline for registration.

**May 14th** Workshop starts at the "Haus der Freunde" conference venue (see attached directions).

## Accommodation

Several hotels exist in proximity of the conference venue. Please contact the organizing committee for help selecting the best accommodation.

## Contact

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## Gordon System

[www.grc.org/about.aspx](http://www.grc.org/about.aspx)

## Directions

**Via public transportation:** From Bochum Central station use tram U 35 (below the central station) to go to "Markstrasse". Leave in the direction of the tram and head right in the underpass. Follow the path up the hill and around the sport grounds and proceed to the small building next to the black tall building.

**Via car:** In the south of Bochum, leave the "Universitätsstrasse" at "Universität West" and proceed to the small building next to the black tall building at the Stiepeler Strasse. **Navi:** Ecke Stiepeler - Oesterendestr.

