

NordAmps AB – FEM Master's thesis project

NordAmps, a startup company based in Lund, Sweden is looking for preferably two master's thesis workers for a FEM modelling project related to the generation of 3D Models for high performance or high power nanotransistors. The thesis work will be carried out in collaboration with the Nanoelectronics group at the Department of Electrical and Information Technology at LTH.

Background

We develop In(Ga)As nanowire transistors on Si-substrates with competitive device performance – high speed operation enabled by optimal material properties and by the vertical topology. NordAmps technology combines the high performance of III-V materials in a scalable technology with the economy of scale supported by integrating NordAmps transistors with standard CMOS on silicon substrates. 20 years of research pioneered at Lund University constitutes the basis of the technology. The transistor development has been performed within the Nanoelectronics group at the department of electrical and information technology at Lund University, led by Prof. Lars-Erik Wernersson.

Project description

The FEM modelling project will consist of:

- 3D/2D modelling of the complete transistor structure, capturing material gradients and parasitic capacitance.
- Electrostatic simulation of the gate-all-around (GAA) structure.
- Optimization of device structure.
- Transfer of the electrical data to a compact analytical model.
- If time allows, small and large signal model implementation

Qualifications

- Master's students in Engineering Physics, Engineering Nanoscience. Electrical Engineering, Mechanical Engineering or equivalent.
- Basic understanding of FEM-modelling.
- Familiar with device-physics of transistors (MOSFETs).

Application

Please send an email with your application.

Start date: January/February 2021

Location: NordAmps AB, Ideon Lund <https://nordamps.com> Questions about the position will be answered by:

Lars Tilly, CEO C2AmpS, lars.tilly@nordamps.com.

Prof. Erik Lind, Nanoscience, erik.lind@eit.lth.se