

Scientist / post-doc position development of GaN-based power 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. NaMLab is looking for a talented and technology affine Scientist or Post Doc for technology development of GaN (Galliumnitrid) transistors and diodes. The person will strengthen our team and activities in research on GaN technology for power device application. Our investigations focus on MOSFET Transistors¹ with vertical current flow as well as High-Electron-Mobility Transistors² (HEMTs) with lateral current flow. The employee will be responsible for conducting research on component fabrication and electrical characterization. The position is currently financed for two years within public funded projects and is subjected to potential extension. The employment is based on the § 2 WissZeitVG.

Responsibilities:

- Process integration development and fabrication of transistors and diodes with semiconductor micro-technology processes in the cleanroom and structural characterization of micro-fabricated devices
- Electrical characterization of fabricated devices with probe station and advancing electrical characterization methods
- Management of development tasks in public funded project with co-operation to industrial and institutional partners
- Supervision and Support of PhD candidates or Master students within the research field
- Communication / dissemination of technological results on conferences and in scientific publications

Your profile:

- Very good Master or Ph.D. in electrical engineering, physics, materials science or similar
- Profound knowledge and/or experience of electronic device process integration and transistor device physics as well as electrical characterization, preferably in combination with GaN based device and material knowledge
- Understanding and application of unit processes of semiconductor micro-technology e.g. plasma dry etching, material deposition (CVD, PVD, ALD), cleanroom experience desired
- Professional English communication and writing skills
- Strong ability to work in team environment and co-ordinate team activities

Period:

Begin of employment: as soon as possible

Duration: 24 months with possibility of extension

We offer:

The salary based on German research organization standards (similar to E13 TV-L).

¹) R. Hentschel et al. "Extraction of the active acceptor concentration in (pseudo-) vertical GaN MOSFETs using the body-bias effect", Microelectronics Journal 91 (2019) 42–45, <https://doi.org/10.1016/j.mejo.2019.07.011>

²) A. Winzer et al. "Analysis of threshold voltage instability in AlGaIn/GaN MISHEMTs by forward gate voltage stress pulses", Phys. Status Solidi A, 1–6 (2016) / DOI 10.1002/pssa.201532756

For further information please contact and send your application to jobs@namlab.com:

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