

Materials and Concepts for Advanced Interconnects and Nanosystems

Within the DFG-funded International Research Training Group 1215 "Materials and Concepts for Advanced Interconnects and Nanosystems",

One (1) PhD position (m/f)

at Chemnitz University of Technology

is available from **1 April 2012** with respect to the subproject

[G3 - Multiscale modeling and simulation of atomic layer deposition.](#)

The project is focused on a multi scale simulation of atomic layer deposition (ALD) including the reactor scale, the feature scale, gas-phase and surface reactions, film growth mechanisms and related analytics. The PhD candidate should cover at least two of the following fields:

- Computational fluid dynamics simulations of ALD processes on the reactor scale
- Quantum chemical simulation and modeling of elementary reaction steps for ALD
- Feature scale simulations using continuum or atomistic models
- Atomistic simulation of film growth by ALD
- Support of in-situ analytics (Raman, XPS and others) by modeling & simulation

These activities are carried out in close relation to experimental work in the field of ALD. Consequently, a communicative candidate is sought who is willing to interact with the experimentalists on a regular basis.

For further details concerning the scientific topics please contact Dr. Jörg Schuster (joerg.schuster@zfm.tu-chemnitz.de). General information about this PhD program may be found online at <http://www.zfm.tu-chemnitz.de/irtg>.

We welcome applications of highly qualified graduates with a Diploma, a Master's degree or comparable qualification in **Physics, Chemistry, Materials Science, Electrical Engineering or related fields**. A strong interest for multidisciplinary research is required. Good knowledge of the English language, both spoken and written, is essential.

PhD candidates will receive a grant of EUR 1340 per month plus a monthly allowance for consumables, books etc. of EUR 103, as well as an allowance depending on their family status. The duration of the PhD grants is 2 years, and can be extended to a maximum period of 3 years. Within this time, the PhD thesis must be completed.

Successful participation in the study and student exchange programs of the IRTG is required. PhD candidates will usually be employed for a probation period of 6 months.

Please send your documents until 29 February 2012 to

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Chemnitz University of Technology is seeking to increase the fraction of female staff in academia. Qualified women are therefore especially encouraged to apply. Applications of equally qualified handicapped people will be considered preferentially.