

Junior Scientist (PhD candidate) position at NaMLab

Junctionless Nanowire Field Effect Transistors with Unconventional Doping

NaMLab is a research organization and associated institute of the Technical University Dresden. NaMLab provides industry-oriented and basic research in material science for future electronic devices. We are looking for a scientist in the field of Junctionless Nanowire Field Effect Transistors. These devices typically employ a very high concentration of impurities for doping of the channel. In this project, an alternative doping method, called Modulation Doping, will be used for transistor development [1-3]. Main tasks will be the fabrication and electrical characterization of those devices in a cleanroom environment and their electrical characterization at cryogenic temperatures. New material systems are to be explored. The work will be performed in close collaboration with our project partners. The results of the work might be used to obtain a PhD in electrical engineering at the TU Dresden.

Your Profile:

- Outstanding M.Sc. / M. Eng. in Electrical Engineering, Physics, Material Science, or similar
- Interest in device physics and fabrication methods
- Good technical comprehension, professional English communication, and writing skills
- Strong perseverance in experimental work, confidence in dealing with chemicals
- Ability to work in an international team environment

The following Skills are a plus:

- Experience with clean room processes
- Experience with electrical characterization

We offer:

- Individual supervision
- Contribution to cutting-edge nano-electronic research
- Access to various high-end fabrication and characterization tools
- Possibility to adjust thesis focus according to individual preferences
- Knowledge transfer from experts in the field
- The salary is based on German research organization standards

Period:

- Planned starting date: October 2026
- Duration: 3 years

For further information, please contact:

NaMLab gGmbH
Dr.-Ing. Jens Trommer
Noethnitzer Str. 64a
01187, Dresden
Germany

References:

- [1] Nagarajan et al. Advanced Materials Interfaces 11 (1), 2300600 (2024)
- [2] Nagarajan et al. Advanced Functional Materials 35 (7), 2415230 (2025)
- [3] Nagarajan et al. ACS Nano 20 (9), 7508-7517 (2026)

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