

27th International Workshop on Computational Mechanics of Materials (IWCMM-27)

KU LEUVEN

MATERIALS ENGINEERING



Leuven, Belgium, September 20-22, 2017

<http://iwcmm27.be>

Confirmed plenary lectures by

- *E. van der Giessen* (Groningen)
- *B. Appolaire* (ONERA)

aim at bridging between the different communities active in modelling the mechanical response of materials.

Topical sessions with contributed papers of 20-30 min will be organized on

- Plasticity of Metals
- Mechanics of Composite Materials
- Multiscale Modelling of Microstructure Evolution and Materials Mechanics

Contributions on Biomechanics are encouraged as well.

For the sessions on **Plasticity**, contributions on modelling work from all length scales and with all techniques are invited. This includes, for instance, dislocation dynamics, substructure and texture evolution, polycrystal plasticity, gradient plasticity, higher order continua, or ductile damage and fracture. Although the focus will be on metals, work on other material families featuring plastic deformation is welcome as well. Experimental work is invited wherever its relevance for modelling efforts is obvious/apparent.

The **Composites** session will discuss the modelling of fibre reinforced composites on length scales from nano (if the composite is "nano-engineered") via micro (fibre level), meso (yam and ply architecture) up to macro (structural properties of the composite). The particular attention will be given to models combining different scales, dependency of the mechanical properties on the reinforcement structure and damage modelling. Any type of fibres and matrices can be the subject. Experimental works closely linked to modelling (model identification and validation) are welcome.

The sessions on **Multiscale Modelling** will focus on contributions covering different length and time scales of microstructure evolution, mechanical response and/or the interaction between microstructure and mechanics. Techniques of interest are, for example, concurrent and hierarchical multi-scale approaches, homogenization and coarse graining techniques, phase-field, Monte-Carlo and molecular dynamics (full atomistic and coarse-grained).

Team and Practical Information

Conference chairs:

M. Seefeldt (KU Leuven), *S. Schmauder* (U Stuttgart)

Session organizers:

- Plasticity: *L. Delannay* (UC Louvain), *F. Roters* (MPIE Düsseldorf), *M. Seefeldt* (KU Leuven)
- Composites: *S.V. Lomov* (KU Leuven), *L. Gorbatikh* (KU Leuven), *T. Pardoen* (UC Louvain)
- Multiscale Modelling: *N. Moelans* (KU Leuven), *D. Seveno* (KU Leuven)

Important dates:

- ✓ Abstract submission: **June 18, 2017**
- ✓ Notification of acceptance: **June 28, 2017**
- ✓ Early-bird registration: **July 9, 2017**

Registration fees:

- before July 9: 250 EUR students, 350 EUR others
- after July 9: 350 EUR students, 450 EUR others



Leuven: in the Heart of Europe

Leuven is a vibrant university city in the heart of Europe, **just 15 min train ride from Brussels Airport** and 20-30 min from high-speed train stations Brussels South or Liège-Guillemins.

KU Leuven was founded in 1425, making it the oldest university of the Low Countries. Since more than 150 years, it hosts a Faculty of Engineering. The workshop will take place in the historical Maria Theresia College downtown Leuven, where the first engineering classes took place in 1866.



The neighbouring squares and streets feature a large number of restaurants and pubs as well as hotel facilities.

For accommodation, please check <http://www.visitleuven.be/en/stayingover>

Further information: info@iwcm27.be