

Einladung zur Ringvorlesung „Simulationswissenschaften“

Mittwoch, 28. November 2018, SWZ-Seminarraum 324 (C9), TU Clausthal, 16:15 Uhr

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spricht über das Thema

Multiscale Materials Modeling **New Developments with Special Emphasis on MD-** **Simulations**

Inhalt des Vortrags:

In this overview it will be shown how the first successful example of real multiscaling for metals was achieved.

Multiscale simulation in the present context comprises the involvement of all length scales from atomistics via micromechanical contributions to macroscopic materials behavior and further up to applications for components.

The main focus of the presentation will be put on new developments with special emphasis on MD-simulations and other methods involved and how they interact within the present approach. It will be shown that each method is superior on the respective length scale.

Furthermore, the parameters which transport the relevant information from one length scale to the next one are decisive for the success of physically based multiscale simulations.

While in the past different methods were tried to be combined into one simulation it is nowadays obvious in many fields of research that the only way to succeed in understanding the mechanical behavior of materials is to do sequential multiscale simulations in order to achieve physically based practical material solutions without adjustment to any experiment. This has opened the door to real virtual material design strategies.

In a final step it will be shown that the approach is not limited to metals but can be extended to other material classes and can be also applied for composites as well as to many aspects of material problems in modern technical applications where all disciplines meet, from physics to materials science and further on to engineering applications.

Gäste sind herzlich willkommen.

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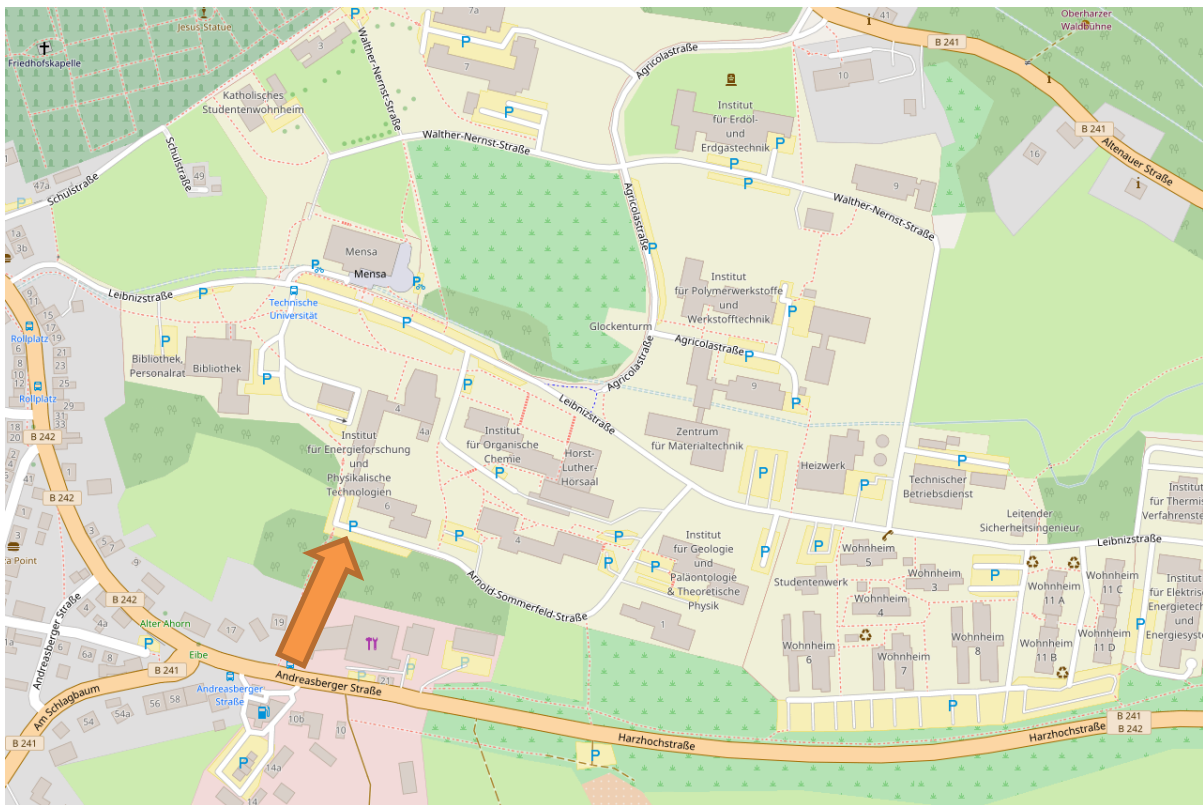
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Der Vortrag findet in folgendem Gebäude statt:

**Simulationswissenschaftliches Zentrum
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