

Master thesis

Topic: Analysis of statistical effects in Hafnium-based Ferroelectric Capacitors

The master thesis is about the electrical characterisation and analysis of statistical effects in hafnium oxide-based ferroelectric layers, including time-dependent-dielectric-breakdown (TDDB) and switching-time-voltage-dependence. Tasks include:

- Electrical characterization of statistical effects in Hafnium-Oxide
- Setup/modification of automated measurement routines
- Data preparation, analysis, evaluation and plotting
- Presentation of the results in group meetings

Your qualification:

- Self-organized and conscientious way of working
- Interest in material science and/or microelectronics
- Basic understanding of semiconductor physics
- Fluent in either English or German
- Ability to work in an international team environment

The following Skills are a plus:

- Experience with electrical measurement equipment

We offer:

- An inspiring international and open atmosphere
- Individual supervision
- Hands-on contribution to nano-electronic research
- Access to various high-end fabrication and characterization tools
- 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.

For further information please contact:

NaMLab gGmbH
Dr.-Ing. Jens Trommer
Noethnitzer Str. 64a
01187, Dresden, Germany
T.: +49-351-2124990-35
F.: +49-351-2124990-99

[jens.trommer\(at\)namlab.com](mailto:jens.trommer(at)namlab.com)

By sending us your application documents, you agree to the use of your personal data for the purpose of the application procedure.