Master thesis/Project Work

Topic: GTS-TCAD Simulation of Novel Si-NW Based Reconfigurable Field Effect Transistors

The master thesis is about developing and defining the simulation models with Global TCAD Solutions software for the fabricated novel transistor concept. You need to learn how to use the software and establish the basic transistor models. Understanding the working principle of the novel transistor and establishing the simulation model for the device characteristics will be the main task of the thesis.

- Running and analysing the simulations
- Data preparation, analysis, evaluation and plotting
- Presentation of the results in group meetings

Your qualification:

- Self-organized and conscientious way of working
- High interest in nanoelectronics and circuit designs and self-starter mindset
- Basic understanding of semiconductor devices
- Fluent in either English
- Ability to work in an international team environment

The following Skills are a plus:

- Experience with simulation tools

We offer:

- An inspiring international and open atmosphere
- Individual supervision
- Hands-on contribution to nano-electronic research
- Access to various simulation programs
- Knowledge transfer from experts in the field

Timeline:

- Starting date: as soon as possible

Responsible Professor:

- Prof. Dr.-Ing. Thomas Mikolajick

About us: NaMLab gGmbH is a research organization and associated institute of the Technical University Dresden. NaMLab provides industry oriented and basic research in material science for electronic devices. Based on its key expertise in dielectric materials for semiconductor devices NaMLab focuses on the integration and application of materials applied to reconfigurable and energy efficiency devices. NaMLab's approach of placing the device rather than the material system itself into the center of its research activities differentiates it from other world class material research activities in the Dresden area.

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