Scientist position for GaN Materials Development for High Frequency Microelectronic Devices

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. As part of a BMBF-funded project on RF devices for 6G applications, NaMLab is looking for a scientist in the field of GaN-based materials development for high-frequency microelectronic devices. The scientist will be responsible for conducting fundamental research on GaN/AlGaN growth by molecular beam epitaxy (MBE) with focus on material characterization for high mobility transistors for high frequency applications. A major goal of the conducted research will be the investigation of the impact of the quality of the GaN-based materials stack. The position is limited in time based on the § 2 WissZeitVG and financed by project funding. The results of the scientific work can be used to obtain a PhD in Electrical Engineering at the TU Dresden.

Responsibilities:

- Participating in growth of GaN-based heterostructures by MBE,
- Structural characterization of GaN-based heterostructures by x-ray diffraction, AFM and electron microscopy,
- Processing and electrical characterization of GaN-based lateral and vertical test devices in a cleanroom environment,
- Electrical characterization of GaN-based 2-dimensional electron gases by various measurement approaches.

Your profile:

- Master in physics, material science, electrical engineering or similar
- Strong perseverance in experimental work
- Self-organized and conscientious way of working
- Basic understanding of semiconductor device physics
- Fluent in German or English
- Ability to work in a team

The following skills are a plus:

- Knowledge of microelectronics design, concepts and operation

Period:

- Begin of employment: asap
- Duration: target 36 month (depending on the time to obtain a PhD)
- Full time position

We offer:

- an inspiring international and open atmosphere
- a team consisting of a well-balanced mixture of PhD students, experienced Post-Docs
- from different fields and process/facility technicians
- focused guidance throughout the project
- on-the-job-training
- access to various high-end characterization and fabrication tools

About NaMLab gGmbH

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. Additionally, it allows taking full advantage of the already existing expertise by forming orthogonal consortia. It therefore fills the gap between basic materials research and its application towards electronic circuits and systems.

Check also our video about working on capacitors at Namlab:

https://www.youtube.com/watch?v= e8pqf5RTqw

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