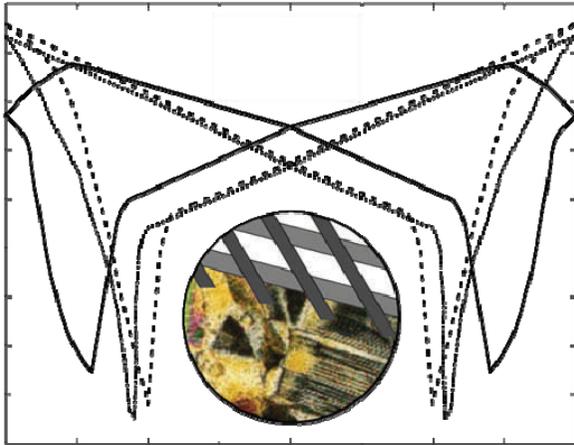


## Scientific Objectives

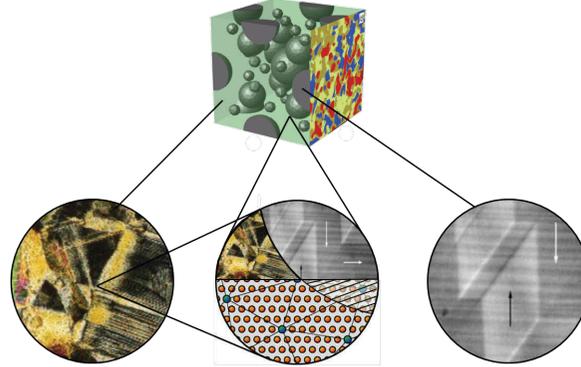
Due to their unique properties, *multifunctional materials* continue to attract attention from both the research and the industrial application communities. Research on these materials has included experimental investigation, modeling, and simulation of their complex response features, such as multi-physical couplings, nonlinearity, inelasticity, and anisotropy. The seminar places a special focus on the investigation of *multiferroics*, i.e. materials that exhibit ferroelectricity, ferromagnetism or ferroelasticity, and their respective couplings.



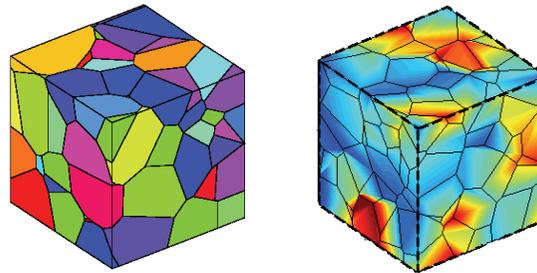
Of particular interest is the characterization and modeling of ferroic functional response on *multiple length scales*, e.g. the mechanical and field-induced evolution of microstructures and domain patterns. The computation and optimization of effective material properties requires the generalization of homogenization and scale-bridging techniques that have been established in computational mechanics for classical materials. Advanced algorithmic strategies are continuously being developed to robustly and efficiently solve systems of coupled field equations and simulate complex initial boundary value problems on all scales.

## Scientific Objectives

The calibration of these models on the basis of reliable experimental data is of key importance. Generalized notions of material stability for coupled responses also remain to be defined.



The goal of this meeting is to bring together researchers from mechanics, material science, solid state physics and applied mathematics to discuss current developments in the field. The seminar will place special emphasis on theoretical, numerical, and experimental aspects. Typical examples for classes of ferroic functional materials include piezo- and ferroelectric ceramics, ferromagnetic and magnetostrictive materials, and particularly also their composites.



## Venue

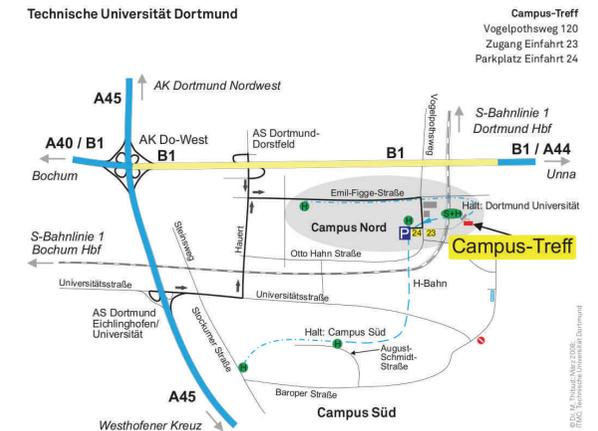
Dortmund is situated in the Ruhr region of the German state of North Rhine-Westfalia, approx. 100 km to the North-East of Cologne and approx. two and a half hours by Intercity express train from Frankfurt.

Dortmund is well connected with other parts of Europe and the rest of the world by high-speed train and by air via the airports in Düsseldorf, Frankfurt am Main, Dortmund, and Münster.

The seminar will be held at the *Campus Treff* of the Studentenwerk Dortmund, which is located on the northern campus of TU Dortmund.



Campus Treff, TU Dortmund



## Registration and Fees

A registration form is available at the seminar website [www.ffm-2012.de](http://www.ffm-2012.de). Upon registration an invoice with instructions for payment will be sent to each participant electronically. On-site registrations during the seminar will not be possible. Registration does not include hotel booking.

Seminar fee: 90 Euros (includes seminar participation, printed book of abstracts, coffee breaks, lunches, seminar dinner)

Abstracts can be uploaded using the conference website until 01.10.2012.

## Accommodation

A limited number of rooms has been reserved until 21.10.2012 under the booking reference „FFM2012“ at the following hotels:

TRYP Dortmund Hotel  
Tel: +49 231/97050  
Fax: +49 231/9705444  
Email: [fo.dortmund@tryp-deutschland.de](mailto:fo.dortmund@tryp-deutschland.de)  
Web: [www.tryphotels.com/dortmund](http://www.tryphotels.com/dortmund)

Pullman Hotel  
Tel: +49 231/91130  
Fax: +49 231/9113999  
Email: [H2833@accor.com](mailto:H2833@accor.com)  
Web: [www.pullmanhotels.com](http://www.pullmanhotels.com)

Please note that the TRYP Hotel is located within walking distance (5-10 min) of the conference venue. Commuting from the Pullman Hotel requires a car, taxi or public transportation.

## Important Dates

Abstract submission	01.10.2012
Notification of acceptance	15.10.2012
Registration	31.10.2012
Tentative program	01.11.2012
FFM Seminar	21.-22.11.2012

## Local Organising Committee

Thorsten Bartel, TU Dortmund  
Björn Kiefer, TU Dortmund  
Andreas Menzel, TU Dortmund

## Advisory board (DFG-FOR 1509)

D. Gross, TU Darmstadt  
D. C. Lupascu, Universität Duisburg-Essen  
C. Miehe, Universität Stuttgart  
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B. Svendsen, RWTH Aachen

[DFG-Research Unit 1509](http://www.dfg-research-unit-1509.de)

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# 1<sup>st</sup> Seminar on Ferroic Functional Materials

21-22 November, 2012

Dortmund, Germany

[www.ffm-2012.de](http://www.ffm-2012.de)

 technische universität  
dortmund

