

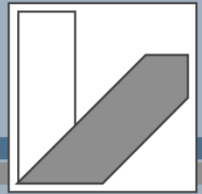
**Prof. Dr.-Ing. Heike Emmerich**

Lehrstuhl für  
Material- und Prozesssimulation

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The Material and Process Simulation group at the University of Bayreuth is offering a

## **1 Post-Doc Position TV-L E13 (m/f)**

*Colloids in polymer systems: Numerical studies and simulations*

Composite materials with nanoparticles in a polymer matrix show material properties that are substantially superior to homogenous materials. In the project *Simulation and phase field calculations of structure formation in nanoparticle systems*, which is part of the SFB840 *From particulate nanosystems to mesotechnology*, we use numerical continuum methods (phase field methods) and molecular dynamics simulations for studying structure formation in nanoparticle/polymer composite materials. In particular, we are interested in nanoplatelets in the flow field of a polymer melt and nanoparticles with spherical polymer brushes in a polymer blend. The project lasts until Mai 2017 and will be carried out in close collaboration with our partner groups who perform the corresponding experiments.

If you are interested in supporting the development of high performance materials and gaining more experience in multiscale simulation techniques, you are invited to send your application.

We offer a stimulating environment in the field of computer aided materials design, implemented in a top-level research framework. We are a young, dynamic, international team of multidisciplinary scientists, engaged in numerous science and industrial cooperations. We have extensive experience in phase field methods and simulation techniques, covering the whole spectrum from basic concepts of physical modeling over implementation with enhanced supercomputing techniques to industrially relevant questions of simulation-based material design. This involves developing, implementing, and applying models at different scales, such as *ab initio*, molecular, phase-field, and FEM models.

Basic requirements are a doctor/PhD degree, a keen perception and sound experience in program development and modeling in physics, chemistry, mathematics, or material science. We appreciate candidates with good skills in, at least, one of the following topics: Phase field theory, materials modeling, liquid-crystal theory, molecular dynamics simulations, statistical physics. We especially encourage applications of young scientists.

The University of Bayreuth supports women in science and especially encourages them to apply. Handicapped applicants will be preferred if they are equally qualified.

Please submit your application, as soon as possible, to:

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