

WE ARE LOOKING FOR THE SAME ENTHUSIASTS AS US!

SUMMER INTERNSHIP

onsemi



Do you want to start your career while studying at university? We are now looking for technical talents to offer internships in our teams in **Rožnov pod Radhoštěm and Brno**! We will choose the specific focus of the internship together according to your profile.

DURING INTERNSHIP YOU WILL

- participate in real projects
- work under the guidance of experienced mentors
- work in a state-of-the-art lab and with the latest technologies
- become part of the team and contribute to the teamwork
- meet a group of enthusiasts in electronics, new technologies and materials and learn a lot

WHO ARE WE LOOKING FOR?

- student of a technical or natural science university
- enthusiast in electronics, new technologies and materials, or you enjoy physics or chemistry

WHAT DO WE OFFER?

- earnings about 250 CZK/hour
- free accommodation, meals subsidy
- internship in the period from June to September or an all-year internship
- you can link your bachelor/master thesis to your internship under our supervision
- opportunity to apply for a further internship at some of our other locations abroad
- you can apply your knowledge, skills and ideas in the real business flow



Let us know about you and send your CV to:
barbora.machulkova@onsemi.com

Find more at www.kariera-onsemi.cz/studenti

WHAT COULD YOU DO WITH US?

INTEGRATED CIRCUIT DESIGN AND CENTER

IC DESIGN

- introduction to the function of analog circuits, verification of their parameters and functions, modification of circuits and participation in the design
- development and production of auxiliary measuring devices; study and testing of new verification tools
- exploring new directions that could be taken in the future

APPLICATION ENGINEERING

- application design for power electronics (PCB design, measurement and testing)
- simulation of electrical circuits and their components including thermal parameters
- design and/or implementation of jigs necessary for measurement of IC parameters
- compilation of comparison tables of ICs
- processing of searches and type designs of switching power supplies with given types of IC
- consultancy of own projects and mentoring

PRODUCT ENGINEERING

- setting up production flow in production systems
- processing of production data using various statistical methods; creation and revision of production documents
- communication with chip production, casing and testing lines, yield increase

LAYOUT

- familiarization with the Cadence design environment (design layout)
- study of a particular technology, familiarization with the design rules of the technology, recommendations on how to proceed (correct matching, routing direction...)
- after drawing the layout, check the block using DRC to comply with the design rules and LVS to check the correctness of the wiring

CHARACTERIZATION

- creation of SPICE models of integrated components including modelling of statistical variance (Monte Carlo, etc.).
- aging – modelling of component aging; design of test chips (Cadence)
- measurement of components on a silicon wafer in our laboratory and evaluation of measured data
- development of internal tools and applications (programming in C++, Python, PHP and others)

DESIGN KIT DEVELOPMENT

- web application development for administration of design rules for IC circuit design
- work on frontend (Vue) and backend (Django, MySQL) components
- system testing using Cypress
- processing of data from external data sources; Automate reporting and documentation
- study/implementation of new tools/technologies for web applications
- creating a library of elements for integrated circuit design in Cadence Virtuoso
- creating/testing tools for circuit design and verification
- automate the creation and testing of a library of elements and design tools

TEST ENGINEERING

- introduction to the function of analog circuits, verification of their parameters and functions in laboratory and production environment with an emphasis on the speed of verification
- design of functional electrical circuit blocks and printed circuits
- programming in C++, VBA, data processing and analysis, circuit testing

WHAT COULD BE THE CONTENT OF YOUR INTERNSHIP WITH US?

RESEARCH AND DEVELOPMENT

PRODUCTION TECHNOLOGY Si AND SiC

- work on computer simulations of the process of growth of SiC crystals (silicon carbide)
- introduction to the use of SW for computer modelling of the process (STR Soft), subsequent simulations
- modelling focused on data processing, process design and optimization and development of computer modelling itself (testing of new program functions, calibration for experimental results)
- development of polishing and washing of silicon carbide (SiC) wafers - characterization of the silicon carbide surface; introduction of internal chemical analyses (titrations) to monitor the concentration of chemicals in washing processes

TECHNOLOGY OF PRODUCTION OF SEMICONDUCTOR DEVICES

- simulation of semiconductor devices in Sentaurus TCAD
- literature research
- analysis of a specific physical problem (e.g. oxidative stress or cartridge traps)
- design of experiments and data processing (also using AI, ML frameworks)

PRODUCT ENGINEERING

- mostly bachelor's and master's theses
- specific technological projects - independent solution of projects of a suitable scope

LABORATORIES

- involvement in the preparation of physical and electrical analyses of semiconductor devices
- preparation of transverse and longitudinal cuts with the possibility of scanning on an electron microscope
- Involvement in the measurement of electrical parameters of a given semiconductor device, possibility to participate in the analysis of image sensors used in modern cars

INFORMATION TECHNOLOGIES

- participation in software development using current technologies (Java, Spring Framework, ReactJS)
- agile development of applications according to CD/CI concepts (JIRA, Confluence, Bitbucket, Jenkins)
- development of a cloud-based solution for defect classification in semiconductor chip manufacturing
- use of machine learning (AI/ML) methods for image recognition (Python)
- application of the latest SW frameworks (Spark, TensorFlow, Keras, MLFlow, DVC) for learning and prediction
- use of advanced methods for configuration and deployment management (MLOps, CI/CD, Terraform, Docker)